Las Virgenes-Malibu Council of Governments
Multi-Jurisdictional Hazard Mitigation Plan
2018

Las Virgenes-Malibu Council of Governments

Version 1.0
9/30/2018

MLC & Associates, Inc.

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PART I: OVERVIEW AND MITIGATION STRATEGY ACTION PLAN

SECTION 1. INTRODUCTION

ACKNOWLEDGEMENTS

The Multi-Jurisdictional Hazard Mitigation Plan was an extensive effort that involved the efforts of multiple individuals representing all five cities within the Las Virgenes-Malibu Council of Governments. Participants in the process included:

Steering Committee

Greg Ramirez, City Manager	City of Agoura Hills
Dr. Gary Lysik, City Manager	City of Calabasas
Kerry Kallman, City Manager	City of Hidden Hills
Reva Feldman, City Manager	City of Malibu
Raymond Taylor, City Manager	City of Westlake Village
Terry Dipple, Executive Director	Las Virgenes-Malibu Council of Governments

Planning Group

Louis Celaya, Deputy City Manager John Treichler, Administrative Aide	City of Agoura Hills
Jim Jordan, Director of Public Safety and Emergency Preparedness Debbie Larson, Public Safety Coordinator	City of Calabasas
Kevin Ryan, Emergency Services Coordinator	City of Hidden Hills
Susan Duenas, Public Safety Manager	City of Malibu
Philippe Eskandar, Administrative Analyst	City of Westlake Village

EXECUTIVE SUMMARY

The Las Virgenes-Malibu Council of Governments (LVMCOG) was established by its members under a Joint Powers Agreement to provide a vehicle for members to engage in regional and cooperative planning and coordination of government services and responsibilities. The LVMCOG also provides a regional organization for the review of federal, state and regional projects and studies which involve the use of federal, state and regional funds.

The LVMCOG is located in the northwest area of Los Angeles County and is comprised of five cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, and Westlake Village. The total five city population as of the 2017 U.S. Census estimate was 68,132, a 3% increase from 2010).

City	Population (2017 U.S. Census Estimate)
Agoura Hills	20,692
Calabasas	24,202
Hidden Hills	1,921
Malibu	12,877
Westlake Village	8,440
Total	**68,132**

Table 1: LVMCOG Estimated Population by City

SOURCE: U.S. Census Bureau

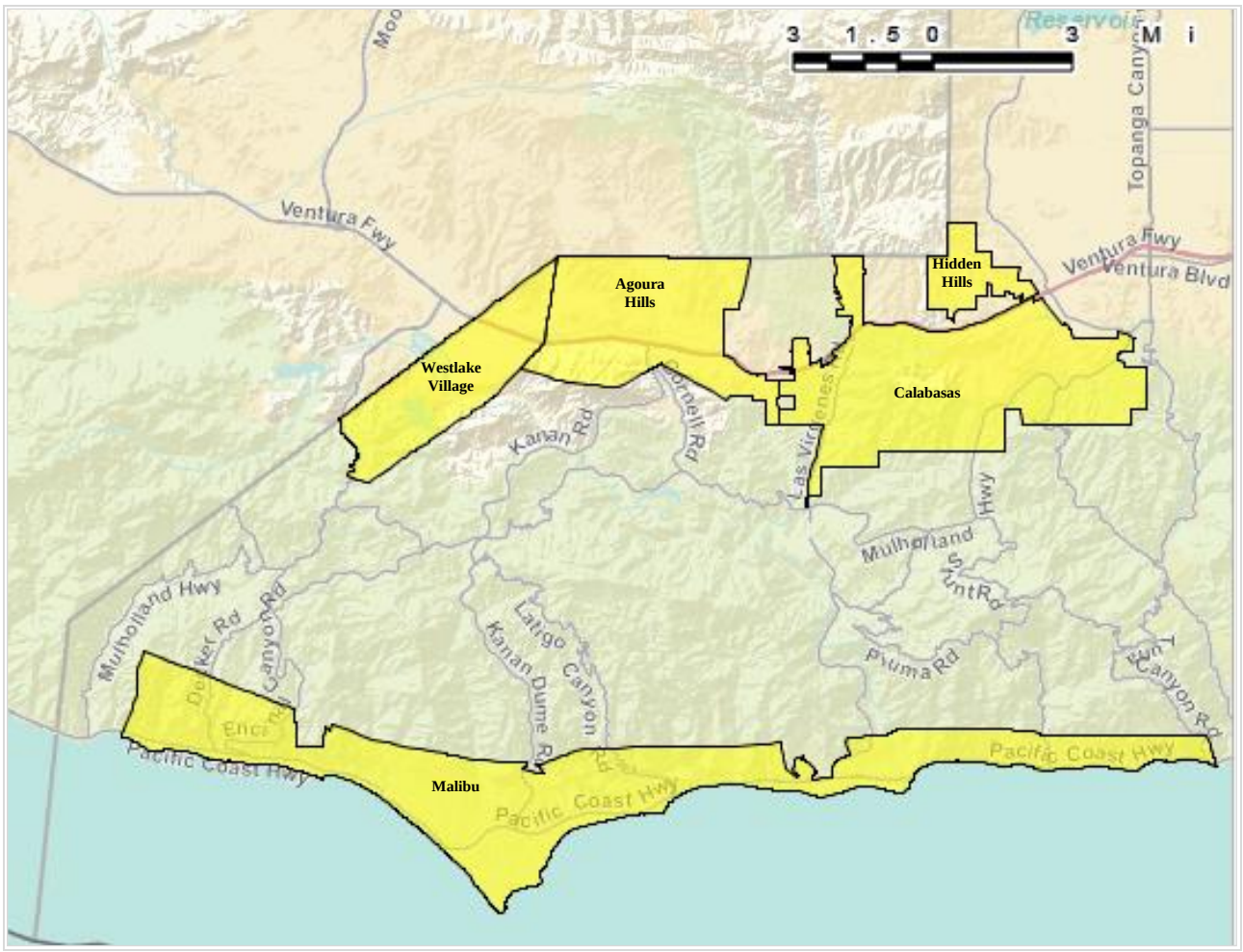
Map 1: Area Map

Source: NOAA

Multi-Jurisdictional Plan

The cities within the LVMCOG experience similar hazards and have combined their efforts in order to produce a more thorough Hazard Mitigation Plan. Combining efforts, identifying common threats, and establishing regional mitigation strategies was a collaborative task that allowed mutual participation and more effective use of resources. The LVMCOG also provides a point of coordination and collaboration between its member cities as well as other cities and public agencies.

This Multi-Jurisdictional Hazard Mitigation Plan meets the requirements of the Disaster Mitigation Act of 2000. By preparing this plan, the Las Virgenes-Malibu Council of Governments is eligible for federal mitigation funding after disasters and to apply for mitigation grants before disasters strike.



Map 2: LVMCOG Cities

Los Angeles County Operational Area and Disaster Management Areas

The Los Angeles County Office of Emergency Management (OEM) was established by Chapter 2.68 of the County Code with responsibility for organizing and directing the preparedness efforts of the Emergency Management Organization of Los Angeles County. OEM responsibilities include: Planning and Coordination, Operations, Training, Technical Operations, and Public Education.

The Los Angeles County Operational Area is divided into 8 groupings (A through H):

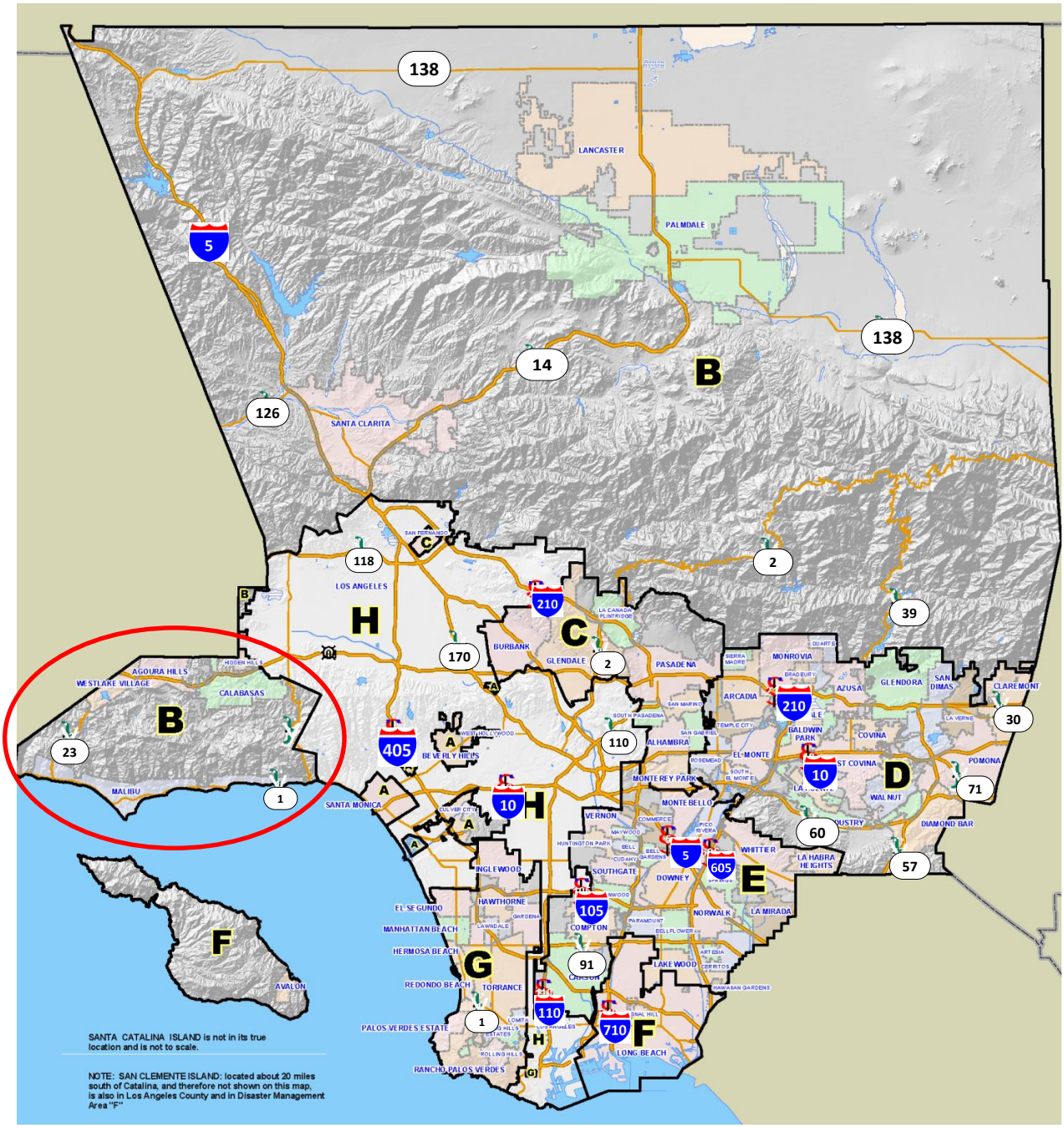
Area A	**Area D**	**Area E**	**Area F**
Beverly Hills	Arcadia	Artesia	Avalon
Culver City	Azusa	Bell	Long Beach
Santa Monica	Baldwin Park	Bell Gardens	Signal Hill
West Hollywood	Bradbury	Bellflower	
City Of Industry Carson	Claremont	Cerritos	**Area G**
	Covina	City Of Commerce	El Segundo
Area B	Diamond Bar	Compton	Gardena
Agoura Hills*	Duarte	Cudahy	Hawthorne
Calabasas*	El Monte	Downey	Hermosa Beach
Hidden Hills*	Glendora	Hawaiian Gardens	Inglewood
Lancaster	Irwindale	Huntington Park	Lawndale
Malibu*	La Puente	La Habra Heights	Lomita
Palmdale	La Verne	La Mirada	Manhattan Beach
Santa Clarita	Monrovia	Lakewood	Palos Verdes Estates
Westlake Village*	Pomona	Lynwood	Rancho Palos Verdes
	Rosemead	Maywood	Redondo Beach
Area C	San Dimas	Montebello	Rolling Hills
Alhambra	Sierra Madre	Norwalk	Rolling Hills Estates
Burbank	South El Monte	Paramount	Torrance
Glendale	Temple City	Pico Rivera	
La Canada Flintridge	Walnut	Santa Fe Springs	**Area H**
Monterey Park	West Covina	South Gate	Los Angeles
Pasadena		Vernon	
San Fernando		Whittier	
San Gabriel			
San Marino			
South Pasadena			

*LVMCOG Members highlighted in in **blue**

The Joint Powers Agreement provides for inter-agency cooperation in major natural or man-made disasters. This group meets monthly basis and is responsible for:

- Creating and updating emergency, terrorism, recovery volunteer, debris management and hazard mitigation plans
- Training for emergency and disaster preparedness for cities, residents and businesses
- Technology for communications
- Homeland Security Grants Program (management)

The five cities within the LVMCOG are an integral part of Los Angeles County Disaster Management Area B, which is comprised of the five LVMCOG cities plus Lancaster, Palmdale, and Santa Clarita. As members of Area B, the LVMCOG cities are able to incorporate County hazard mitigation and emergency response activities and programs into their local strategies. Examples include the Los Angeles County Fire Department's wildfire prevention efforts, **Community Emergency Response Teams(CERT)** programs, and the **Alert LA County** emergency notification system**.**



Map 3: Los Angeles County Disaster Management Areas and LVMCOG Cities (circled)

Hazard Mitigation Plan Organization

This Hazard Mitigation Plan contains background information on the purpose and methodology used to develop the mitigation plan, a profile of the Las Virgenes-Malibu Region, sections on the identified hazards that threaten the Region as well as the associated risks, a five-year mitigation strategy action plan matrix, and supporting information contained in the Appendices. Additional section details are provided in Section 1: Introduction.

Mitigation Strategy Five-Year Action Plan

The Las Virgenes-Malibu Council of Governments Multi-Jurisdictional Hazard Mitigation Action Plan includes resources and information to assist residents, public and private sector organizations, and others interested in participating in planning for hazards. The Mitigation Strategy Action Plan provides a list of activities designed to assist the LVMCOG to reduce risk and prevent losses from future hazard events. The strategies address multi-hazard issues, as well as hazard specific activities for earthquakes, fires, flooding, landslide, windstorms, and terrorism.

Plan Participants

The development of the Las Virgenes-Malibu Council of Governments Multi-Jurisdictional Hazard Mitigation Plan has been a collaborative city and community effort. The planning process was facilitated by a variety of Region-wide departments along with a consulting agency, MLC & Associates, Inc. The Las Virgenes-Malibu Council of Governments Steering Committee and Planning Group provided vital guidance in developing and updating the plan. Since five cities are represented, at least one representative from each city was a member of each committee.

The public was invited to participate in the development and update of the plan. In addition, ongoing disaster preparedness and mitigation information is routinely provided through public notices, city websites, newsletters, cable television, and the local newspapers.

The Steering Committee was chosen to provide needed feedback, guidance and approval. The Steering Committee drafted the original Mission Statement, Plan Goals, identified the hazards list, and is responsible for final approval of the plan and strategies.

The Planning Group provided key information, supporting documentation, and updated the hazard ratings for the identified local area hazards. The hazard rating identified hazards according to probability, magnitude/severity, warning time and duration. The survey is provided in Annex C: Disaster Preparedness Risk Survey.

Part II of the plan contains hazard specific information. Each of the sections provides information on the background and history of the hazard, as well as the associated economic and social impacts.

Plan Mission

The Mission of the Las Virgenes-Malibu Council of Governments Multi-Jurisdictional Hazard Mitigation Plan is to promote sound public policy and programs designed to protect the public, critical facilities, infrastructure, private and public property, and the environment from natural and human generated hazards. This will be achieved by developing, implementing, and maintaining this plan to guide the Region towards creating and maintaining a safer more sustainable community.

Plan Goals

The Plan Goals describe the overall direction that the LVMCOG's' agencies, organizations, and citizens can take to minimize the impacts of hazards. The Plan Goals help to guide the direction of future activities aimed at reducing risk and preventing loss from hazards. The Plan Goals are the foundation for the broad direction of the Mission Statement and the specific recommendations that are outlined in the strategies. These goals are divided into 4 major categories:

To Protect Life, Property, Environment

- Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to hazards.
- Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.
- Encourage preventative measures for existing and new development in areas vulnerable to hazards.

Public Awareness

- Develop and implement education and outreach programs to increase public awareness of the risks associated with hazards.
- Develop and implement education and outreach programs to increase public awareness of the mitigation measures associated with hazards.
- Provide information on tools, partnership opportunities, and funding resources to assist in implementing mitigation activities.

Partnerships and Implementation

- Strengthen communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry to gain a vested interest in implementation.
- Encourage leadership within public and private sector organizations to prioritize and implement local, county, and Regional hazard mitigation activities.
- Assist in the development of the Safety Element of the General Plan

Emergency Management

- Establish policy to ensure mitigation projects for critical facilities, services, and infrastructure.
- Update current ordinances, make recommendations for Region guidelines, codes, and permitting process and establish new ordinances that support mitigation.
- Strengthen emergency operations by increasing collaboration and coordination among departments, public agencies, non-profit organizations, business, and industry.
- Coordinate and integrate hazard mitigation activities, where appropriate, with emergency operations plans and procedures.

Strategy Organization

The data collection, research and the public participation process resulted in the development of the hazard mitigation strategies listed. The strategies outline activities in which each of the various cities and citizens can be engaged to reduce risk. They reflect future action to be taken in order to reduce the loss of property and life. Section 4 Hazard Mitigation Goals and Strategies provides brief descriptions of the projects and strategies developed.

Plan Implementation, Monitoring, and Evaluation

Section 5 Plan Maintenance and Monitoring details the formal process that describes how the Las Virgenes-Malibu Council of Governments Multi-Jurisdictional Hazard Mitigation Plan is maintained. The plan maintenance process included a schedule for monitoring and evaluating the plan and producing a plan revision every five years. In addition, this section also describes how the LVMCOG integrated public participation in the plan maintenance and update process.

Finally, the Plan Implementation, Monitoring, and Evaluation section includes an explanation of how the Las Virgenes-Malibu Council of Governments incorporated the mitigation strategies outlined into existing planning mechanisms such as each city's individual General Plans, Capital Improvement Plans, Building & Safety Codes and other programs, and/or plans within the cities.

Plan Adoption

In 2005, the Las Virgenes-Malibu Council of Governments and each city adopted the original Multi-Jurisdictional Hazard Mitigation Plan. Subsequently, from 2010 to 2013 and again in 2018 this HMP was updated, reviewed, and adopted. These governing bodies have the authority to promote sound public policy regarding hazards.

The Executive Director of the Las Virgenes-Malibu COG was responsible for submitting the updated plan to the State Hazard Mitigation Officer at the Governor's Office of Emergency Services (Cal OES). Cal OES then submitted the updated plan to the Federal Emergency Management Agency (FEMA) for review. This review addressed the federal criteria outlined in *Title 44 CFR Emergency Management and Assistance: Part 201 – Mitigation Planning*. Upon acceptance by FEMA, Las Virgenes-Malibu Council of Governments will maintain its eligibility for Hazard Mitigation Grant Program funds.

Coordinating Body

The Las Virgenes-Malibu Council of Governments Hazard Mitigation Steering Committee was responsible for coordinating implementation of plan strategies and undertaking the formal review process. The Planning Group was responsible for supporting the Steering Committee and the tactical/operational tasks required to implement the Hazard Mitigation Plan.

Coordination with Existing Programs

Each city within the Las Virgenes-Malibu Council of Governments address statewide planning goals and legislative requirements through their General Plans, Capital Improvement Plans, and Building & Safety Codes. This Multi-Jurisdictional Hazard Mitigation Plan provides a series of recommendations that are closely related to the goals and objectives of these existing planning programs. Each city may implement the recommended mitigation strategies through existing programs and procedures.

Economic Analysis of Mitigation Projects

Determining the economic feasibility of mitigating hazards can provide decision makers with an understanding of the potential benefits and costs of an activity, as well as provide a basis upon which to compare alternative projects. The Federal Emergency Management Agency's approach to identify costs and benefits associated with hazard mitigation strategies or projects falls into two general categories: benefit-cost analysis and cost-effectiveness analysis.

Conducting a benefit-cost analysis for a mitigation activity can assist communities in determining whether a project is worth undertaking now in order to avoid disaster-related damages later. A cost-effectiveness analysis evaluates how best to spend a given amount of money to achieve a specific goal. For the purposes of this HMP, an estimate of the benefit/cost ratio was used to evaluate the relative feasibility of the mitigation projects and strategies outlined in Section 4 Hazard Mitigation Goals and Strategies.

Formal Review Process

As part of this update, the LVMCOG HMP was evaluated to determine the effectiveness of existing mitigation programs and projects as well as consider changes in land development or other changes that may have affected mitigation priorities. The Executive Director of the Las Virgenes-Malibu COG was responsible for contacting the Hazard Mitigation Steering Committee members and organizing progress reviews. Committee members were then responsible for monitoring and evaluating the progress of the mitigation strategies in the plan.

Continued Public Involvement

The Las Virgenes-Malibu Council of Governments is dedicated to involving the public directly in the continual review and updating of the Multi-Jurisdictional Hazard Mitigation Plan. Copies of the plan were made available at various locations throughout the Region including but not limited to libraries, City Halls and respective city websites. The existence and location of these copies were publicized on city websites and through information bulletins.

PLAN DESCRIPTION

Multi-Jurisdictional Hazard Mitigation Plan

The Las Virgenes-Malibu Council of Governments (LVMCOG) is comprised of the cities of Agoura Hills, Calabasas, Hidden Hills, Malibu and Westlake Village. The LVMCOG was voluntarily established by its members under a Joint Powers Agreement to provide a vehicle for members to engage in regional and cooperative planning and coordination of government services and responsibilities. The LVMCOG also provides a local area organization for the coordination of regional projects and studies funded by federal, state, and local governments. While disasters cannot be fully prevented, their effects can be reduced through a well-organized public education and awareness effort, preparedness, mitigation, and coordinated response. In 2005, the LVMCOG chose to develop the Multi-Jurisdictional Hazard Mitigation Plan (HMP) in order to coordinate efforts and resources. This update to the HMP is part of the ongoing renewal process.

Why Develop a Mitigation Plan?

The Robert T. Stafford Disaster Relief and Emergency Assistance Act provides the basis for federal assistance to state and local governments impacted by a disaster and outlines the requirements for mitigation planning. Hazard Mitigation is considered the first step in preparing for emergencies (rather than placing a reliance on recovery after an event). The Federal Emergency Management Agency (FEMA) requires state and local governments to update their hazard mitigation plans every 5 years. The consequences of not having an approved Local Hazard Mitigation Plan can be significant. Without it, cities are ineligible for FEMA mitigation programs including the Hazard Mitigation Grant Program and Flood Mitigation Assistance Program. More importantly, an ongoing mitigation effort is required in order for cities to obtain public assistance funding for repetitive losses (e.g., damaged facilities) following a disaster.

The Disaster Mitigation Act of 2000 (DMA 2000), Section 322 (a-d) requires that local governments maintain mitigation plans that describe the process for identifying hazards, risks and vulnerabilities, identifies and prioritizes mitigation actions, encourages the development of local mitigation, and provides technical support for those efforts as a condition of receiving federal disaster mitigation funds. This Hazard Mitigation Plan serves to meet these requirements.

Furthermore, this plan assists the LVMCOG in reducing risk from hazards by identifying resources, information, and strategies for risk reduction, while helping to guide and coordinate mitigation activities throughout the Las Virgenes-Malibu Region. Mitigation strategies for reducing the potential losses identified in the risk assessment are outlined and are based on existing authorities, policies, programs, resources, and the ability to expand on and improve these existing tools. In summary, the information and mitigation strategies within the Hazard Mitigation Plan:

- Establish a basis for coordination and collaboration between departments and the public in the Las Virgenes-Malibu Council of Governments Region
- Identify and prioritize future mitigation projects
- Assist in meeting the requirements of federal assistance programs

Whom Does the Mitigation Plan Affect?

This Multi-Jurisdictional Hazard Mitigation Plan affects the entire Region and provides a framework for pre-emptive planning for hazards. The resources and background information in the plan are applicable area-wide, and the goals and recommendations lay the groundwork for mitigation plans and partnerships for neighboring communities.

How is the Plan Used?

Each section of the Hazard Mitigation Plan provides information and resources to assist in understanding the region and the hazard-related issues facing citizens, businesses, and the environment. The sections of the HMP combine to create a document that guides the mission to reduce risk and prevent loss from future hazard events.

Plan Update Process

The update of this plan was a collaborative effort. The process was facilitated across multiple departments along with a consulting agency, MLC & Associates, Inc. The Steering Committee was composed of the Las Virgenes-Malibu Council of Governments City Managers and was established in order to guide the process and provide final approval of the HMP and mitigation strategies. In addition, the Planning Group facilitated the plan update process, provided feedback, reviewed the plan, and was responsible for initial approvals.

Various departments within the cities assisted in updating the plan. Information resources included but were not limited to: General Plans, Master Plans, SEMS Plans, reports and studies, hazard maps, and public process documentation. Participating departments included:

- Building & Safety
- City Manager
- Community Development
- Emergency Preparedness
- Fire
- Planning
- Public Works
- Recreation & Parks
- Sheriff's Department

The workflow below depicts the basic process of updating the plan.

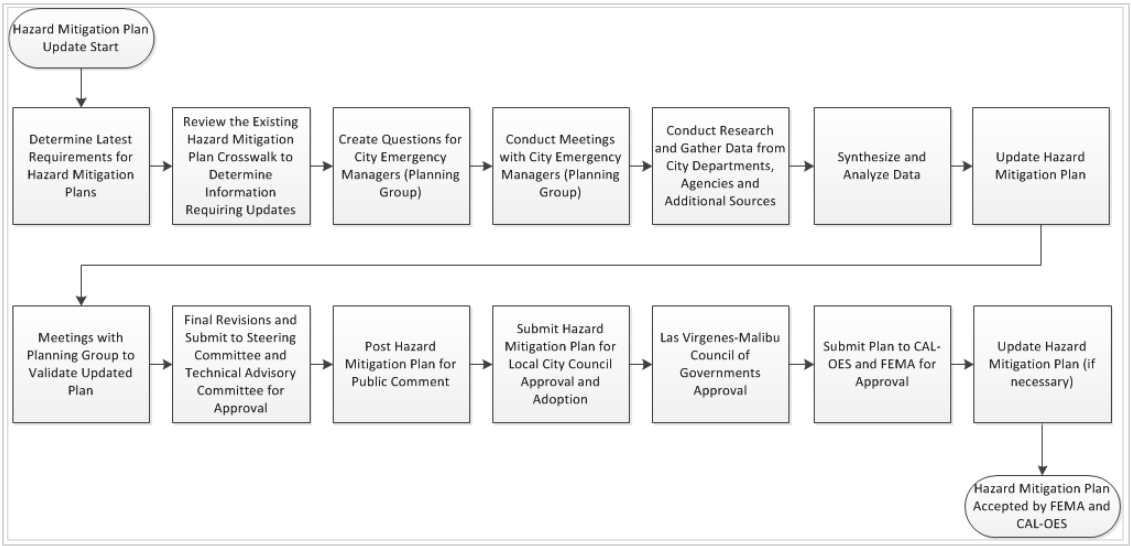


Figure 1: HMP Update Process Workflow

Internal Input

The Steering Committee was composed of the Las Virgenes-Malibu Council of Governments City Managers and was established in order to facilitate the update to the plan, provide feedback, guidance, and approval.

The Hazard Mitigation Steering Committee along with Planning Committee, city staff and various other stakeholders were involved in updating the plan. This process involved meetings, discussion and individual reviews and input. The planning process included:

- Planning sessions with LVMCOG representatives
- Interviews with city Emergency Management and Disaster Preparedness personnel
- Reviews of historical disaster events in the local area
- A review of activities related to hazard mitigation from existing programs and city General Plans, Capital Improvement Projects, and Development Projects

External Input

Existing mitigation plans, programs and activities from neighboring communities and from around the country were reviewed as well as current FEMA hazard mitigation planning standards and the State of California Hazard Mitigation Plan Guidance document. In addition, geographic area and hazard specific data were generated to develop scenario-based hazard maps. These resources were valuable in updating the LVMCOG Hazard Mitigation Plan (see **Annex A Resources** for source information).

Information from the sources noted above was evaluated and (when applicable) incorporated into the plan. In addition, the information gathered served as a basis for the strategy sessions that were conducted to document ongoing and future mitigation activities:

REQUIREMENTS FOR MITIGATION PLANS

Federal and State Requirements

The following Federal requirements must be met for approval of a Hazard Mitigation Plan:

- Open public involvement, with public meetings that introduce the process and project requirements
- The public must be afforded opportunities for involvement in: identifying and assessing risk, drafting a plan, and public involvement in approval stages of the plan
- Community cooperation, with opportunity for other local government agencies, the business community, educational institutions, and non-profits to participate in the process
- Incorporation of local documents, including General Plans, Zoning Ordinances, Building Codes, and other pertinent city and regional documents

The following components must be part of the planning process:

- Complete documentation of the planning process
- A detailed risk assessment on hazard exposures in the community
- A comprehensive mitigation strategy, which describes the goals & objectives, including proposed strategies, programs & actions to avoid long-term vulnerabilities
- A plan maintenance process, which describes the method and schedule of monitoring, evaluating and updating the plan and integration of the All Hazard Mitigation Plan into other planning mechanisms
- Formal adoption by each City Council
- Plan Review by Cal OES and FEMA

Public and Community Process

Public participation is a key component of strategic planning processes. Citizen participation offers stakeholders in the community the opportunity for inclusion of their interests and concerns into the process. The Federal Emergency Management Agency requires public input during the development of local hazard mitigation plans.

During the HMP development and update process, the public was invited to participate. Information was provided on city websites, newsletters, cable television stations, and the local newspapers. Examples are provided in **Annex E Planning and Public Involvement**. Furthermore, the public and community are continually encouraged to participate in the disaster preparation, mitigation planning, and HMP update process via ongoing public awareness campaigns, workshops, CERT programs, surveys, and other community forums (see Section 4 Hazard Mitigation Goals and Strategies and **Section 5 Plan Maintenance and Monitoring** for additional details).

HAZARD MITIGATION PLAN ORGANIZATION

The Hazard Mitigation Plan is organized as follows:

PART I: OVERVIEW AND MITIGATION STRATEGY ACTION PLAN

Section 1: Introduction
The Introduction provides an overview of the Hazard Mitigation Plan Mission, Goals, and Strategies. In addition, this section outlines the process used to develop the goals and strategies that cut across the six hazards addressed in the Hazard Mitigation Plan. Finally, this section describes the background and purpose of developing the Hazard Mitigation Plan and the planning process.

Section 2: Community Profile
The Community Profile section presents the history, geography, demographics, and socio-economics of Las Virgenes-Malibu Region. It serves as a tool to provide a historical perspective of hazards in the area, potential impacts, and identifies at risk populations.

Section 3: Risk Assessment
The Risk Assessment section provides information on hazard identification, vulnerability, and risk associated with hazards in Las Virgenes-Malibu Region.

Section 4: Multi-Hazard Goals and Strategies
The Multi-Hazard Goals and Strategies section describes the mitigation strategies developed for the HMP. The strategies address multi-hazard issues, as well as hazard-specific activities that can be implemented to reduce risk and prevent loss from future events.

Section 5: Plan Maintenance and Monitoring
The Plan Maintenance section provides information on plan implementation, monitoring and evaluation.

PART II: HAZARD SPECIFIC INFORMATION

Part II provides hazard specific Information on the six hazards addressed in the HMP. Continuing hazards occur on an ongoing and/or seasonal basis and may be predicted through historic evidence and scientific methods. Each of the hazard-specific sections includes information on the history, hazard causes and characteristics, hazard assessment, mitigation goals and strategies. Continuing hazards addressed in the plan include:

Section 6: Earthquake
Section 7: Wildfire
Section 8: Climate Change
Section 9: Energy Disruption
Section 10: Landslide and Debris Flow
Section 11: Windstorm
Section 12: Flood and Severe Winter Storm
Section 13: Terrorism and Mass Violence

PART III: ANNEXES

The Annexes includes references to the information used to gather data and conduct analytical research to assemble the Las Virgenes-Malibu COG Hazard Mitigation Plan. The Resources section also includes a description of the tools used to develop the plan as well as documentation of the meetings, discussions and events that were involved in the planning process.

Annex A: Resources

This section provides a list of resources for Regional, County, State, and Federal agencies and organizations that may be referenced directly and indirectly within the Las Virgenes-Malibu COG Hazard Mitigation Plan.

Annex B: Meeting Agendas and Attendees

This section provides key meeting agendas related to mitigation planning and the 2018 Multi-Jurisdictional Hazard Mitigation Plan update.

Annex C: Community Disaster Preparedness and Risk Survey

This section includes the survey by which community members rated their preparedness for disasters and risk ratings of the identified hazards.

Annex D: Steering Committee/Planning Group Hazard Rating Survey

This survey was provided to the Steering Committee and Planning Group to rate the Las Virgenes-Malibu COG Region hazards.

Annex E: Planning and Public Involvement

This section provides a description of public involvement activities including meetings and other public outreach efforts related to the Hazards Mitigation Plan update. This section also provides

Annex F: Flood Insurance Rate Maps

This section provides Flood Insurance Rate Maps (FIRM) for selected areas within the LVMCOG area. These maps depict areas subject to flooding and are used for planning purposes.

Annex G: Malibu Flood Mitigation Plan

This section includes the Hazard Mitigation Plan prepared for the City of Malibu in May of 2001 (and still in use) by David Evens and Associates.

Annex H: Plan Approval Documentation

This section provides a copy of Plan Approval documents related to the Las Virgenes- Malibu COG Hazard Mitigation Plan.

Annex I: Local Hazard Mitigation Plan Review Tool

This section includes the Local Hazard Mitigation Plan Review Tool for California Local Governments. The tool provides a quick reference to key sections of the plan.

SECTION 2. COMMUNITY PROFILE

INTRODUCTION

Hazards impact the region's citizens, property, environment, and economy. In addition to the potential loss of life and property, residents and businesses are subject to the financial and emotional costs of recovering from disasters.

Identifying population groups and the risks posed by hazards provides the basis for implementing strategies to reduce potential impacts; thereby protecting the lives and property of citizens and communities. The result is the development and implementation of strategies, coordination of resources, and increased public awareness that will reduce risk and prevent loss from future hazard events.

This section of the Hazard Mitigation Plan provides an overview of the Las Virgenes-Malibu Council of Governments (LVMCOG) region as well as the individual cities that comprise the LVMCOG. City specific profiles contained within this section provide brief summaries of the vulnerable populations, structures, and economic base of each community.

POPULATION

According to 2017 Census data, the population of the five cities in the Las Virgenes-Malibu Council of Governments region totaled 68,132. Within the region, Calabasas represents the largest population closely followed by Agoura Hills. Calabasas also represented the fasted growth area (5.0%) outpacing Los Angeles County (3.5%) through the period from 2010 to 2017. The population levels of the other cities within the area also grew since 2010. Due to terrain restrictions, designated parks and reserves, and local planning/zoning requirements, local populations are centered along the Ventura 101 Freeway and Pacific Coast Highway (see Population Density Map on the following page).

Las Virgenes-Malibu Population Data				
Location	**2017 Estimated Population**	**% of Los Angeles County**	**2010 Population**	**% Change from 2010 to 2017**
Agoura Hills	20,692	0.20%	20,330	1.8%
Calabasas	24,202	0.24%	23,058	5.0%
Hidden Hills	1,921	0.02%	1,856	3.5%
Malibu	12,877	0.13%	12,645	1.8%
Westlake Village	8,440	0.08%	8,270	2.1%
LVMCOG	**68,132**	**0.67%**	**66,159**	**3.0%**
Los Angeles County	10,163,507	100.00%	9,818,605	3.5%

Table 2: Las Virgenes-Malibu 2017 Estimated Population Data

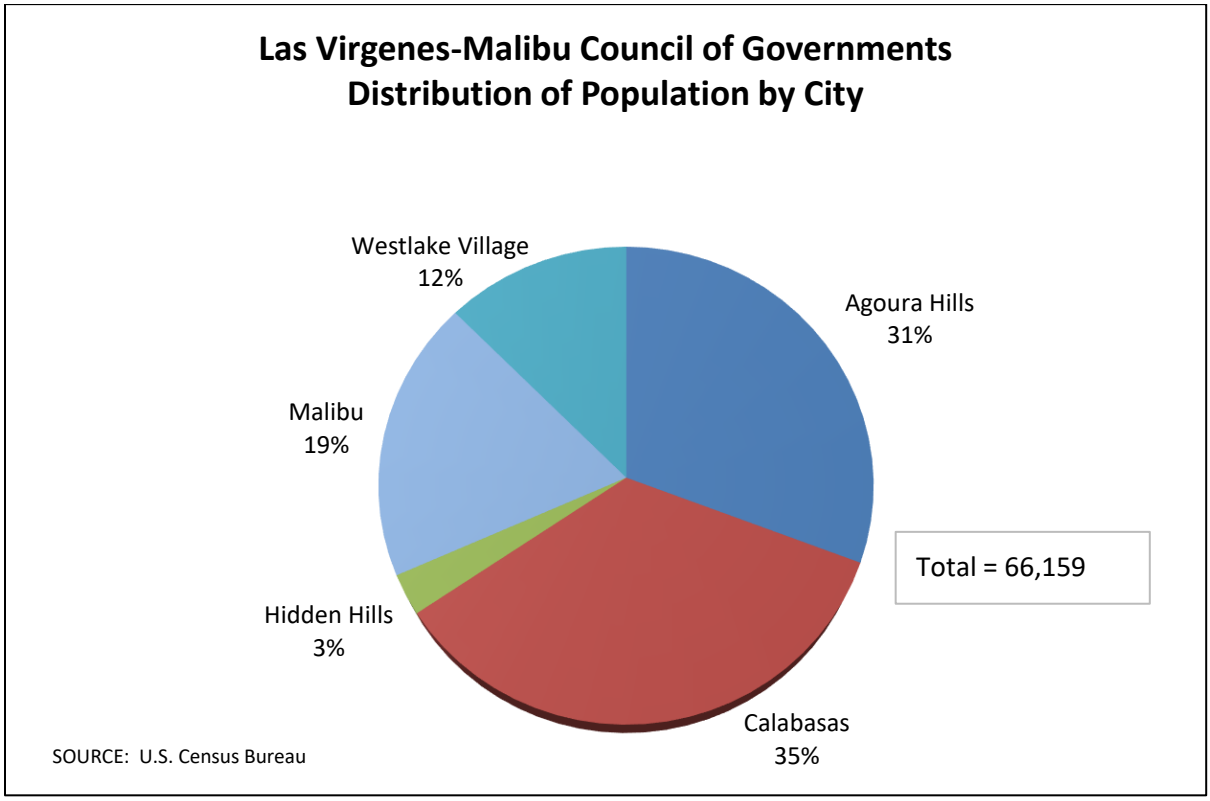
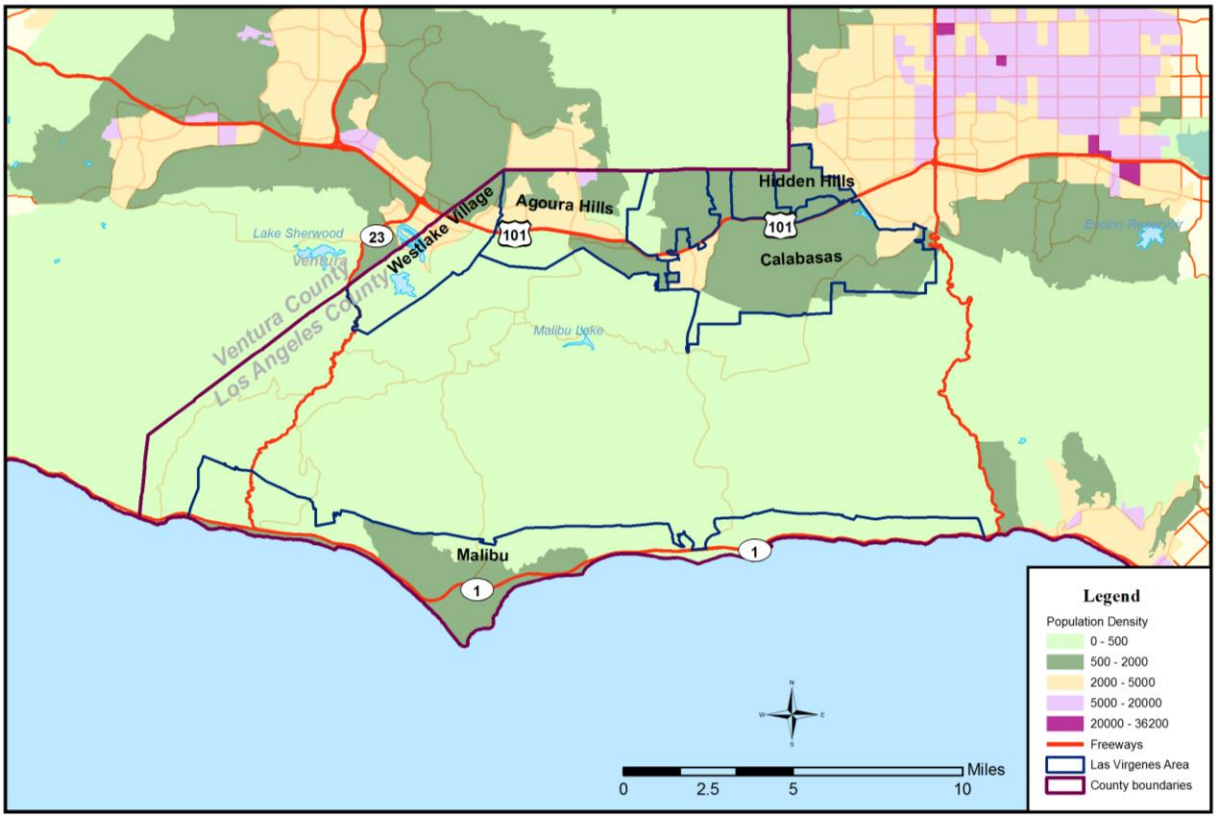


Figure 2: LVMCOG Population Distribution by City



Map 4: Population Density

GEOGRAPHY AND THE ENVIRONMENT

The Las Virgenes-Malibu region is comprised of approximately 129.62 square miles (Source: Los Angeles Almanac). The area is partially urbanized and includes populated areas and business centers (particularly along major transportation routes). Nevertheless, large portions of the area are undeveloped wild land. In addition, the region is home to the Santa Monica National Recreation Area (154,095 acres) and Malibu Creek State Park which is comprised of: Liberty Canyon (730 acres), Udell Gorge (300 acres), and Kaslow Preserve (1,920 acres).

The geography includes mountainous terrain as well as small rivers and seasonal waterways (depending on rainfall). The climate is Mediterranean characterized by warm to hot, dry summers and mild to cool, wet winters. Summer temperatures in the cities of Agoura Hills, Calabasas, Hidden Hills and Westlake Village can reach into the high 90's. Malibu lies along the Pacific coast and is bordered to its north by the Santa Monica Mountains. As a result, average temperatures in Malibu are approximately 10 degrees cooler in the summer than the other cities within the LVMCOG (see **CLIMATE** section for additional details).

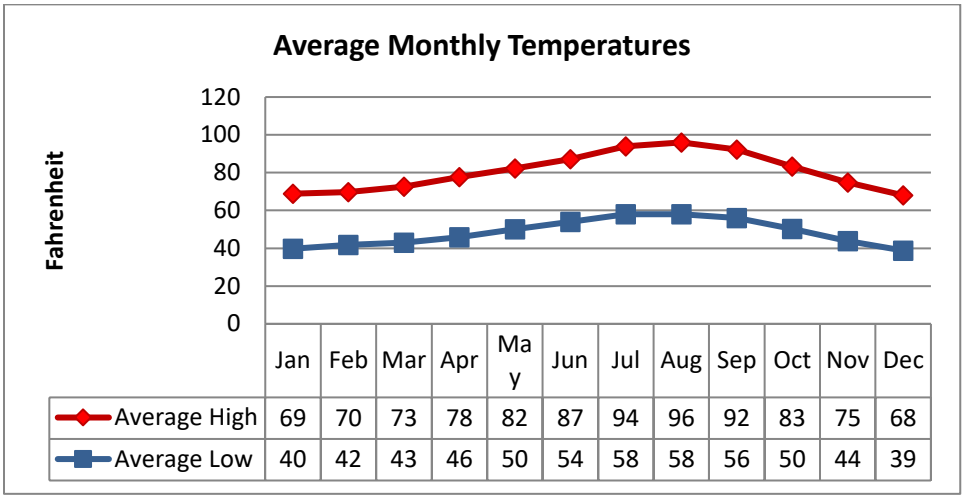
Map 5: Las Virgenes-Malibu Council of Governments Region Map

The region's transportation system consists of a grid of local streets, arterials, and other lesser thoroughfares. Regional access to Agoura Hills, Calabasas, Hidden Hills, and Westlake Village area is provided primarily through the Ventura Freeway (US Highway 101). Access to Malibu is primarily via Pacific Coast Highway (California State Route 1 aka Highway 1) and through local roads that provide connector routes to the inland cities of the LVMCOG. Connector routes include Las Virgenes Road/Malibu Canyon Road, Topanga Canyon Boulevard (SR 27), Decker Canyon Road (SR 23), Mulholland Highway, Latigo Canyon Road, and Kanan Dume Road. These roads traverse the mountains and designated wilderness areas such as Malibu State Park, Topanga State Park, and the Santa Monica Mountains National Recreation Area.

CLIMATE

Temperature

The Las Virgenes-Malibu region is characterized by warm to hot dry summers and mild to cool wet winters typical of a Mediterranean climate.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average High	69	70	73	78	82	87	94	96	92	83	75	68
Average Low	40	42	43	46	50	54	58	58	56	50	44	39

Figure 3: Average Temperature by Month

The average high in the summer ranges from the mid to upper 90 degrees Fahrenheit. Average lows in the winter months range from the upper 30 to low 40 degrees Fahrenheit.

August tends to be the hottest month and December tends to be the coldest month. However, it should be noted that temperatures can vary over a wide range.

For example, Santa Ana winds typically occur in late fall and early winter. The Santa Ana winds are characterized by strong dry offshore winds originating from the Great Basin and Upper Mojave Desert.

Wind temperatures can range from extremely hot to cold. Damage can occur directly from the high wind speeds generated or from the secondary effects of very low humidity – which increases the threat of wildfires.

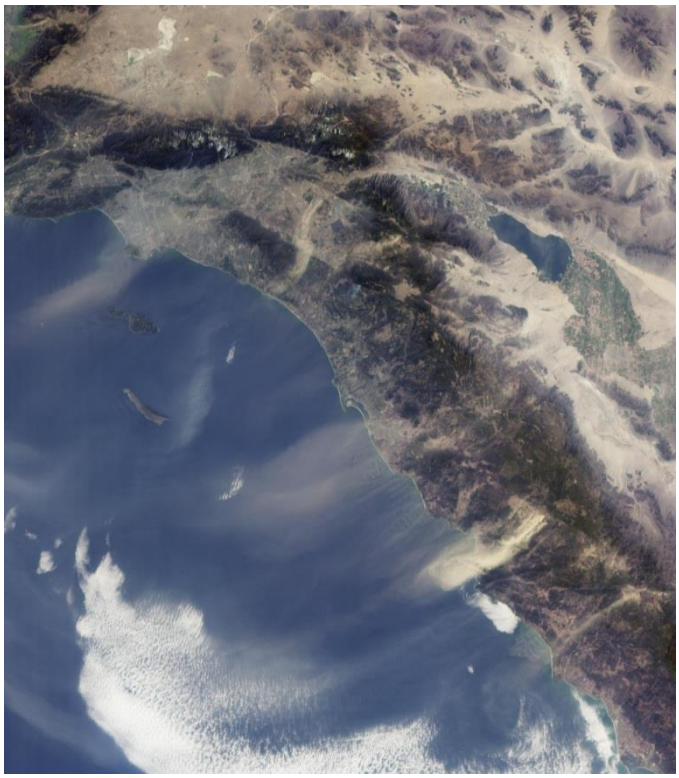


Figure 4: Santa Ana Winds (Feb 2002)

SOURCE: NASA/JPL-Caltech)

Rainfall

Rainfall in the LVMCOG region averages nearly 18 inches per year. However, the term "average rainfall" is misleading because over the recorded history of rainfall in the region, rainfall amounts have ranged from no rain at all in some years to well over normal averages in very wet years. Furthermore, actual rainfall in Southern California tends to fall in large amounts during sporadic and often heavy storms rather than in consistent amounts throughout the year.

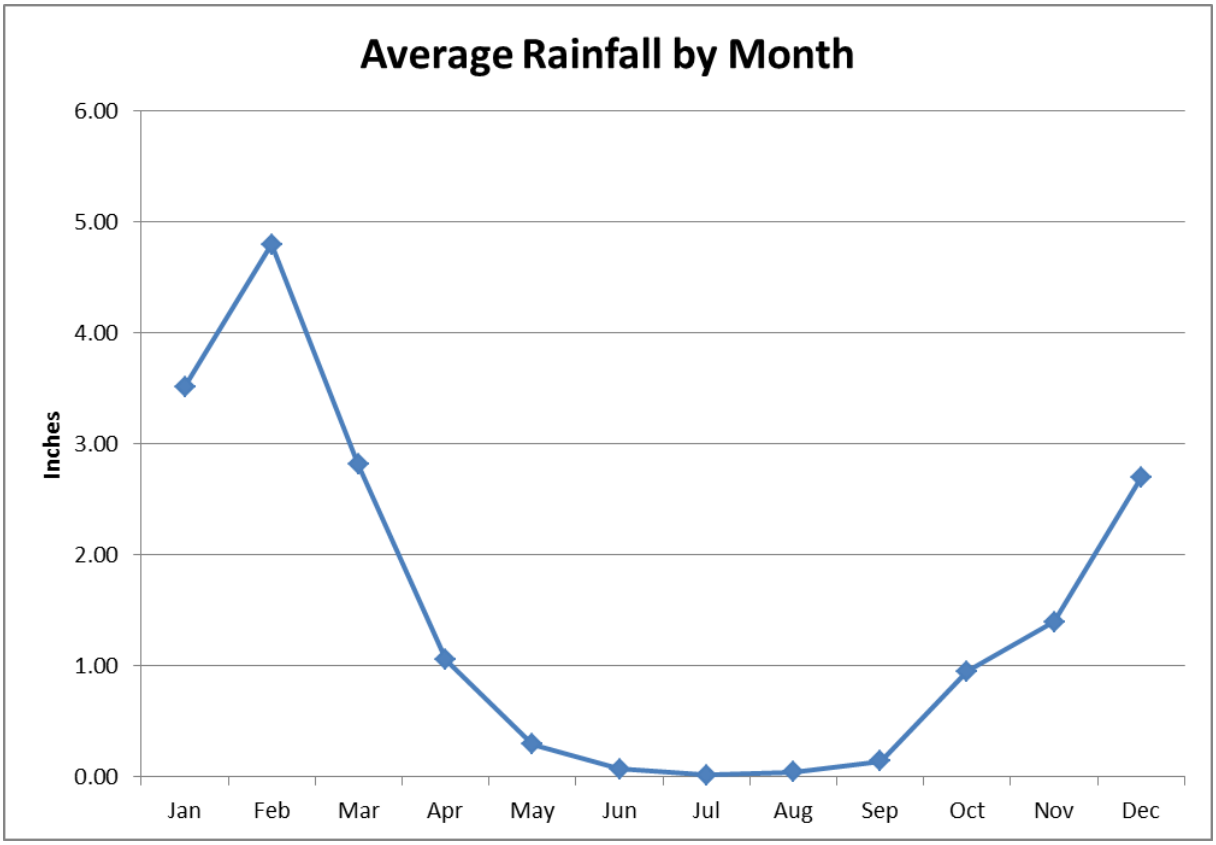


Figure 5: Average Rainfall by Month

El Niño and La Niña

Periodically, Southern California and the LVMCOG region are subject to the effects of El Niño or La Niña conditions:

- El Niño is characterized by unusually warm ocean temperatures in the Equatorial Pacific resulting in increased rainfall in the southern tier of the U.S. El Niño conditions can result in flooding, mudslides, and traffic disruptions in the LVMCOG region.
- La Niña is characterized by unusually cold ocean temperatures in the Equatorial Pacific resulting in decreased rainfall in the southern tier of the U.S. La Niña conditions can result in drought and increased danger from wildfires.

LAW ENFORCEMENT AND FIRE RESOURCES

The Las Virgenes-Malibu COG region is part of Los Angeles County. The five cities contract for essential services such as law enforcement with the Los Angeles County Sheriff and fire resources through the Consolidated Fire Protection District of Los Angeles County.

Los Angeles County Sheriff's Department

The cities within the Las Virgenes-Malibu COG individually contract their law enforcement services with the Los Angeles County Sheriff's Department. The Malibu/Lost Hills Station provides immediate access and is located at 27050 Agoura Road, Agoura Hills, CA 91301. This station serves the western portion of Los Angeles County, which is a blend of semi-urban, residential, and rural areas, encompassing both mountain and beach topographies.

The cities served by the Malibu/Lost Hills Station include Agoura Hills, Calabasas, Hidden Hills, Malibu, and Westlake Village as well as the unincorporated communities[1] of Chatsworth Lake Manor, Malibu Lake, Topanga, and West Hills. The station's jurisdiction is sectioned into 27 areas.

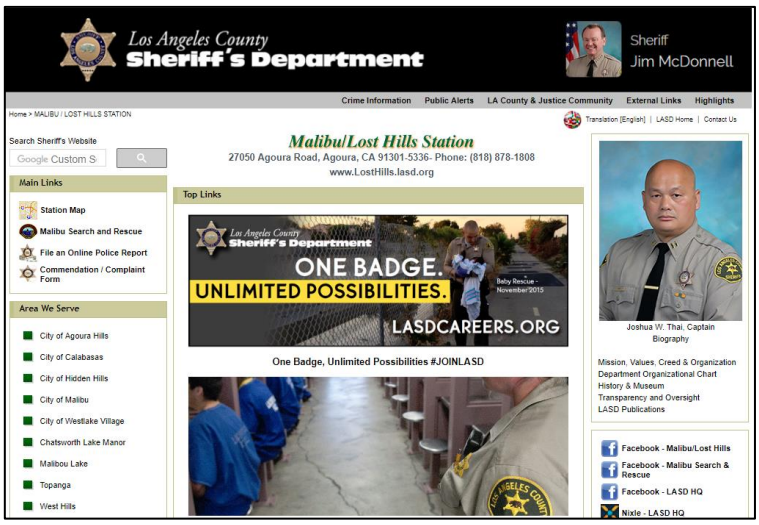


Figure 6: Malibu/Lost Hills Sheriff Web Page

Map 6: LASD Malibu/Lost Hills Station Location

[1] Information obtained from the Los Angeles County Sheriff's Department

The Malibu/Lost Hills Station has comprehensive Fire, Flood and Earthquake Operation Plans. The plans identify evacuation shelters, secondary evacuation shelters, command post sites, multi-purpose staging areas, and alternate traffics routes. In addition, the Malibu/Lost Hills Station has implemented a process for prioritizing critical facilities assessments. This process ranks locations in the following order:

1. "A" priorities must be checked immediately
2. "B" priorities must be checked immediately if children are present, otherwise as time permits
3. "C" priorities must be checked as time permits

Critical facilities identified by the Malibu/Lost Hills Station are noted in **Section 3**.

Los Angeles County Fire Department

Agoura Hills, Calabasas, Hidden Hills, Malibu and Westlake Village contract fire services with the Los Angeles County Fire Department. The Las Virgenes-Malibu COG is located in Division VII – Central Region of the Los Angeles County Fire Department's Regional Plan Divisions. Battalions 1 and 5 of the Los Angeles County Fire Department are assigned to directly serve the Las Virgenes-Malibu region. Battalion 5 is the main division since its stations are located within the region itself. The local LA County Fire Department headquarters are located at 3970 Carbon Canyon Rd., Malibu 90265.

BATTALION 5	
Fire Station #65	4206 N Cornell Rd, Agoura, 91301
Fire Station #67	25801 Piuma Rd, Calabasas, 91302
Fire Station #68	24130 Calabasas Rd, Calabasas, 91302
Fire Station #69	401 S Topanga Cyn Blvd, Topanga, 90290
Fire Station #70 - Headquarters	3970 Carbon Cyn Rd, Malibu, 90265
Fire Station #71	28722 W Pacific Coast Hwy, Malibu, 90265
Fire Station #72	1832 Decker Canyon Rd, Malibu, 90265
Fire Station #88	23720 W Malibu Rd, Malibu, 90265
Fire Station #89	29575 Canwood St., Agoura Hills, 91301
Fire Station #99	32550 Pacific Coast Hwy, Malibu, 90265
Fire Station #125	5215 N Las Virgenes Rd, Calabasas, 91302
Fire Station #144	31981 Foxfield Dr, Westlake Village, 91361

Fire Station #89

The Los Angeles County Fire Department's first fire station in Agoura Hills, Fire Station 89, opened in June of 2006. This fire station was a joint venture between the County of Los Angeles and the City of Agoura Hills and is an example of interagency efforts working for better emergency management.

Fire Station 89 is located on a 3-acre lot at 29575 Canwood Street, a quarter mile west of Kanan Road. The state of the art 12,000 sq. ft. building houses one engine company, a paramedic squad, Battalion Chief's office, training facilities and dormitory quarters for 10 fire and emergency personnel. The cost of this new fire station was approximately $4 million and was paid for through developer fees. The new fire station improves coverage and response times for not only Agoura Hills, but also the entire Las Virgenes-Malibu Region.

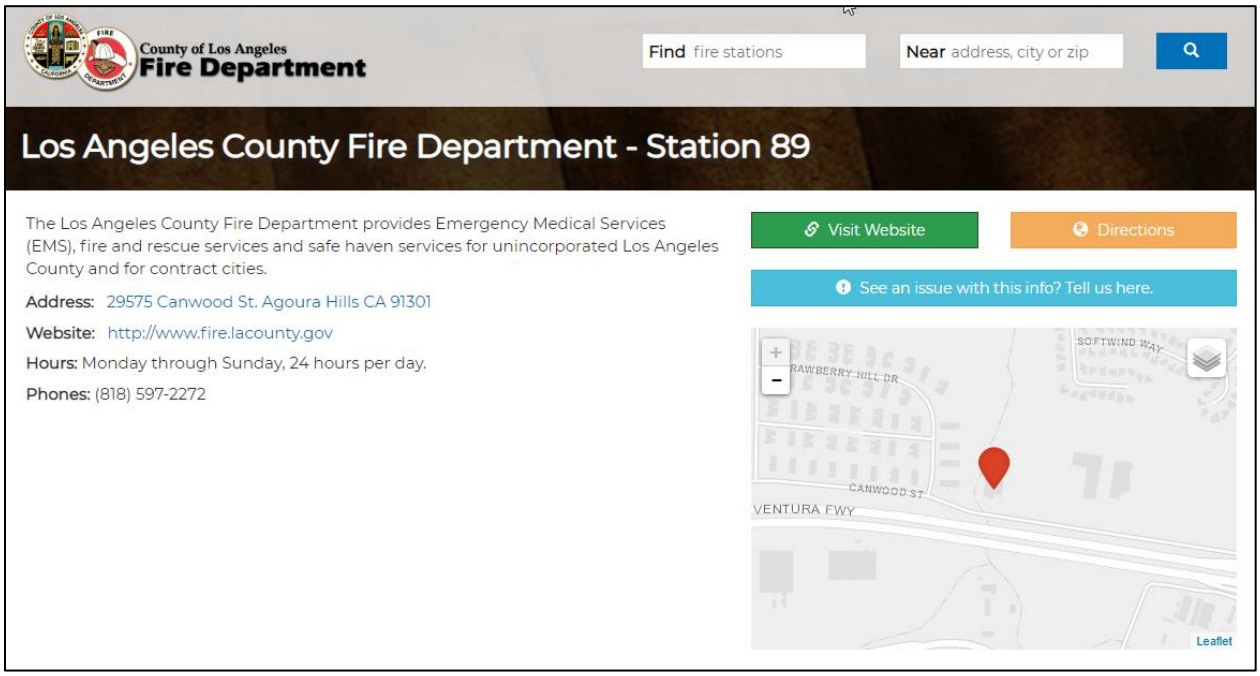


Figure 7: Los Angeles County Fire Station #89 Web Page

MULTI-REGIONAL COLLABORATION

Agoura Hills / Calabasas Community Center

The cities in the Las Virgenes-Malibu COG often combine resources and work together to create more productive communities. One such example was the joint venture of the cities of Calabasas and Agoura Hills to build the Agoura Hills / Calabasas Community Center. This is a state-of-the-art recreational facility that offers a variety of recreational, social, cultural, and educational programs and activities to meet the needs of the surrounding communities. This endeavor is a prime example of how communities can come together in order to offer residents a more livable community. Furthermore, in the event of an emergency, facilities such as the Agoura Hills / Calabasas Community Center are valuable resources that can be used to support the local population.

Figure 8: Agoura/Calabasas Community Center Web Page

Community Emergency Response Training

The cities in the Las Virgenes-Malibu COG make available Community Emergency Response Training (CERT) programs to their residents as well as residents of neighboring communities. This CERT effort facilitates the concept of joint cooperation to create safer communities.

Alert LA County

The cities in the Las Virgenes-Malibu COG participate in the Los Angeles County Office of Emergency Management (OEM) Alert LA County program. Alert LA County is a free mass notification system for Los Angeles County residents and businesses. The Sheriff's Department uses Alert LA County to contact local residents and businesses if there is an emergency or disaster in a community. The system sends shelter-in-place instructions, evacuation, and other emergency messages. It has accessibility features for people with disabilities and others with access and functional needs as well as preferred language for notifications.

Figure 9: Alert LA County Program

OARRS

The cities in the Las Virgenes-Malibu COG participate in the Los Angeles County Office of Emergency Management (OEM) Operational Area Response and Recovery System (OARRS) which is designed to provide:

- Remote system access in the Operational Area;
- Interface with the State of California's Response Information Management System;
- Interface with the County's Enterprise Geographic Information System;
- Facilitation of emergency response activities, multi-jurisdictional and multidisciplinary response and recovery coordination, and information flow;
- Support for multi-disciplinary and multi-jurisdiction plans and exercises;
- System of communication and information management that links County departments, cities, schools, and special districts;
- Custom reporting; and
- Secure emergency information and data sharing.

DETAILS BY CITY

The remainder of this section provides detailed descriptions of each of the five cities within the Las Virgenes-Malibu Council of Governments. The information included outlines each city and provides a basic history, location, climate and topographical information, demographics, social makeup, employment figures, major employers, and housing data. An understanding of each of these categories is important for addressing the needs of the local community.

Cities are displayed in alphabetical order.

- Agoura Hills
- Calabasas
- Hidden Hills
- Malibu
- Westlake Village

AGOURA HILLS

Agoura Hills is located in the foothills of the Santa Monica Mountains on the western edge of Los Angeles County in the Conejo Valley. Agoura Hills encompasses 7.79 square miles and straddles the Ventura Freeway approximately 36 miles west of downtown Los Angeles. In the 1950's the availability of a reliable water supply caused the area to transform from a semi-rural ranching community to greater residential and commercial development.

Today, Agoura Hills is characterized by rolling hills and a blend of semi-rural and suburban development. The total population of Agoura Hills is comprised of approximately 20,692 people (2017 U.S. Census estimate).

Figure 10: City of Agoura Hills Aerial View

Source: Google Maps

Agoura Hills is located in the eastern Conejo Valley between the Simi Hills to the north and the Santa Monica Mountains to the south. The City ranges in altitude from 936 feet to 2,036 feet above sea level.

General Coordinates	
Latitude	34°8'42''North
Longitude	118°46'40''West

Source: 2016 SCAG City Boundary Data

Map 7: City of Agoura Hills Location Map

Brief History

The area around what is today the City of Agoura Hills was a popular resting place along the Camino Real, the original road connecting the Spanish missions from San Diego to San Francisco. Ranching was the area's dominant industry from the arrival of the Spanish in the late 18th century until the early 20th century.

In the 1920's Paramount Studios purchased a portion of the Rancho Las Virgenes, just south of what is now the City of Agoura Hills and established a film studio. In the late 1920's a group of residents asked to have a permanent post office established in the area, and the name "Agoura" was given.

Figure 11: Reyes Adobe

Growth and development was slow due in part to a lack of a significant water source. In the late 1950's, the Las Virgenes Municipal Water District was established, and reliable water sources made the Agoura area more attractive for families and businesses. Concurrently with the availability of water, further growth occurred when the local highway became part of the Ventura Freeway.

During the late 1960's and the 1970's, expansion continued as large housing tracts and shopping areas, as well as schools, developed. In 1982, residents voted in favor of cityhood, and on December 8, 1982 Agoura Hills became the 83rd city in Los Angeles County.

Figure 12: City of Agoura Hills Local Area Views

Climate /Topography

The climate in Agoura Hills is characterized by mild winters with temperatures ranging from the low 40's to the high 60's, and warm summers with temperatures ranging from the low 60's to the high 90's. Average annual rainfall is 17.8 inches with the greatest portion of precipitation occurring in the winter months.

Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Temperature (°F)	54.0	55.5	57.0	61.5	65.0	71.0	76.0	77.0	73.5	66.5	58.5	53.5
Minimum Temperature (°F)	40	41	42	45	49	53	57	58	55	49	42	38
Maximum Temperature (°F)	68	70	72	78	81	89	95	96	92	84	75	69
Average Rainfall (inches)	3.83	4.4	3.6	0.88	0.32	0.07	0.01	0.15	0.24	0.62	1.29	2.38

Source: Intellicast

Table 3: City of Agoura Hills Average Monthly Temperatures and Rainfall

Economic Activity

Economic activity is one indicator of the potential losses that may be incurred in the event of a disaster. The following tables list the principal employers, property tax payers, and taxable sales in Agoura Hills.

Agoura Hills Principal Employers

Company	Industry	Employees	Percent of Total City Employment
Bank of America	Finance	507	4.53%
Las Virgenes Unified School District*	Government	495	4.42%
Touch Commerce	Internet	225	2.01%
Teradyne Inc	Manufacturing	223	1.99%
IBM Corporation	Technology	206	1.84%
Cydcor LLC	Sales	150	1.34%
Wood Ranch	Restaurant	135	1.21%
Zebra Technologies	Publishing	131	1.17%
Farmers Financial Solutions	Insurance	129	1.15%
Motor Vehicle Software Corp	Technology	128	1.14%
Top 10 Total		**2,329**	**20.79%**
Total Employment		**11,200**	**100.00%**

Source: Comprehensive Annual Financial Report for the City of Agoura Hills, Fiscal Year Ended June 2017
**Employee count is based on Agoura Hills school sites only*

Table 4: City of Agoura Hills Principal Employers

Agoura Hills Principal Property Tax Payers

Company	Taxable Assessed Value	Percent of Total City Assessed Value
Tishman Speyer Archstone Smith	$121,689,495	2.56%
ARHC MBAGHCA01 LLC	59,879,445	1.26%
Lexington Agoura Hills LLC	53,957,928	1.13%
Khanna Enterprises LP	32,149,531	0.68%
FW CA Twin Oaks Shopping Center	31,185,690	0.66%
Whizin Market Square LLC	29,791,234	0.63%
Oak Creek Square LLC	28,223,944	0.59%
Hankey Investment Company LP	27,406,000	0.58%
Apple Seven Hospitality	23,759,647	0.50%
Agoura Design Center LP	21,842,879	0.46%
Top 10 Total	**$429,885,793**	**9.04%**

Source: Comprehensive Annual Financial Report for the City of Agoura Hills, Fiscal Year Ended June 2017

Table 5: City of Agoura Hills Principal Property Tax Payers

Agoura Hills Taxable Sales (2016)

Category	Taxable Sales (thousands)	Percent of Total
Autos and Transportation	$121	3.59%
Building and Construction	177	5.25%
Business and Industry	654	19.39%
Food and Drugs	281	8.33%
Fuel and Service Stations	637	18.89%
General Consumer Goods	799	23.69%
Restaurants and Hotels	704	20.87%
Total	**$3,373**	**100.00%**

Source: Comprehensive Annual Financial Report for the City of Agoura Hills, Fiscal Year Ended June 2017

Table 6: City of Agoura Hills Taxable Sales

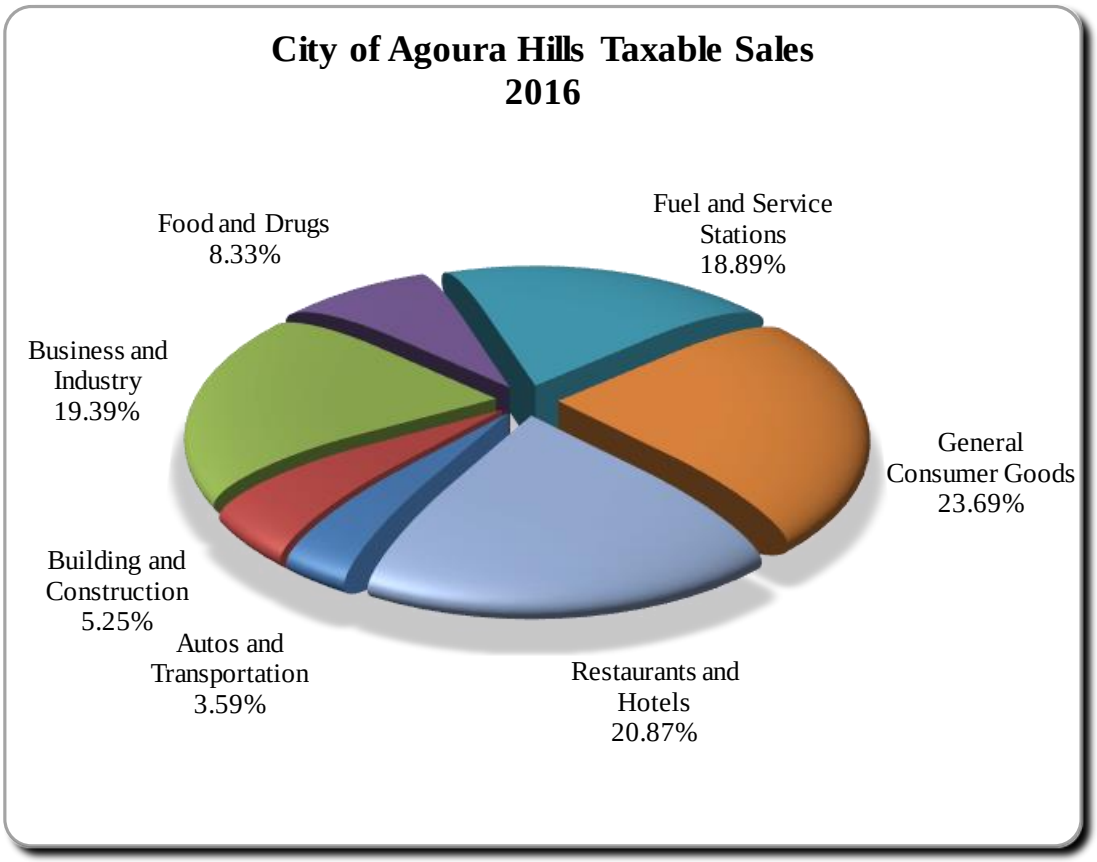


Figure 13: City of Agoura Hills Taxable Sales Percentage by Category

Agoura Hills Economy

Category	Value (in thousands)	Percent
Total Accommodation and Food Services Sales	D	D
Total Health Care and Social Assistance Receipts/Revenue	$86,619	10.68%
Total Manufacturer's Shipments	$12,454	1.53%
Total Merchant Wholesaler Sales	$337,764	41.63%
Total Retail Sales	$374,558	46.16%
Total	**$811,395**	**100.00%**

Source U.S. Census Bureau 2012 Economic Census of the U.S. information **D Suppressed to avoid disclosure of confidential**

Table 7: City of Agoura Hills Economy

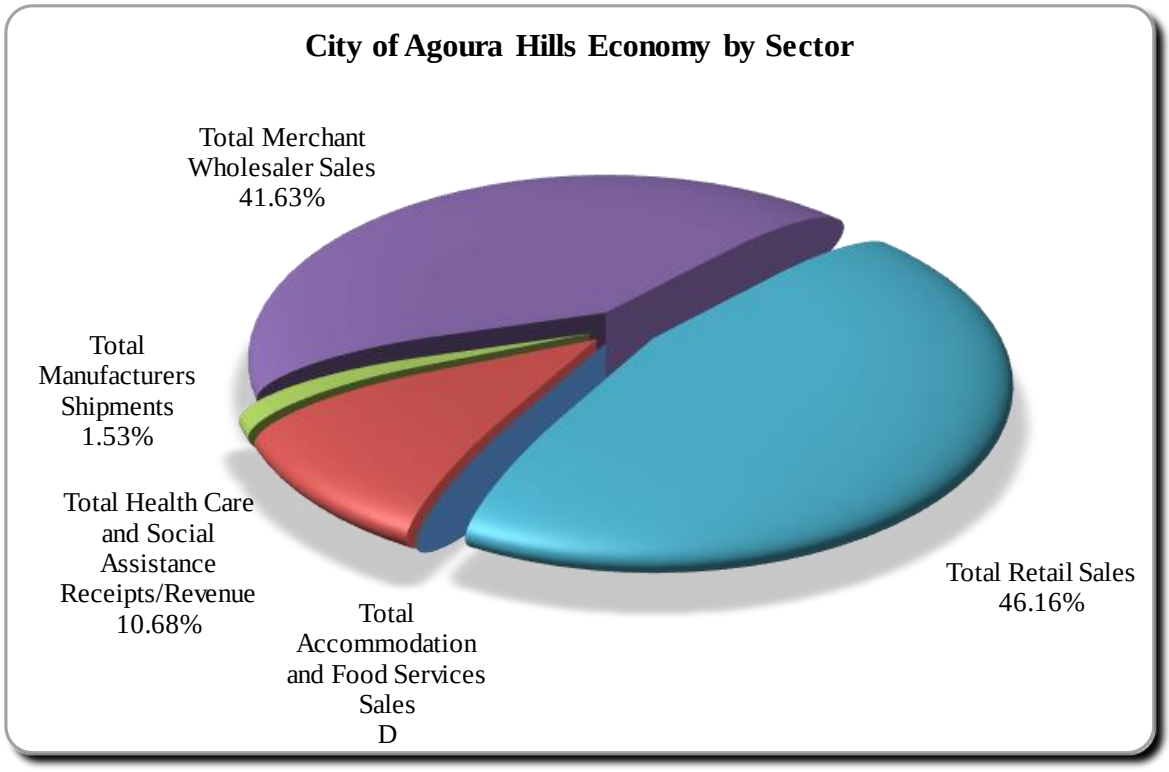


Figure 14: City of Agoura Hills Economy by Sector

Population and Demographics

The following tables summarize the population and demographic groups at risk from a disaster in Agoura Hills.

Sex and Age Distribution

Demographic Estimates - 2016		
Sex and Age	**Estimate**	**Percent**
Total Population	**20,689**	**100.0%**
Male	10,132	49.0%
Female	10,557	51.0%
Under 5 years	910	4.40%
5 to 9 years	1,180	5.70%
10 to 14 years	1,571	7.60%
15 to 19 years	1,606	7.80%
20 to 24 years	1,027	5.00%
25 to 34 years	1,597	7.70%
35 to 44 years	2,768	13.40%
45 to 54 years	4,161	20.10%
55 to 59 years	1,865	9.00%
60 to 64 years	1,223	5.90%
65 to 74 years	2,006	9.70%
75 to 84 years	574	2.80%
85 years and over	201	1.00%
Median age (years)	44.5	

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimate

Table 8: City of Agoura Hills Sex and Age Demographics

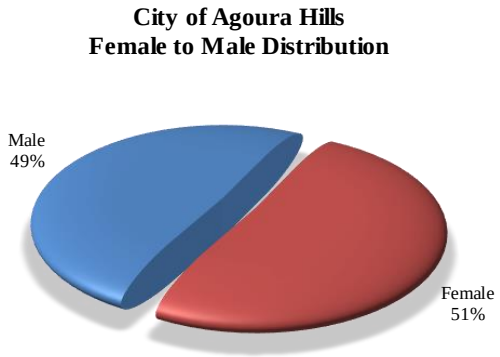


Figure 15: City of Agoura Hills Female to Male Distribution

The average age of residents in Agoura Hills is 44.5 with females (51.0%) slightly outnumbering males (49.0%). Mitigation planning must consider the unique needs of population groups, for example those under 15 years of age and those over 65 years of age.

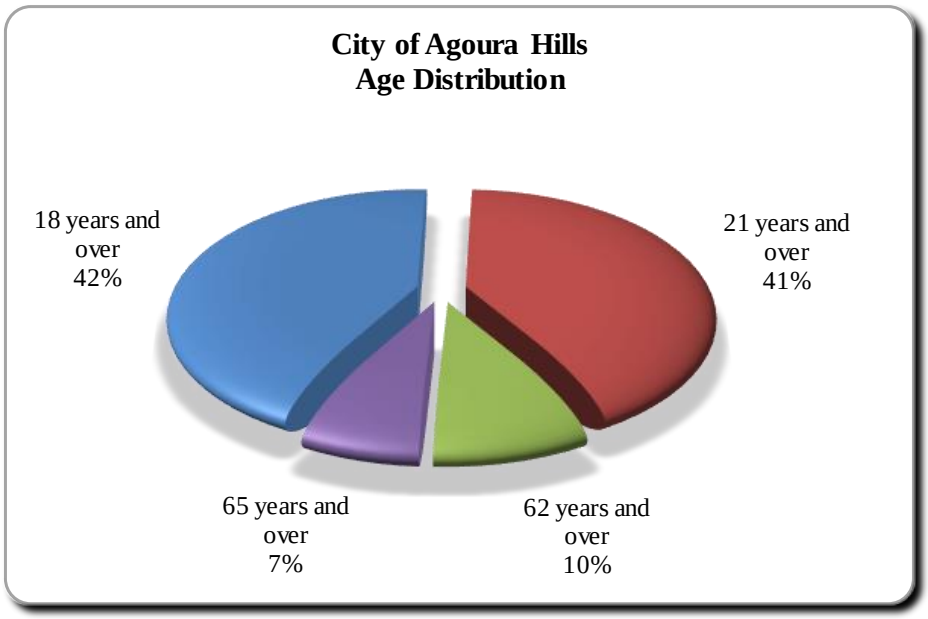


Figure 16: City of Agoura Hills Age Distribution

Race and Language Composition

Race

One aspect of mitigation planning is the need to address the cultural and language (communications) needs of local populations. This includes the ability to distribute information and provide notification in the event of a regional emergency. For Agoura Hills, an estimated 26.6% of the population speaks languages other than English (including English and another language or non-English only) with more than a quarter of these speaking English "less than very well".

Race	2016 Estimated Population	Percent of Total
Total Population	**20,689**	**100.00%**
White alone[(a)]	15,894	76.80%
Black or African American alone[(a)]	313	1.50%
American Indian and Alaska Native alone[(a)]	10	0.00%
Asian alone[(a)]	1,302	6.30%
Native Hawaiian and Other Pacific Islander alone[(a)]	0	0.00%
Hispanic or Latino[(b)]	2,618	12.70%
Two or More Races	462	2.20%
Some Other Race alone	90	0.40%

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimate
(a) Includes persons reporting only one race
(b) Hispanics may be of any race, so also are included in applicable race categories
Table 9: City of Agoura Hills Race Composition

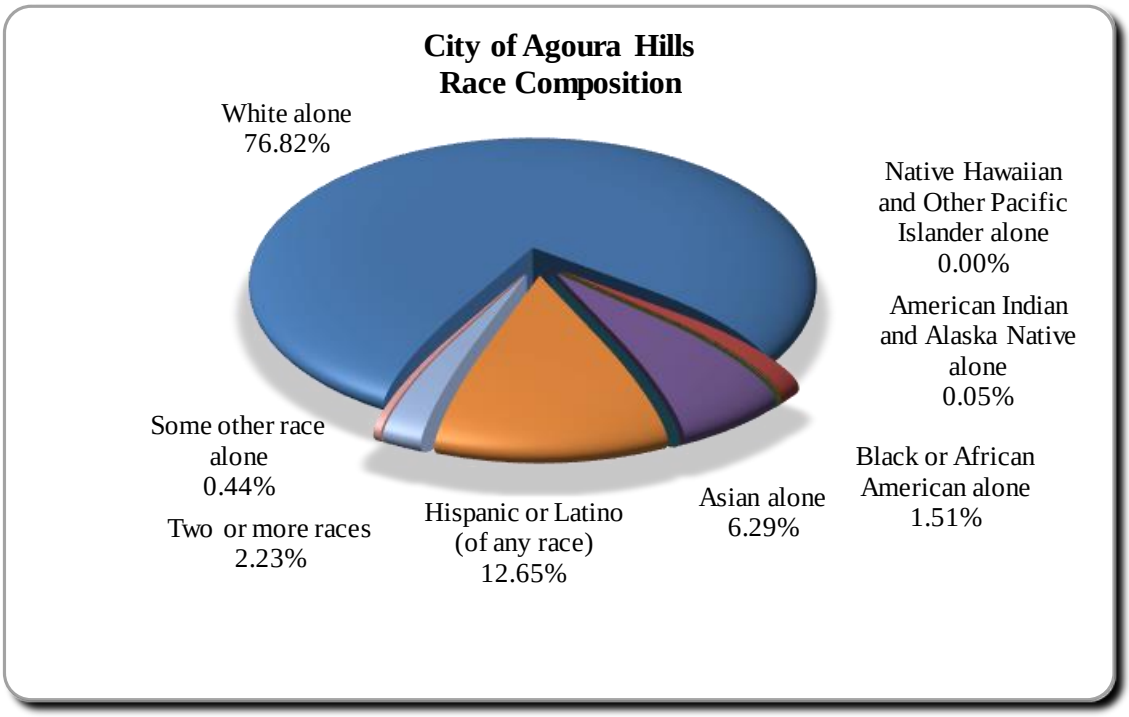


Figure 17: City of Agoura Hills Race Composition

Language Spoken at Home

Language	2016 Estimated Population	Percent of Total
Speaks only English	15,853	80.20%
Language other than English spoken at home, percent of persons age 5 years+, 2012-2016	3,926	19.80%
Speak a Language Other than English	**2016 Estimated Population**	**Percent of Total**
Spanish	**1,530**	**7.70%**
5 to 17 years old	292	1.50%
18 to 64 years old	1,088	5.50%
65 years old and over	150	0.80%
Other Indo-European languages	**1,350**	**6.80%**
5 to 17 years old	98	0.50%
18 to 64 years old	1,081	5.50%
65 years old and over	171	0.90%
Asian and Pacific Island languages	**584**	**3.00%**
5 to 17 years old	122	0.60%
18 to 64 years old	346	1.70%
65 years old and over	116	0.60%
Other languages	**462**	**2.30%**
5 to 17 years old	163	0.80%
18 to 64 years old	299	1.50%
65 years old and over	0	0.00%

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimates

Table 10: City of Agoura Hills Languages Spoken at Home

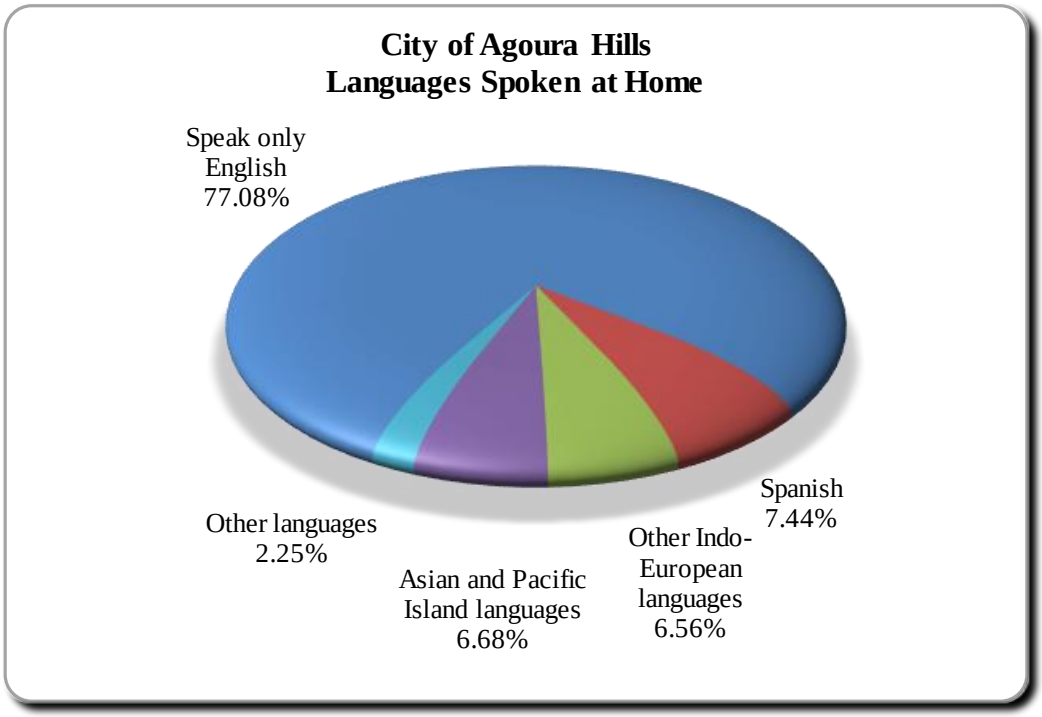


Figure 18: City of Agoura Hills Language Spoken at Home

Income Distribution

Household income is a factor for mitigation planning since population groups in lower income ranges are less able to cope with the impact of disasters.

Furthermore, the availability of household funds can have a direct impact on the level of individual and family hazard mitigation activities and emergency preparedness.

In Agoura Hills, while the mean household income is over $149,242 there are a limited number of households with incomes less than $25,000, near the 2018 U.S. poverty level of $25,100 for a family of four as defined by the *2018 HHS Poverty Guidelines*, by the U.S. Department of Health & Human Services.*

Income and Benefits (in 2016 Inflation-Adjusted Dollars)		
	Estimate	**Percent**
Total Households	**7,342**	**100.00%**
Less than $10,000	114	1.60%
$10,000 to $14,999	91	1.20%
$15,000 to $24,999	298	4.10%
$25,000 to $34,999	367	5.00%
$35,000 to $49,999	422	5.70%
$50,000 to $74,999	1,256	17.10%
$75,000 to $99,999	768	10.50%
$100,000 to $149,999	1,248	17.00%
$150,000 to $199,999	958	13.00%
$200,000 or more	1,820	24.80%
Median household income	**114,313**	**(X)**
Mean household income	**149,242**	**(X)**

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimates

Table 11: City of Agoura Hills Income and Benefits (2016 Inflation Adjusted Dollars)

* Note: The households with minimal incomes may also be attributable to retirees and others that have other sources of funds not reportable as income.

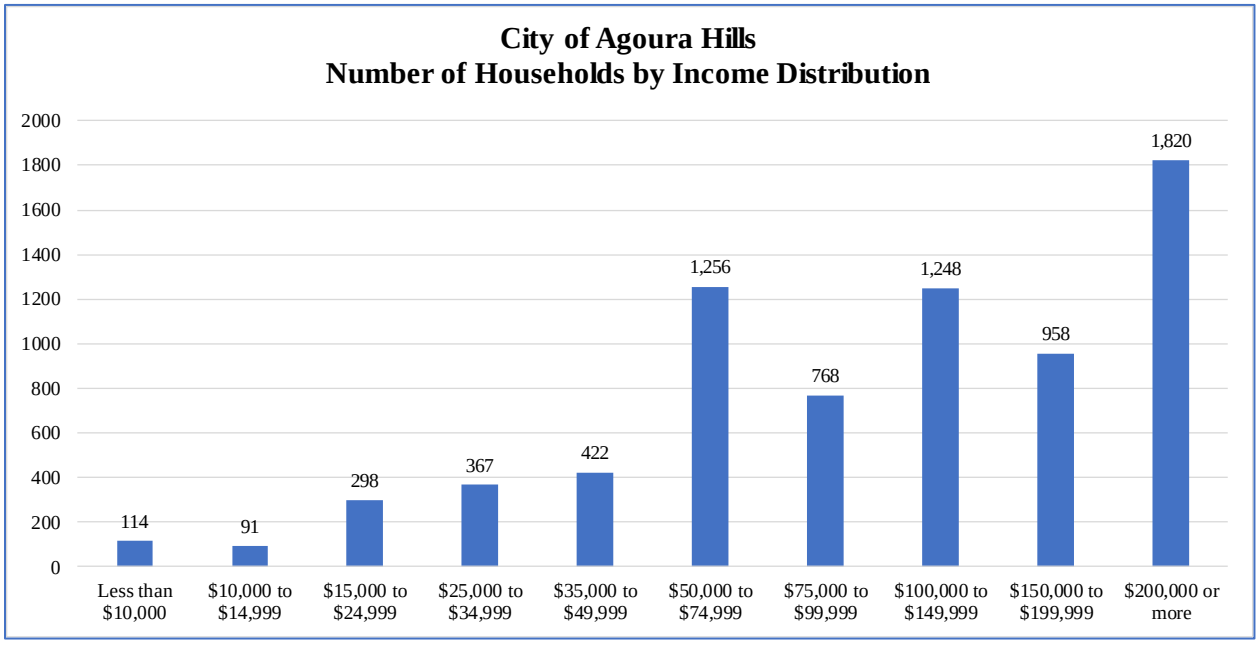


Figure 19: City of Agoura Hills Income Distribution

Land Use

Basic land use patterns are well established in the City of Agoura Hills. Residential neighborhoods are fully developed and there are limited opportunities for infill development remaining. Agoura Hills also contains a number of commercial zones. The city's main shopping areas are listed below:

- Agoura City Mall
- Agoura Hills Commercial Center
- Agoura Hills Town Center
- Agoura Meadows Shopping Center
- Kanan Plaza
- Reyes Adobe Plaza
- Roadside Plaza
- Twin Oaks Shopping Center
- Whizin Market Square

Regional access to Agoura Hills is provided by U.S. Highway 101, which runs east/west through the center of Agoura Hills dividing the town in half. Local access within the City is provided primarily by Kanan Road and Reyes Adobe Road in the north/south directions; Agoura Road and Thousand Oaks Boulevard in the east/west directions. City owned streets run 64 miles.

Housing Characteristics

The following housing statistics provide a summary of the numbers and types of housing units that are at risk if a disaster were to occur in Agoura Hills. Housing data includes: Housing Occupancy, Changes from 2012 to 2016, Number of Structures Built by Year, Home Values, and Home Value Distribution. In Agoura Hills there has been a significant increase in the number of large units (3 or more units) and mobile homes since 2012.

Housing Occupancy	Estimate	Percent
Total Housing Units	7,735	100.0%
Occupied housing units	7,342	94.9%
Vacant housing units	393	5.10%

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimates

Table 12: City of Agoura Hills Housing Occupancy

Units In Structure	2016		2012		Change	
	Estimated Number	Percent of Units	Number	Percent of Units	Difference 2016-2012	Percent Change
Total Housing Units	**7,735**	**100.00%**	**7,690**	**100.00%**	**45**	**0.59%**
1-unit, detached	5,125	66.30%	5,286	68.70%	-161	-3.05%
1-unit, attached	1,377	17.80%	1,024	13.30%	353	34.47%
2 units	0	0.00%	15	0.20%	-15	-100.00%
3 or 4 units	181	2.30%	143	1.90%	38	26.57%
5 to 9 units	285	3.70%	258	3.40%	27	10.47%
10 to 19 units	325	4.20%	334	4.30%	-9	-2.69%
20 or more units	442	5.70%	611	7.90%	-169	-27.66%
Mobile home	0	0.00%	19	0.20%	-19	-100.00%
Boat, RV, van, etc.	0	0.00%	0	0.00%	0	-

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimates

Table 13: City of Agoura Hills Units in Structure Change from 2012 to 2016

In terms of risk and disaster mitigation, older structures that have not been retrofitted or otherwise improved may be more susceptible to damage or destruction due to age and the fact that older building codes were less stringent than those required for newer structures. As a result, the inventory of older structures is a consideration when developing mitigation plans.

In Agoura Hills, 89.94% of structures (6,957) were built prior to 1990 and 49.24% (3,809) before 1980.

Year Structure Built	Estimate	Percent
Total housing units	**7,735**	**7,735**
Built 2014 or later	16	0.20%
Built 2010 to 2013	59	0.80%
Built 2000 to 2009	371	4.80%
Built 1990 to 1999	332	4.30%
Built 1980 to 1989	3,148	40.70%
Built 1970 to 1979	2,898	37.50%
Built 1960 to 1969	619	8.00%
Built 1950 to 1959	220	2.80%
Built 1940 to 1949	25	0.30%
Built 1939 or earlier	47	0.60%

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimates

Table 14: Year Structures Built in the City of Agoura Hills

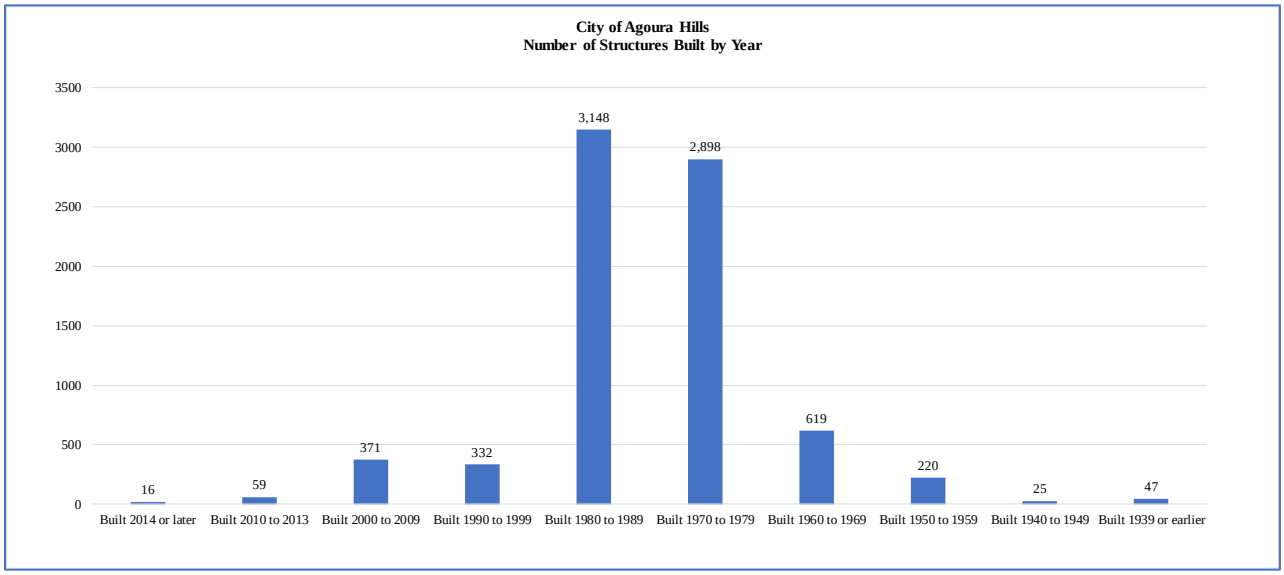


Figure 20: City of Agoura Hills Number of Structures Built by Year

Home values are an important consideration when evaluating the potential dollar loss due to disasters. These values can also be used to assess the cost/benefit of mitigation activities and planning. In Agoura Hills, the majority of Owner Occupied Units are valued over $500,000. Consequently, the potential dollar losses from a disaster can rapidly escalate – illustrating the need for mitigation planning.

Value		
	Estimate	**Percent**
Owner-Occupied Units	**5,562**	**100.00%**
Less than $50,000	95	1.70%
$50,000 to $99,999	14	0.30%
$100,000 to $149,999	28	0.50%
$150,000 to $199,999	43	0.80%
$200,000 to $299,999	287	5.20%
$300,000 to $499,999	937	16.80%
$500,000 to $999,999	3,137	56.40%
$1,000,000 or more	1,021	18.40%
Median (dollars)	**699,200**	**(X)**

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimates

Table 15: City of Agoura Hills Home Value Distribution

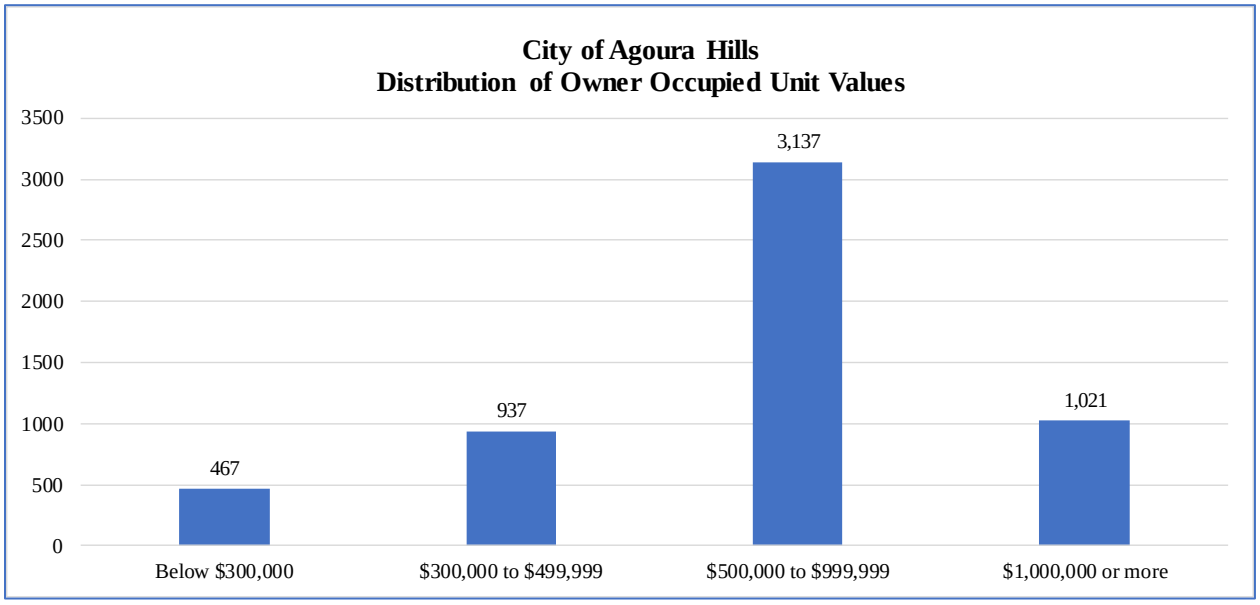


Figure 21: City of Agoura Hills Distribution of Owner Occupied Unit Values

Housing Program

The City's Affordable Housing Program includes elements for:

- First-Time Home-Buyer Program
- Residential Rehabilitation
- Mortgage Credit Certificate Program

The residential rehabilitation element provides subsidized loans to allow low and moderate income homeowners (including seniors) to make otherwise unaffordable improvements and repairs to enhance the safety of their homes. Payback on the loans is required upon sale or loan refinance of the structure.

Homeowners Associations

Homeowners associations in Agoura Hills meet on a regular basis to discuss community issues, including hazard mitigation. Homeowners associations mail out information on a periodic basis and are very involved in the community.

The following is a list of the Home Owner Associations in the City of Agoura Hills:

City of Agoura Hills Home Owner Associations	
Agoura Hills Country Estates	Liberty Canyon Townhomes
Agoura Country Townhomes	Meadow Ridge Townhomes
Annandale I Townhomes	Morrison Ranch
Annandale II Townhomes	Oak Hills
Chateau Creek	Oak Valley
Chateau Park	Oakview Garden
Fountainwood	Oakview Ranch
Griffin Parkside	Old Agoura
Hillrise Open Space	Peacock Ridge
Indian Hills	Rondell Condominiums
Lake Lindero Community	Stonecrest
Lake Lindero Country Club	Town and Country
Lake Lindero Townhomes	Village of Oak Creek
Lakeview Villas	Westlake Villas
Liberty Canyon	

Table 16: City of Agoura Hills Home Owner Associations

Emergency Preparedness

Critical Facilities and Capabilities

The City of Agoura Hills has identified multiple critical facilities including:

- City Hall
- Emergency Operations Center (EOC)
- Recreation & Event Center
- City Yard

Two of these facilities have functional emergency power generators. In addition, City Hall is stocked with emergency food for 32 staff and 25 volunteers for 3 days.

Emergency Operations Center

The Emergency Operations Center (EOC) is a fully-equipped site in the Civic Center Community Room. City staff are trained to operate the EOC in a disaster or other emergency situation. Activation of the EOC can be ordered by the City Manager, the Sheriff's Department, or the Fire Department.

Monitoring Capabilities

The City of Agoura Hills maintains cameras installed at major intersections that can be used for road assessments and for monitoring ongoing hazardous situations. Additionally, the City has purchased a drone that can be used for structural hazard assessments.

Disaster Preparedness Groups

The following groups are active in providing emergency preparedness, mitigation, and response services within Agoura Hills:

Emergency Response Team

The City of Agoura Hills has implemented a Volunteer Emergency Response Team. The City currently has 35 volunteers on its roster and will continue to grow its volunteer base over the next five years. The City solicits volunteers regularly through their city newsletter, the Agoura Hills Update. As part of their preparation to assist the city staff and community in time of emergency, new members attend the CERT training program.

City of Agoura Hills Law Enforcement Committee

While the City does not have a Public Safety Committee, the City's Law Enforcement Committee acts in this similar capacity meeting with staff and representatives from Law Enforcement and Los Angeles County Fire representative to discuss safety issues as they present themselves. The Law Enforcement Committee consists of two members of the City Council, who work with the City Manager and a staff liaison. The Law Enforcement Committee meets primarily as needed, but at least annually.

General Plan

The City Council of Agoura Hills approved a new General Plan on March 24, 2010, which details a strategy for the City's development over the next 25 years. Included in this plan are provisions for flood hazards, geological and seismic hazards, wildland and urban fire hazards and emergency preparedness in general.

As part of the general plan, the City of Agoura Hills implemented the following principles that adhere to particular facets of disaster preparedness:

1. Protect Agoura Hills' residents, workers, and visitors from flood hazards.
2. Protect all personal and property in Agoura Hills from non-seismic geological hazards.
3. Protect all persons and property in Agoura Hills from urban and wildland fires.
4. Protect all persons and property in Agoura Hills from criminal activities.
5. Ensure that life and property in Agoura Hills are not endangered by the use, storage, or transport of hazardous materials.

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CALABASAS

Calabasas is located in the southwestern portion of the San Fernando Valley in Los Angeles County. Calabasas is situated along the heavily traveled Ventura Freeway (Highway 101) approximately 25 miles from downtown Los Angeles. A portion of the Calabasas northern boundary is shared with Ventura County.

CITY of CALABASAS

The City of Calabasas encompasses approximately 13.3 square miles or 8,512 acres of land. The population of Calabasas is estimated at 24,202 people (2017 U.S. Census estimate).

Figure 22: City of Calabasas Aerial View

Source: Google Maps

General Coordinates	
Latitude	34°9’28”North
Longitude	118°38’15”West

Source: 2016 SCAG City Boundary Data

Map 8: City of Calabasas Location Map

Brief History

In the early 19th century Spanish settlers established farms and ranches in the rural area that is now the city of Calabasas. In the late 19th century large ranches gave way to smaller family farms. Residential and commercial development of the area was restricted by water availability until 1958 when the Las Virgenes Municipal Water District established a substantial and reliable water source. Prior to incorporation, Calabasas was an unincorporated community governed by the County of Los Angeles. The City of Calabasas was incorporated in 1991.

Climate/Topography

The climate in the City of Calabasas can be characterized as mild in the winters, and warm and dry in the summers. Precipitation averages 17.8 inches per year.

Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Temperature (°F)	54.0	55.5	57.0	61.5	65.0	71.0	76.0	77.0	73.5	66.5	58.5	53.5
Minimum Temperature (°F)	40	41	42	45	49	53	57	58	55	49	42	38
Maximum Temperature (°F)	68	70	72	78	81	89	95	96	92	84	75	69
Average Rainfall (inches)	3.83	4.4	3.6	0.88	0.32	0.07	0.01	0.15	0.24	0.62	1.29	2.38

Source: Intellicast

Table 17: City of Calabasas Average Monthly Temperatures and Rainfall

The terrain can be categorized as rugged or mountainous with a few level areas. Calabasas is located in the foothills of the Santa Monica Mountains, and ranges in elevation from 500 to 2,500 feet above sea level, with an average elevation of 796 feet. The scenic character of Calabasas is a result of its mountainous terrain and most undeveloped areas in Calabasas will likely remain that way due to topographical constraints and zoning limitations.

Economic Activity

Economic activity is one indicator of the potential losses that may be incurred in the event of a disaster. The following tables list the principal employers, property tax payers, and taxable sales in Calabasas.

Calabasas Principal Employers

Company	Industry	Employees	Percent of Total City Employment
Cheesecake Factory, Inc.[2]	Restaurant	1024	8.61%
Las Virgenes Unified School District[3]	Education	689	5.79%
Viewpoint Education Foundation	Education	305	2.56%
IXIA Communications	Technology	273	2.29%
Alcatel Internetworking, Inc.	Technology	220	1.85%
Western General Insurance	Insurance	205	1.72%
Bob Smith BMW & Mini	Auto Retail	158	1.33%
Informa Research Services	Business Services	145	1.22%
Valley Crest Landscaping Co	Miscellaneous	126	1.06%
Davis Research LLC	Business Services	110	0.92%
Top 10 Total		**3,255**	**27.35%**
Total City of Calabasas Employment[4]		**11,900**	**100.00%**

Source: 2016- 2017 Comprehensive Annual Financial Report for the City of Calabasas, Fiscal Year Ended June 2017
Table 18: City of Calabasas Principal Employers

Calabasas Principal Property Tax Payers

Company	Taxable Assessed Value	Percent of Total City Assessed Value
ASN Calabasas I LLC	$184,975,689	2.38%
Aimco Malibu Canyon LLC	102,750,770	1.32%
Commons at Calabasas LLC	70,084,374	0.90%
Kilroy Realty LP	60,095,020	0.77%
BVK Courtyard Commons LLC	52,011,798	0.67%
Calabasas TC Properties LLC	48,474,994	0.62%
Cheesecake Factory Inc	45,234,608	0.58%
MK RRP 4500 Park Granada	39,350,317	0.51%
Dollinger Lost Hills Associates	28,135,057	0.36%
Cypress Calabasas LLC	26,714,961	0.34%
Top 10 Total	**$657,827,588**	**8.46%**
Total Property Tax Assessed Value	**$7,774,815,575**	**100%**

Source: 2016- 2017 Comprehensive Annual Financial Report for the City of Calabasas, Fiscal Year Ended June 2017
Table 19: City of Calabasas Principal Tax Payers

[2] Number of Employees in Only in Calabasas, Bakery and Corporate
[3] The Las Virgenes School District number represents all employees within the district, classified, certificated, and management
[4] Total City Labor Force provided by EDD Labor Force Data

City of Calabasas Taxable Sales

Category	Taxable Sales (thousands)	Percent of Total
Transportation	1,436,078	33.72%
Business to Business	927,367	21.77%
Food Products*	1,035,152	24.30%
General Retail	744,300	17.47%
Miscellaneous	105,492	2.48%
Construction	10,875	0.26%
Total	**4,259,264**	**100.00%**

Source: 2016- 2017 Comprehensive Annual Financial Report for the City of Calabasas, Fiscal Year Ended June 2017
City Direct Sales Tax Rate: 1%
**General grocery items are not taxable; the sales tax applies only to prepared food items and nonfood items*
Table 20: City of Calabasas Principal Taxable Sales

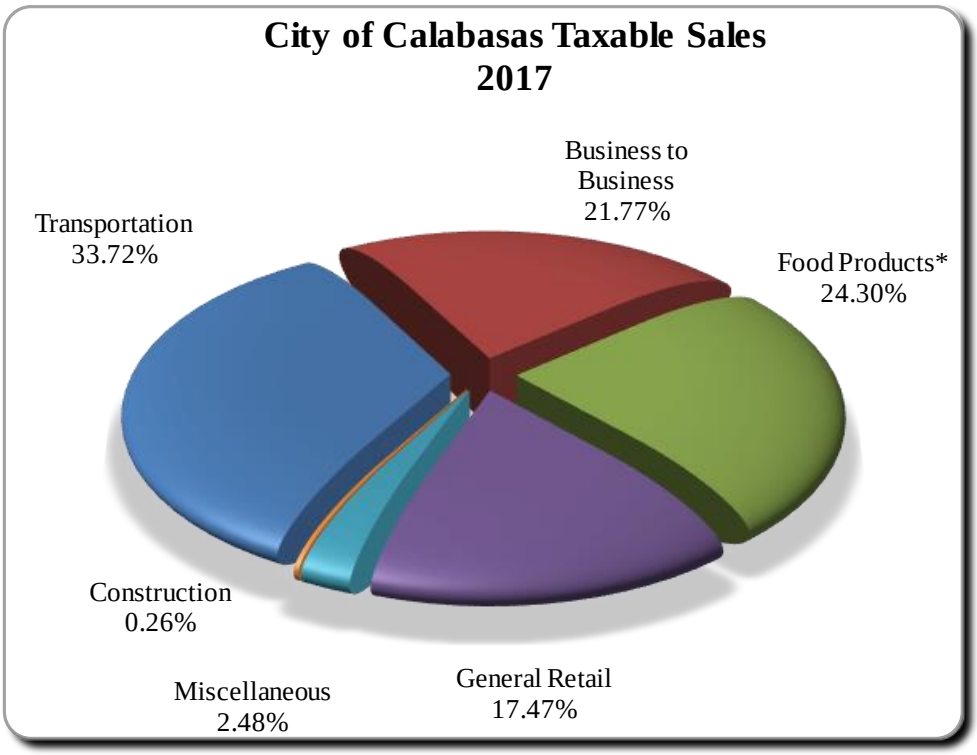


Figure 23: City of Calabasas Taxable Sales Percentage by Category

Calabasas Economy

Category	Value (in thousands)	Percent
Total Accommodation and Food Services Sales	$63,095	3.91%
Total Health Care and Social Assistance Receipts/Revenue	$63,454	3.93%
Total Manufacturer's Shipments	D	D
Total Merchant Wholesaler Sales	$890,409	55.15%
Total Retail Sales	$597,445	37.01%
Total	**$1,614,403**	**100.00%**

Source U.S. Census Bureau 2012 Economic Census of the U.S. information **D Suppressed to avoid disclosure of confidential**

Table 21: City of Calabasas Economy

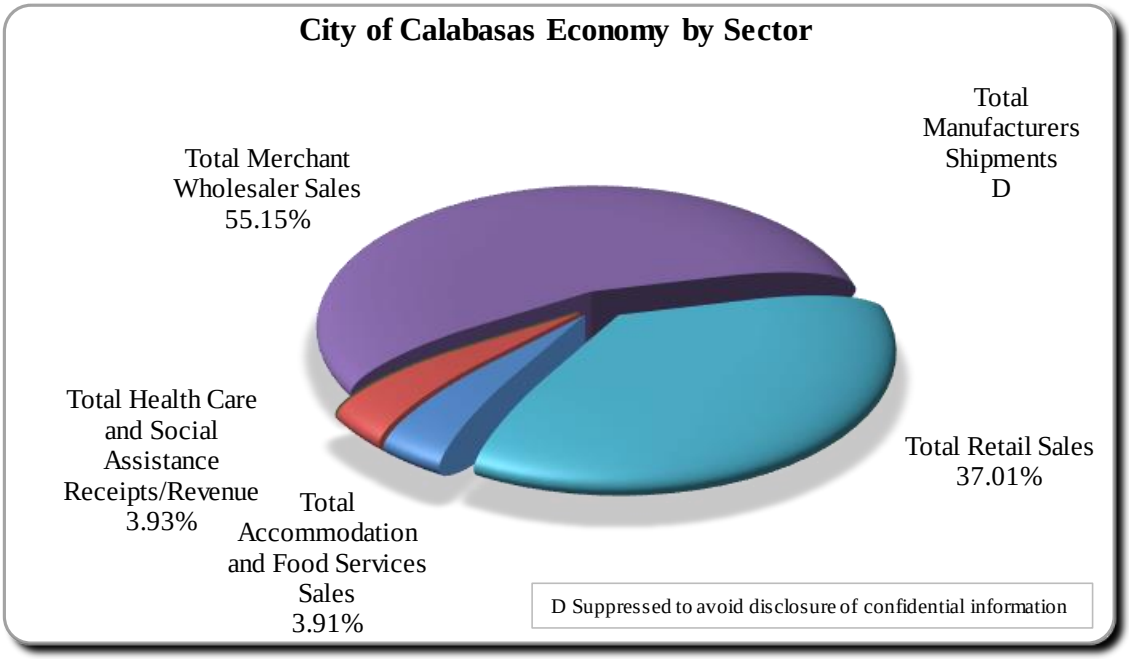


Figure 24: City of Calabasas Economy by Sector

Population and Demographics

The following tables summarize the population and demographic groups at risk from a disaster in Calabasas.

Sex and Age Distribution

Demographic Estimates - 2016		
Sex and Age	**Estimate**	**Percent**
Total Population	**24,091**	**100%**
Male	11,187	46.4%
Female	12,904	53.6%
Under 5 years	795	3.30%
5 to 9 years	1,807	7.50%
10 to 14 years	2,048	8.50%
15 to 19 years	1,783	7.40%
20 to 24 years	1,397	5.80%
25 to 29 years	1,060	4.40%
30 to 34 years	1,084	4.50%
35 to 39 years	1,205	5.00%
40 to 44 years	1,662	6.90%
45 to 49 years	1,855	7.70%
50 to 54 years	2,385	9.90%
55 to 59 years	2,000	8.30%
60 to 64 years	1,397	5.80%
65 to 69 years	1,373	5.70%
70 to 74 years	1,084	4.50%
75 to 79 years	506	2.10%
80 to 84 years	410	1.70%
85 years and over	241	1.00%
Median age (years)	42.9	

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 22: City of Calabasas Sex and Age Demographics

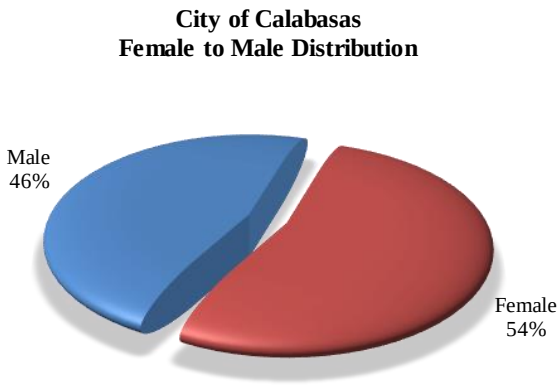


Figure 25: City of Calabasas Female to Male Distribution

In 2016, the estimated median age of residents in Calabasas was 42.9 with females (53.6%) outnumbering males (46.4%). Mitigation planning must consider the unique needs of population groups, for example those under 15 years of age and those over 65 years of age.

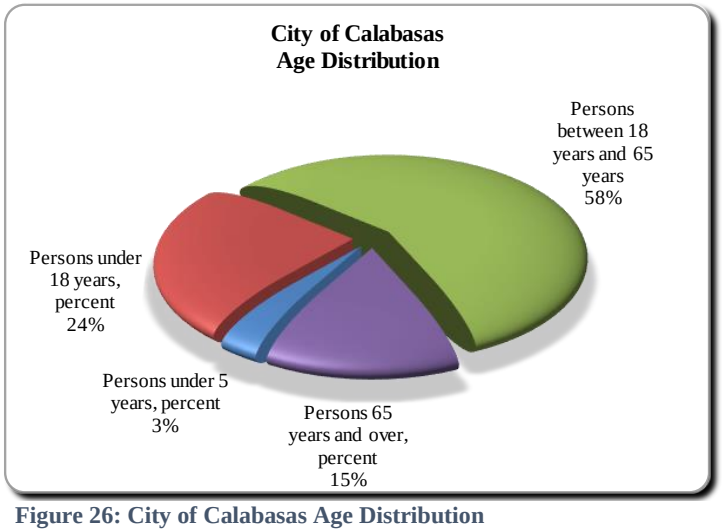


Figure 26: City of Calabasas Age Distribution

Race and Language Composition

One aspect of mitigation planning is the need to address the cultural and language (communications) needs of local populations. This includes the ability to distribute information and provide notification in the event of a regional emergency. For Calabasas, an estimated 26.6% of the population speaks languages other than English (including English and another language or non-English only).

Race

Race	2016 Estimated Population	Percent of Total
Total Population	**23,058**	100.00%
White alone[(a)]	18,332	79.50%
Black or African American alone[(a)]	356	1.54%
American Indian and Alaska Native alone[(a)]	30	0.13%
Asian alone[(a)]	1,977	8.57%
Native Hawaiian and Other Pacific Islander alone[(a)]	6	0.03%
Hispanic or Latino[(b)]	1,481	6.42%
Two or More Races	808	3.50%
Some Other Race	68	0.29%

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimates
(a) Includes persons reporting only one race
(b) Hispanics may be of any race, so also are included in applicable race categories

Table 23: City of Calabasas Race Composition

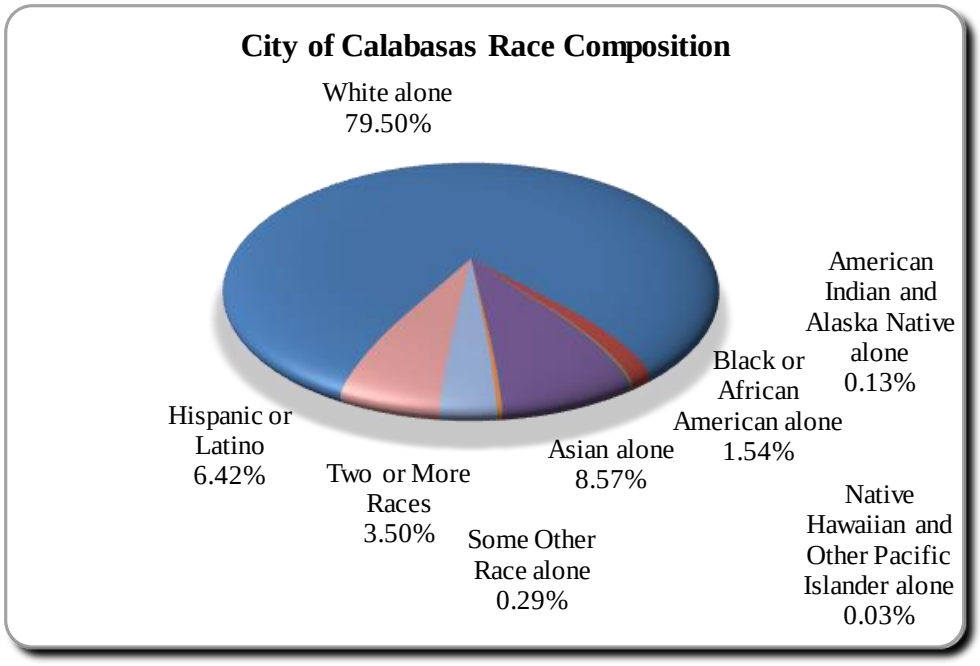


Figure 27: City of Calabasas Race Distribution

Language Spoken at Home

Language	2016 Estimated Population	Percent of Total
Speaks only English	17,087	73.40%
Language other than English spoken at home, percent of persons age 5 years+, 2012-2016	6,199	26.60%
Speak a Language Other than English	**2016 Estimated Population**	**Percent of Total**
Spanish	**1,035**	**4.40%**
5 to 17 years old	202	0.90%
18 to 64 years old	658	2.80%
65 years old and over	175	0.80%
Other Indo-European languages	**3,220**	**13.80%**
5 to 17 years old	379	1.60%
18 to 64 years old	2,258	9.70%
65 years old and over	583	2.50%
Asian and Pacific Island languages	**1,373**	**5.90%**
5 to 17 years old	210	0.90%
18 to 64 years old	999	4.30%
65 years old and over	164	0.70%
Other languages	**571**	**2.50%**
5 to 17 years old	76	0.30%
18 to 64 years old	374	1.60%
65 years old and over	121	0.50%

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimates

Table 24: City of Calabasas Languages Spoken at Home

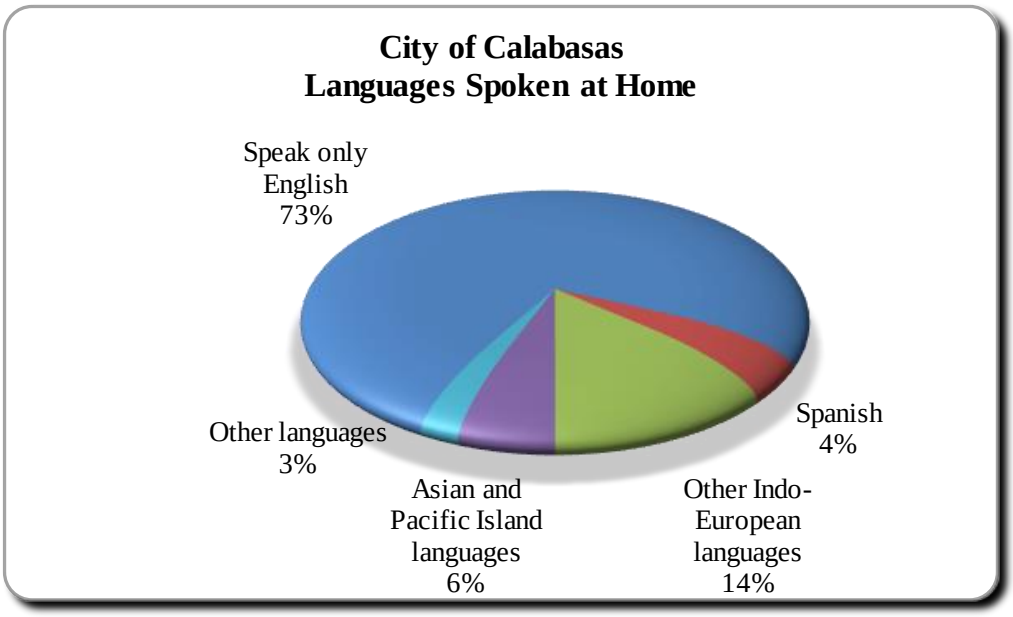


Figure 28: City of Calabasas Language Spoken at Home

Income Distribution

Household income is a factor for mitigation planning since population groups in lower income ranges are less able to cope with the impact of disasters.

Furthermore, the availability of household funds can have a direct impact on the level of individual and family hazard mitigation activities and emergency preparedness.

In Calabasas, while the mean household income is $162,278, there are a limited number of households with incomes less than $25,000, near the 2018 U.S. poverty level of $25,100 for a family of four as defined by the *2018 HHS Poverty Guidelines*, by the U.S. Department of Health & Human Services.*

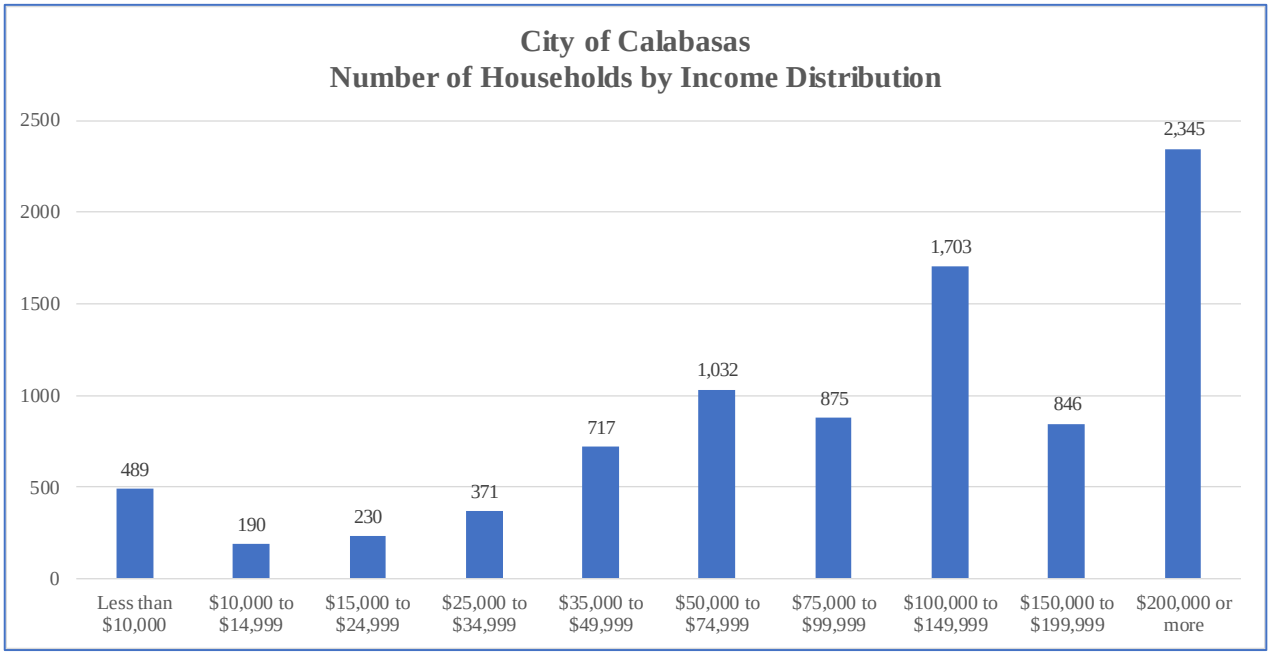
Income and Benefits (in 2016 Inflation-Adjusted Dollars)		
	Estimate	**Percent**
Total Households	**8,798**	**100.0%**
Less than $10,000	489	5.60%
$10,000 to $14,999	190	2.20%
$15,000 to $24,999	230	2.60%
$25,000 to $34,999	371	4.20%
$35,000 to $49,999	717	8.10%
$50,000 to $74,999	1,032	11.70%
$75,000 to $99,999	875	9.90%
$100,000 to $149,999	1,703	19.40%
$150,000 to $199,999	846	9.60%
$200,000 or more	2,345	26.70%
Median household income	**$111,111**	**(X)**
Mean household income	**$162,278**	**(X)**

Source: U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimates

Table 25: City of Calabasas Income and Benefits (2016 Inflation Adjusted Dollars)

* Note: The households with minimal incomes may also be attributable to retirees and others that have other sources of funds not reportable as income.

Figure 29: City of Calabasas Income Distribution



Land Use

Due to environmental constraints and steep hillsides, most undeveloped land within the Calabasas City limits will remain undeveloped and most developable areas are already built out. The non-developed areas of Calabasas are mainly in open space or hillside/mountainous zones.

The City of Calabasas is mainly residential but also hosts several commercial business parks and shopping centers including:

- Calabasas Canyon Center
- Creekside Village
- Courtyard at the Commons
- Old Town Calabasas
- Plaza Calabasas
- Parkway Calabasas Shopping Center
- The Commons at Calabasas
- The Summit at Calabasas

Housing Characteristics

The following housing statistics provide a summary of the numbers and types of housing units that are at risk if a disaster were to occur in Calabasas. Housing data includes: Housing Occupancy, Units in Structure Change from 2012 to 2016, Number of Structures Built by Year, Home Values, and Home Value Distribution. In Calabasas, there has been a significant increase in the number of housing units since 2012 – particularly in 1-unit attached and multi-unit structures.

Housing Occupancy	2016 Estimate	Percent
Total Housing Units	**9,186**	**100.0%**
Occupied housing units	8,798	95.80%
Vacant housing units	388	4.20%

Source: U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimates
Table 26: City of Calabasas Housing Occupancy

Units in Structure	2016		2012		Change	
	Estimated Number	Percent of Units	Number	Percent of Units	Difference 2016-2012	Percent Change
Total Housing Units	**9,186**	**100.00%**	**8,821**	**100.00%**	**365**	**4.14%**
1-unit, detached	5,750	62.60%	6,010	68.10%	-260	-4.33%
1-unit, attached	1,021	11.10%	762	8.60%	259	33.99%
2 units	12	0.10%	9	0.10%	3	33.33%
3 or 4 units	744	8.10%	613	6.90%	131	21.37%
5 to 9 units	491	5.30%	399	4.50%	92	23.06%
10 to 19 units	292	3.20%	236	2.70%	56	23.73%
20 or more units	698	7.60%	629	7.10%	69	10.97%
Mobile home	178	1.90%	163	1.80%	15	9.20%
Boat, RV, van, etc.	0	0.00%	0	0.00%	0	-

Source: U.S. Census Bureau 2012-2016 American Community Survey
Table 27: City of Calabasas Units in Structure Change from 2012 to 2016

In terms of risk and disaster mitigation, older structures that have not been retrofitted or otherwise improved may be more susceptible to damage or destruction due to age and the fact that older building codes were less stringent than those required for newer structures. As a result, the inventory of older structures is a consideration when developing mitigation plans. In Calabasas, 71.4% of structures (6,559) were built prior to 1990 and 38.5% (3,535) before 1980.

Year Structure Built	Estimate	Percent
Total housing units	**9,186**	**100.0%**
Built 2014 or later	17	0.20%
Built 2010 to 2013	12	0.10%
Built 2000 to 2009	868	9.40%
Built 1990 to 1999	1,730	18.80%
Built 1980 to 1989	3,024	32.90%
Built 1970 to 1979	1,840	20.00%
Built 1960 to 1969	1,346	14.70%
Built 1950 to 1959	217	2.40%
Built 1940 to 1949	49	0.50%
Built 1939 or earlier	83	0.90%

Source: U.S. Census Bureau 2012-2016 American Community Survey

Table 28: Year Structures Built in the City of Calabasas

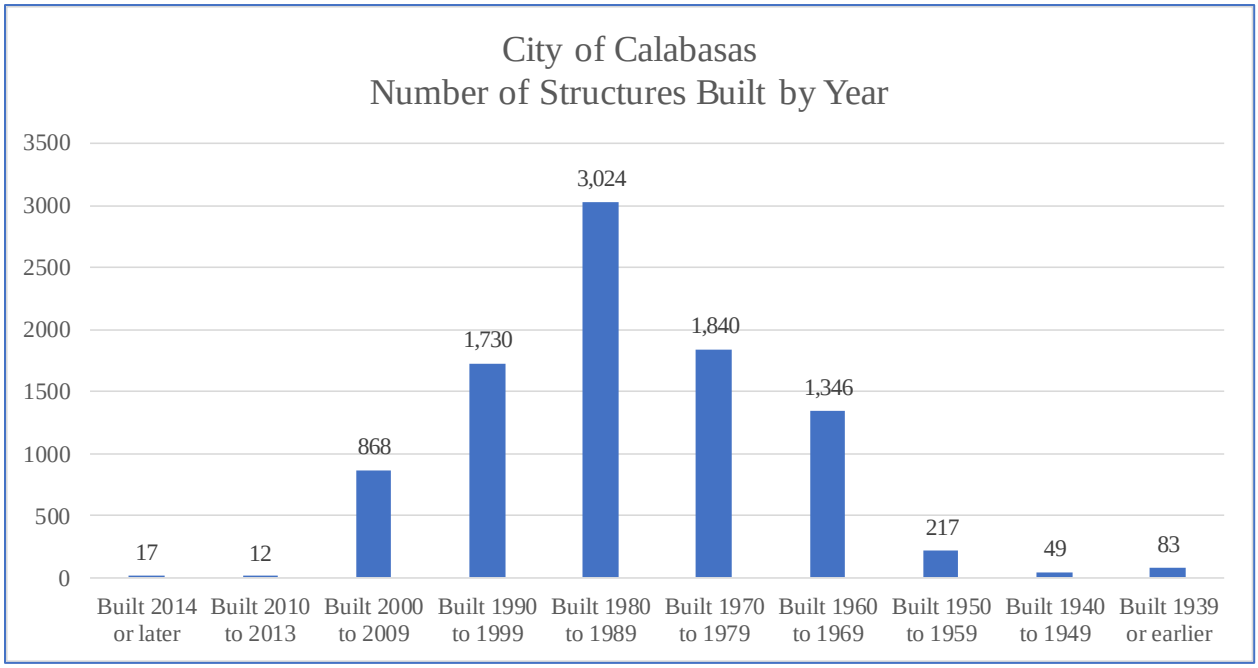


Figure 30: City of Calabasas Number of Structures Built by Year

Home values are an important consideration when evaluating the potential dollar loss due to disasters. These values can also be used to assess the cost/benefit of mitigation activities and planning. In Calabasas, the majority of Owner Occupied Units are valued over $500,000. Consequently, the potential dollar losses from a disaster can rapidly escalate – illustrating the need for mitigation planning related to owner-occupied units.

Owner-Occupied Units by Value		
	Estimate	**Percent**
Owner-occupied units	6,097	100%
Less than $50,000	80	1.30%
$50,000 to $99,999	111	1.80%
$100,000 to $149,999	47	0.80%
$150,000 to $199,999	38	0.60%
$200,000 to $299,999	103	1.70%
$300,000 to $499,999	788	12.90%
$500,000 to $999,999	2,324	38.10%
$1,000,000 or more	2,606	42.70%
Median (dollars)	$926,800	-

Source: U.S. Census Bureau 2012-2016 American Community Survey

Table 29: City of Calabasas Home Value Distribution

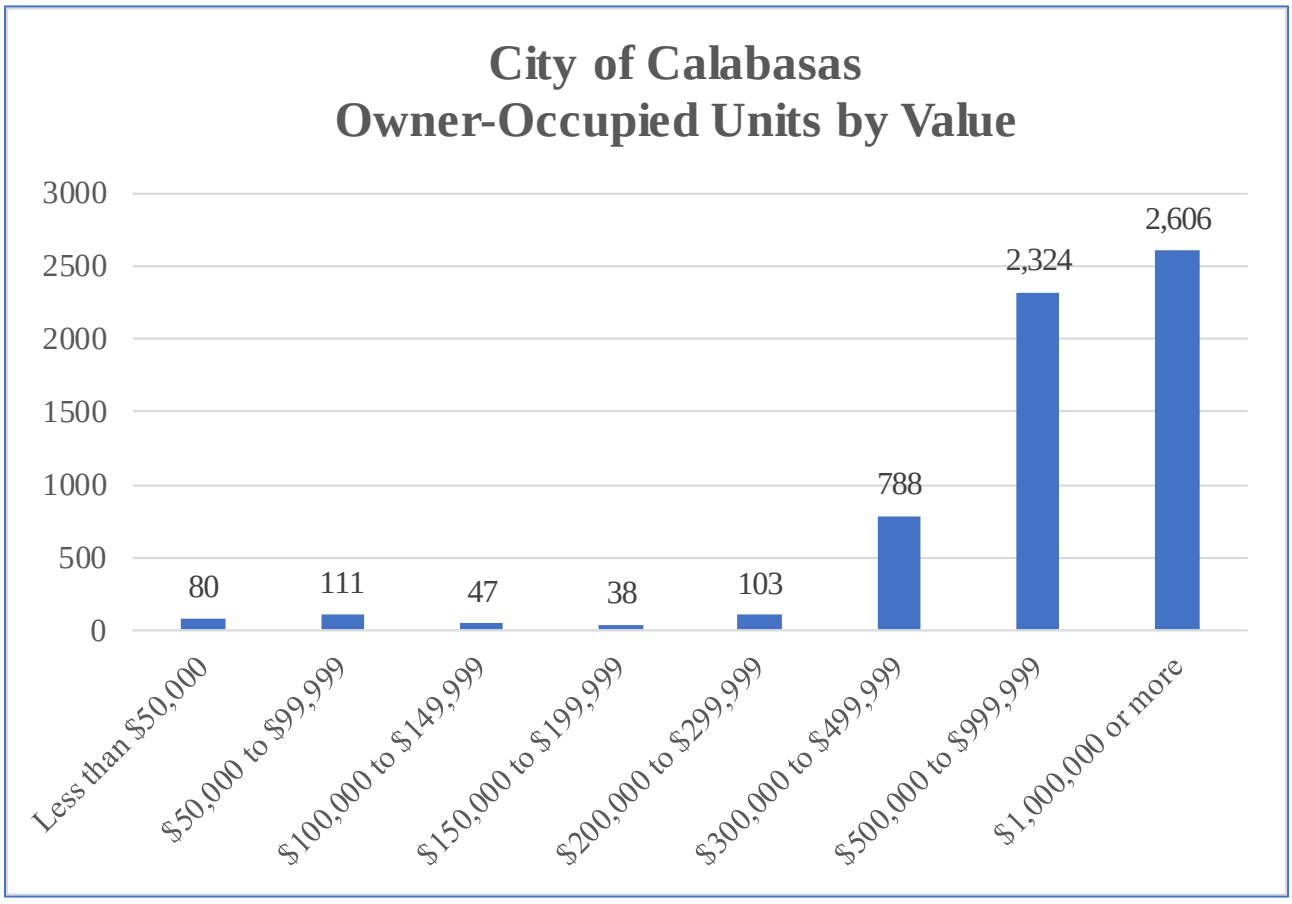


Figure 31: City of Calabasas Distribution of Owner Occupied Unit Values

Emergency Preparedness

The following groups are active in providing emergency preparedness, mitigation, and response services within Calabasas.

Emergency Operations Center

The City of Calabasas' Emergency Response Center is organized using the federally mandated Incident Command System (ICS). The City of Calabasas has an Emergency Operations Center and separate communications room. The City of Calabasas coordinates its emergency activities with the Lost Hills Sheriff's Station and the L.A. County Office of Emergency Management through the Emergency Management Information System Operational Area Response and Recovery System (OARRS). The City of Calabasas also has an internal cable television network which is used during emergency/disaster situations to relay information to the public on conditions within the City including transit issues, fire hazards, flood, shelter locations, school issues, and animal care and control.

Public Safety Commission

The City of Calabasas has a variety of commissions that offer residents opportunities to participate in city issues including the Public Safety Commission. The purpose of the Public Safety Commission is to foster and maintain effective interaction with law enforcement and to develop a formal mechanism to support such interaction. The scope of subject matter that is pursued by the Public Safety Commission and representatives of law enforcement are as follows:

- Fire / Life Safety Issues
- Crime Incidents / Trends
- Traffic Safety School Related Issues
- Time and Performance Data
- Safety Hazards
- Public Perceptions of Law Enforcement Performance

CalHam

The City of Calabasas has an amateur radio station "CalHam" comprised of community members who are CERP (Calabasas Emergency Response Program) trained, CERT (Community Emergency Response Team) trained, and FCC licensed that test the system on a weekly basis. During an emergency, neighborhood information/status reports are forwarded to the City's Emergency Operations Center

CERT Program

The City of Calabasas manages an active training program for CERT (https://www.cityofcalabasas.com/cert.html). This program is designed to prepare local neighborhoods to respond to a disaster and promotes individual and family disaster preparedness and mitigation efforts.

Emergency Communications and Amateur Radio Programs

The City of Calabasas maintains a ***Blackboard Connect***™ program as its city-to-resident communications service. The ***Blackboard Connect***™ administrators can send periodic and personalized voice messages to residents within minutes. The ***Blackboard Connect***™ service complements the City's emergency preparedness procedures and is used to inform residents of pressing and important issues such as emergencies and community surveys.

City of Calabasas Home Owners Associations

Calabasas has an extensive list of Home Owner Associations that meet to discuss various community issues and are very involved in the community. The following is a list of the Homeowners Associations in the City of Calabasas.

City of Calabasas Home Owner Associations	
Alizia Canyon HOA	Malibu Creek Apartments
Bellagio HOA	Malibu Creek Condos
Braewood Calabasas	Miramonte HOA
Calabasas Colony	Mont Calabasas HOA
Calabasas Country Estates	Mountain Park HOA
Calabasas Highlands HOA	Mulholland Heights HOA
Calabasas Hills HOA	Mulholland Heights North
Calabasas Park Estates HOA	Mulwood Townhomes
Calabasas Park HOA	Oak Creek Estates HOA
Calabasas Ridge	Oakcreek Property Owners Association
Calabasas View HOA	Oak Park Calabasas HOA
Calabasas Village Mobile Estates	Old Topanga HOA
Clairidge HOA	Palatino HOA
Cold Creek Community Council	Park Sorrento Condos HOA
The Colony at Calabasas (Shea Homes)	Parksouth Calabasas Estates HOA
Creekside Calabasas Park HOA	Community Assoc. of Saratoga Hills
El Encanto HOA	Saratoga Ranch HOA
The Estates of the Oaks of Calabasas HOA	Serenata HOA
Greater Mulwood HOA	St. Andrews Homeowners Group
Las Villas Calabasas	Steeplechase HOA
Las Virgenes Hills Homes	Stone Creek HOA
Las Virgenes Park Townhomes	Tanterra HOA
Las Virgenes Village Townhomes	The Oaks of Calabasas HOA
Malibu Canyon Apartments (Rental Office)	Tiffany Creekside HOA
Malibu Canyon Community	Vista Point HOA
Malibu Canyon Park	Westridge HOA
Malibu Canyon Townhomes	Woodland Terrace HOA
Malibu Canyon Villas	

Source: www.cityofcalabasas.com/pdf/HOA-List.pdf

Table 30: City of Calabasas Home Owner Associations

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HIDDEN HILLS

Hidden Hills is a small, affluent, gated community located along the Ventura Freeway (U.S. Highway 101) in the westernmost portion of the San Fernando Valley in Los Angeles County. The land area is 1.65 square miles with a population of 1,573 people and a median home value greater than $1,000,000. Hidden Hills is a master planned community designed and developed by A.E. Hanson in the 1950's.

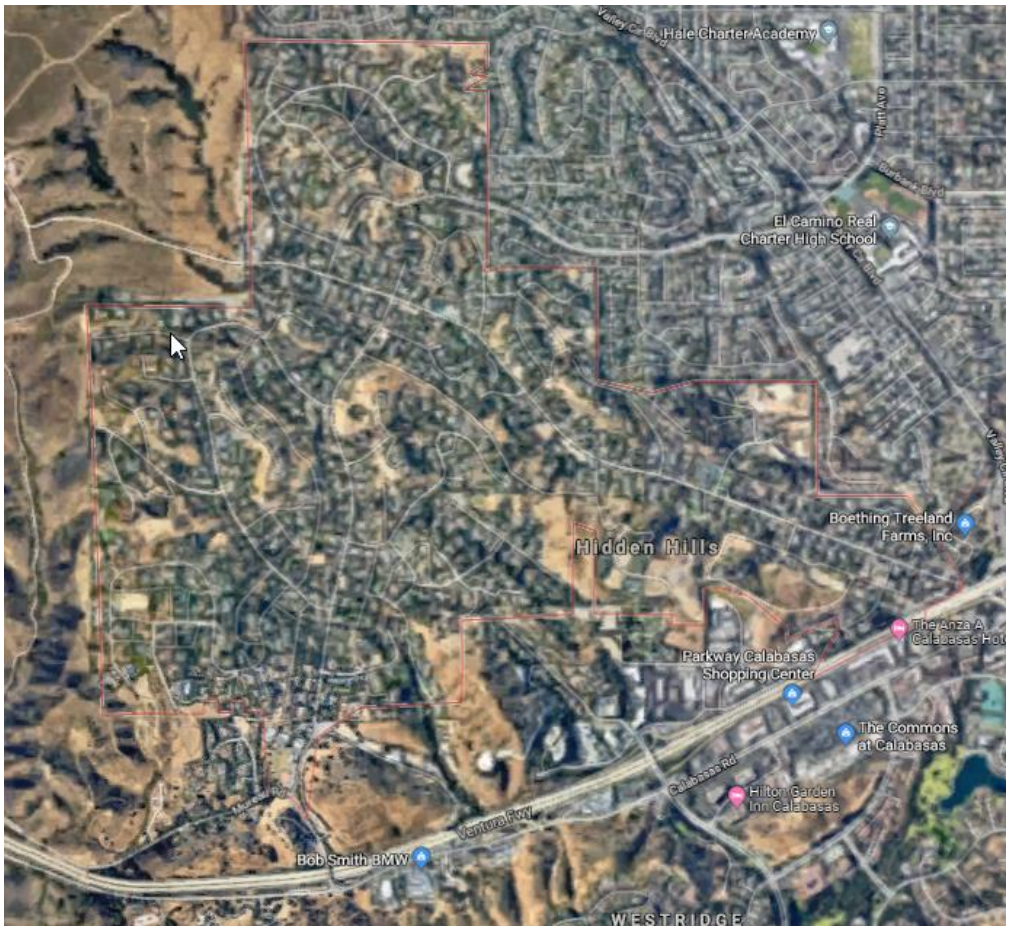


Figure 32: City of Hidden Hills Aerial View

Source: Google Maps

General Coordinates	
Latitude	34° 10’ 3” North
Longitude	118° 39’ 39” West

Source: 2017 SCAG City Boundary Data

Map 9: City of Hidden Hills Location Map

Brief History

The area that is today the city of Hidden Hills was initially farm and ranchland. In 1950 developer A.E. Hanson purchased 1000 acres from local landowners, divided the property and began selling homes and home sites. In 1961 facing the prospect of becoming annexed by the city of Los Angeles and having Burbank Boulevard extended through the community, the residents of Hidden Hills elected to incorporate becoming the 73rd city incorporated in Los Angeles County. The community has continued to develop in a controlled fashion following strict development codes governed by the Hidden Hills Community Association.

Three full-time employees staff the office of City Hall and provide all necessary services and information to residents, visitors and contractors. Residents of Hidden Hills elect a five-member City Council on a non-partisan basis to serve four year overlapping terms. The Mayor is selected by the City Council, from one of its members, for a one-year term and serves as the official representative of the City.

Figure 33: City of Hidden Hills Entrance Gate

Climate/Topography

Winters are mild and slightly rainy while summers are warm and dry. The temperature ranges from the low 60's to the high 90's in the summer and from the low 40's to the high 60's in the winter. The average annual rain fall in Hidden Hills is 17.8 inches.

Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Temperature (°F)	54.0	55.5	57.0	61.5	65.0	71.0	76.0	77.0	73.5	66.5	58.5	53.5
Minimum Temperature (°F)	40	41	42	45	49	53	57	58	55	49	42	38
Maximum Temperature (°F)	68	70	72	78	81	89	95	96	92	84	75	69
Average Rainfall (inches)	3.83	4.4	3.6	0.88	0.32	0.07	0.01	0.15	0.24	0.62	1.29	2.38

Source: Intellicast

Table 31: City of Hidden Hills Average Monthly Temperatures and Rainfall

To the northwest, Hidden Hills abuts the foothills of the Simi Hills mountain range and the 3,000 acre Upper Las Virgenes Canyon Open Space Preserve. To the south the community is bordered by U.S. Highway 101.

Economic Activity

The City of Hidden Hills is a completely residential community with the exception of a small restricted commercial zone with one real estate office.

Hidden Hills Economy

Category	Value (in thousands)	Percent
Total Accommodation and Food Services Sales	$0	N/A
Total Health Care and Social Assistance Receipts/Revenue	$0	N/A
Total Manufacturer's Shipments	$0	N/A
Total Merchant Wholesaler Sales	$0	N/A
Total Retail Sales	$500	100.00%
Total	**$500**	**100.00%**

Source U.S. Census Bureau 2012 Economic Census of the U.S. D Suppressed to avoid disclosure of confidential information

Table 32: City of Hidden Hills Economy

As a result, the impact of a disaster would have limited economic impact in terms of businesses; however, there could be a large impact to the local population and residential structures (see Population Demographics and Land Use sections below).

Population and Demographics

The following tables summarize the population and demographic groups at risk from a disaster in Hidden Hills.

Sex and Age Distribution

Demographic Estimates - 2016		
Sex and Age	**Estimate**	**Percent**
Total Population	**1,573**	**100.0%**
Male	808	51.4%
Female	765	48.6%
Under 5 years	31	2.00%
5 to 9 years	103	6.50%
10 to 14 years	138	8.80%
15 to 19 years	188	12.00%
20 to 24 years	70	4.50%
25 to 29 years	69	4.40%
30 to 34 years	114	7.20%
35 to 39 years	346	22.00%
40 to 44 years	104	6.60%
45 to 49 years	116	7.40%
50 to 54 years	161	10.20%
55 to 59 years	91	5.80%
60 to 64 years	42	2.70%
65 to 69 years	31	2.00%
70 to 74 years	103	6.50%
75 to 79 years	138	8.80%
80 to 84 years	188	12.00%
85 years and over	70	4.50%
Median age (years)	49.2	

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimate

Table 33: City of Hidden Hills Sex and Age Demographics

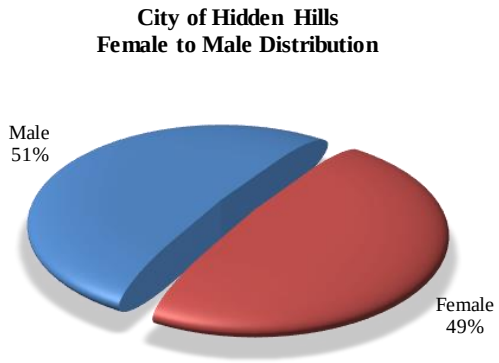


Figure 34: City of Hidden Hills Female to Male Distribution

The median age of residents in Hidden Hills is 49.2 with males (51.4%) outnumbering females (48.6%). Mitigation planning must consider the unique needs of population groups, for example those under 15 years of age and those over 65 years of age.

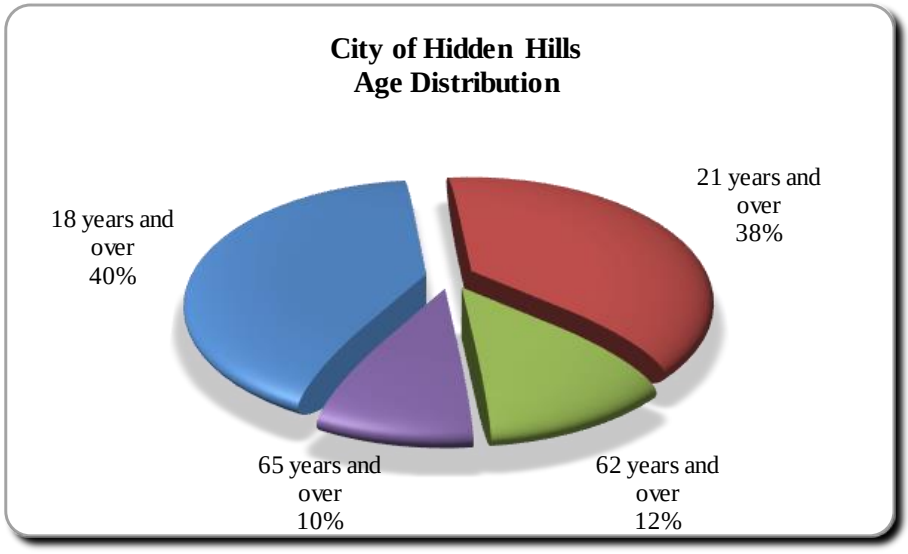


Figure 35: City of Hidden Hills Age Distribution

Race and Language Composition

Race

One aspect of mitigation planning is the need to address the cultural and language (communications) needs of local populations. This includes the ability to distribute information and provide notification in the event of a regional emergency. For Hidden Hills, an estimated 12.7% of the population speaks languages other than English (including English and another language or non-English only) with nearly a quarter of these speaking English "less than very well".

Race	2016 Estimated Population	Percent of Total
Total Population	**1,573**	**100.0%**
White alone	1,402	89.10%
Black or African American alone	0	0.00%
Hispanic or Latino (of any race)	84	5.30%
American Indian and Alaska Native alone	0	0.00%
Asian alone	68	4.30%
Native Hawaiian and Other Pacific Islander alone	0	0.00%
Some other race alone	0	0.00%
Two or more races	19	1.20%
Two races including some other race	8	0.50%
Two races excluding some other race, and three or more races	11	0.70%

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimate

Table 34: City of Hidden Hills Race Composition

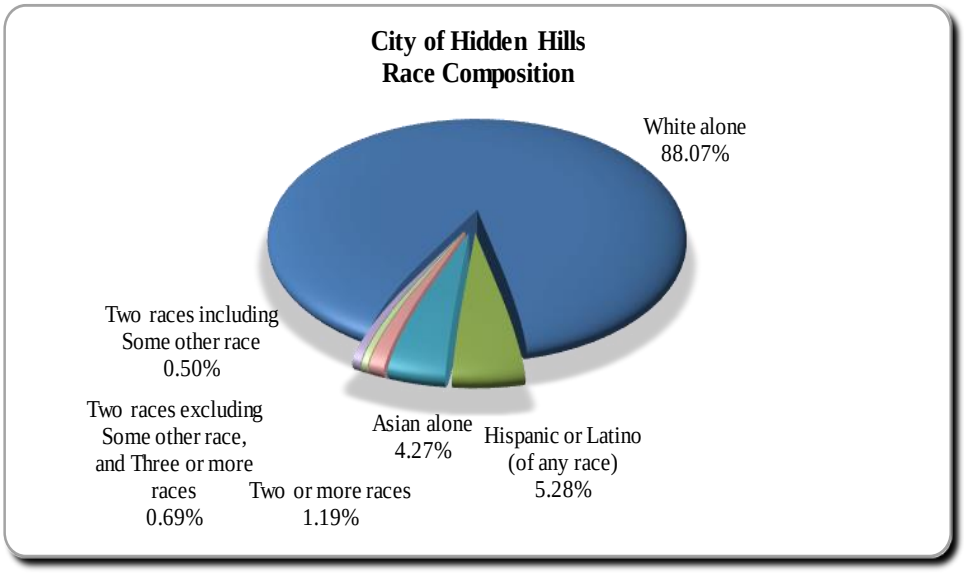


Figure 36: City of Hidden Hills Race Composition

Languages Spoken at Home

Language	2016 Estimated Population	Percent of Total
Speaks only English	1,346	87.30%
Language other than English spoken at home, percent of persons age 5 years+, 2012-2016	196	12.70%
Speak a Language Other than English	**2016 Estimated Population**	**Percent of Total**
Spanish	60	3.90%
5 to 17 years old	0	0.00%
18 to 64 years old	45	2.90%
65 years old and over	15	1.00%
Other Indo-European languages	73	4.70%
5 to 17 years old	12	0.80%
18 to 64 years old	48	3.10%
65 years old and over	13	0.80%
Asian and Pacific Island languages	42	2.70%
5 to 17 years old	9	0.60%
18 to 64 years old	25	1.60%
65 years old and over	8	0.50%
Other languages	21	1.40%
5 to 17 years old	0	0.00%
18 to 64 years old	12	0.80%
65 years old and over	9	0.60%

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimate

Table 35: City of Hidden Hills Languages Spoken at Home

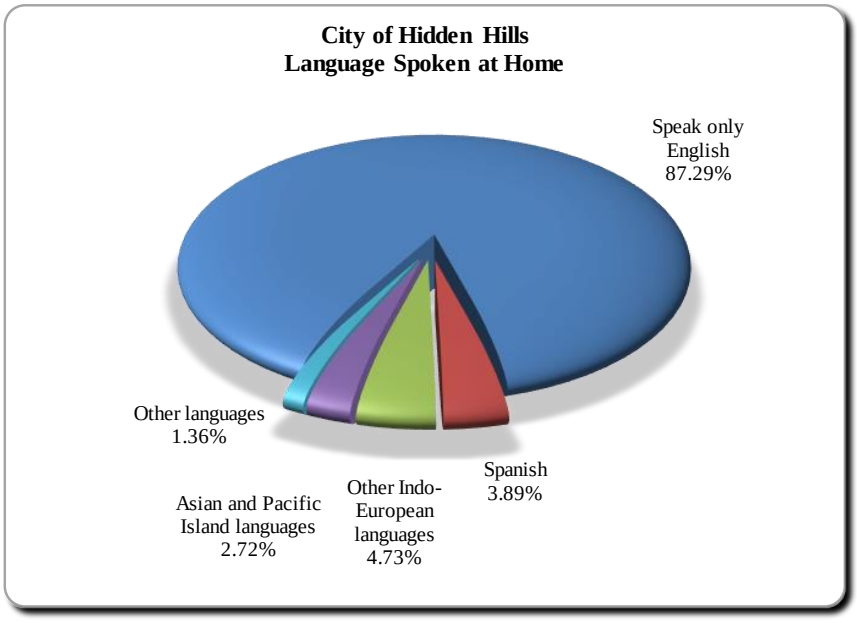


Figure 37: City of Hidden Hills Languages Spoken at Home

Income Distribution

Household income is a factor for mitigation planning since population groups in lower income ranges are less able to cope with the impact of disasters.

Furthermore, the availability of household funds can have a direct impact on the level of individual and family hazard mitigation activities and emergency preparedness.

In Hidden Hills, while the mean household income is over $368,228 there are a limited number of households with incomes less than $25,000, near the 2018 U.S. poverty level of $25,100 for a family of four as defined by the *2018 HHS Poverty Guidelines*, by the U.S. Department of Health & Human Services.*

Income and Benefits (in 2016 Inflation-Adjusted Dollars)		
	Estimate	**Percent**
Total Households	**529**	**100.00%**
Less than $10,000	24	4.50%
$10,000 to $14,999	13	2.50%
$15,000 to $24,999	26	4.90%
$25,000 to $34,999	3	0.60%
$35,000 to $49,999	47	8.90%
$50,000 to $74,999	28	5.30%
$75,000 to $99,999	12	2.30%
$100,000 to $149,999	57	10.80%
$150,000 to $199,999	30	5.70%
$200,000 or more	289	54.60%
Median household income	**$211,250**	**(X)**
Mean household income	**$368,228**	**(X)**

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimate

Table 36: City of Hidden Hills Income and Benefits (2016 Inflation Adjusted Dollars)

* Note: The households with minimal incomes may also be attributable to retirees and others that have other sources of funds not reportable as income.

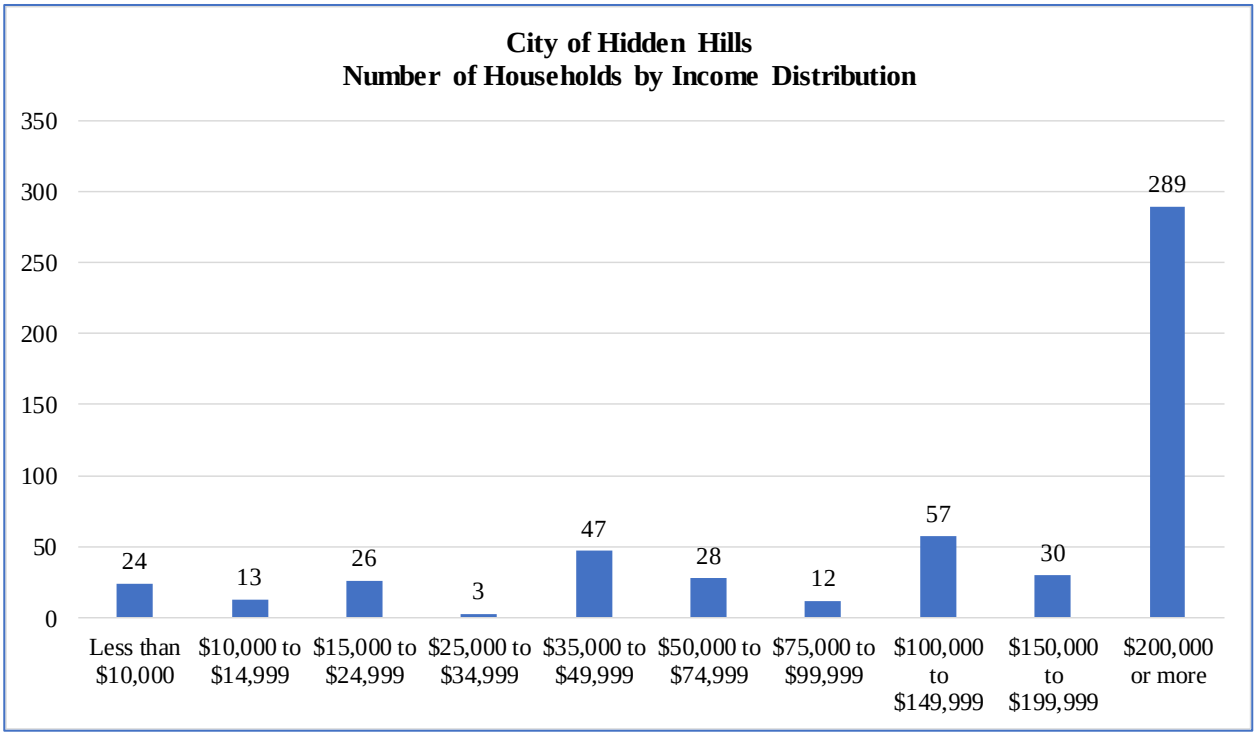


Figure 38: City of Hidden Hills Income Distribution

Land Use

Hidden Hills is a fully developed master planned residential community with a land area of 1.65 square miles. There is a small restricted commercial zone with a real estate office. Any further development or home modifications must be approved by the Hidden Hills Community Association Architectural Committee. There are 584 housing units, three guard houses, six miles of roads, 25 miles of bridle trails, three community riding arenas, four tennis courts, a competition-size pool, recreation center, and a 99-seat performing arts/movie theater.

Figure 39: City of Hidden Hills City Offices

Housing Characteristics

The following housing statistics provide a summary of the numbers and types of housing units that are at risk if a disaster were to occur in Hidden Hills. Housing data includes: Housing Occupancy, Housing Unit Change from 2012 to 2016, Number of Structures Built by Year, Home Values, and Home Value Distribution. In Hidden Hills, there was a decrease in the number of single housing units since 2012.

Housing Occupancy	2016 Estimate	Percent
Total Housing Units	584	100.00%
Occupied housing units	529	90.60%
Vacant housing units	55	9.40%

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimate

Table 37: City of Hidden Hills Housing Occupancy

Units In Structure	2016		2012		Change	
	Estimated Number	Percent of Units	Number	Percent of Units	Difference 2016-2012	Percent Change
Total Housing Units	**584**	**100.00%**	**619**	**100.00%**	**-35**	**5.65%**
1-unit, detached	584	100.00%	616	99.50%%	0	-5.19%
1-unit, attached	0	0.00%	3	0.50%	-3	-100.00%
2 units	0	0.00%	0	0.00%	0	0.00%
3 or 4 units	0	0.00%	0	0.00%	0	0.00%
5 to 9 units	0	0.00%	0	0.00%	0	0.00%
10 to 19 units	0	0.00%	0	0.00%	0	0.00%
20 or more units	0	0.00%	0	0.00%	0	0.00%
Mobile home	0	0.00%	0	0.00%	0	0.00%
Boat, RV, van, etc.	0	0.00%	0	0.00%	0	0.00%

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimate

Table 38: City of Hidden Hills Units in Structure Change from 2012 to 2016

In terms of risk and disaster mitigation, older structures that have not been retrofitted or otherwise improved may be more susceptible to damage or destruction due to age and the fact that older building codes were less stringent than those required for newer structures. As a result, the inventory of older structures is a consideration when developing mitigation plans. In Hidden Hills more than half of structures were built prior to 1980.

Year Structure Built	Estimate	Percent
Total housing units	**584**	**100.0%**
Built 2014 or later	0	0.00%
Built 2010 to 2013	13	2.20%
Built 2000 to 2009	37	6.30%
Built 1990 to 1999	80	13.70%
Built 1980 to 1989	58	9.90%
Built 1970 to 1979	119	20.40%
Built 1960 to 1969	92	15.80%
Built 1950 to 1959	183	31.30%
Built 1940 to 1949	2	0.30%
Built 1939 or earlier	0	0.00%

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimate

Table 39: Year Structures Built in the City of Hidden Hills

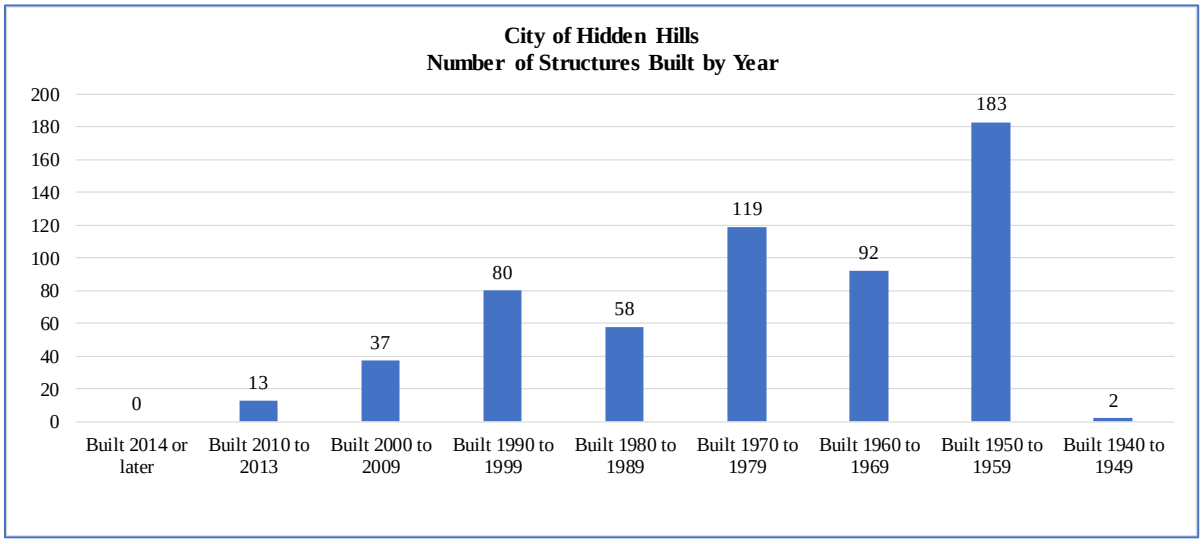


Figure 40: City of Hidden Hills Number of Structures Built by Year

Home values are an important consideration when evaluating the potential dollar loss due to disasters. These values can also be used to assess the cost/benefit of mitigation activities and planning. In Hidden Hills, the majority of Owner Occupied Units are valued over $1,000,000. Consequently, the potential dollar losses from a disaster can rapidly escalate – illustrating the need for mitigation planning.

Owner-Occupied Units by Value		
	Estimate	**Percent**
Owner-Occupied Units	**510**	**100.0%**
Less than $50,000	3	0.60%
$50,000 to $99,999	0	0.00%
$100,000 to $149,999	0	0.00%
$150,000 to $199,999	0	0.00%
$200,000 to $299,999	0	0.00%
$300,000 to $499,999	10	2.00%
$500,000 to $999,999	20	3.90%
$1,000,000 or more	477	93.50%
Median (dollars)	**2,000,000+**	**(X)**

Source: US Census Bureau American Community Survey 2012-2016 5-Year Estimate

Table 40: City of Hidden Hills Home Value Distribution

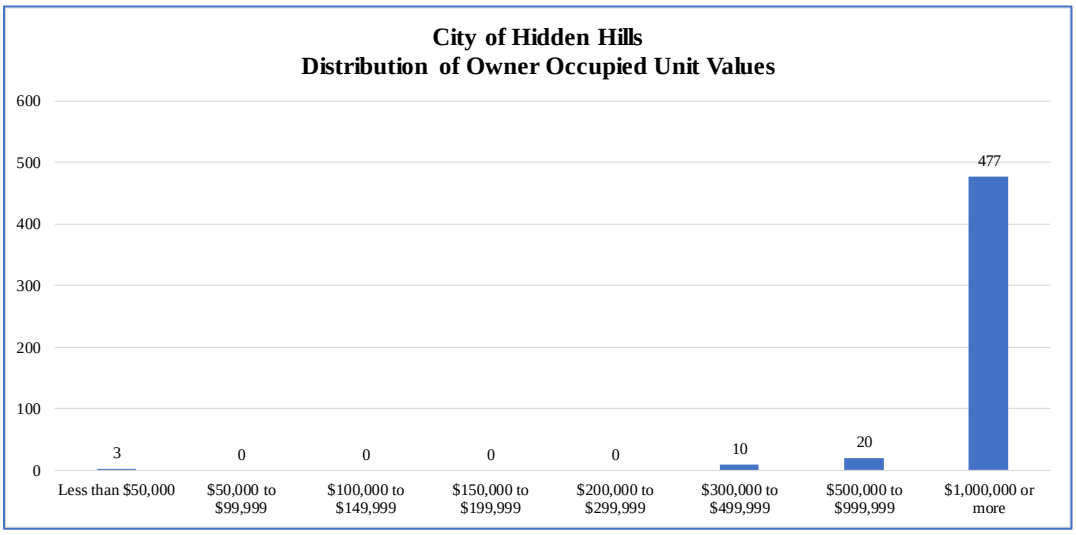


Figure 41: City of Hidden Hills Owner Occupied Unit Values

Emergency Preparedness

The City of Hidden Hills is a general law municipality operating on a contract basis for law enforcement, building and safety, planning and engineering, as well as legal counsel. The City's fire and emergency medical services are provided through the Consolidated Fire Protection District of Los Angeles County.

Emergency Operations Center

The City of Hidden Hills has a fully equipped Emergency Operations Center (EOC) located at City Hall in the City Council Chambers. The primary Casualty Collection Point is located at Round Meadow Elementary School.

Public Safety Commission

The City of Hidden Hills Public Safety Commission consists of five members appointed by the Mayor and subject to the approval of City Council. The Commission advises City Council on the health and safety needs of the public within the City and makes recommendations to City Council for the enactment of legislation or procedures to maintain and improve the welfare and safety of the public. The Commission acts as a liaison to certain County departments such as the Sheriff's Department, the Department of Health Services, the Department of Animal Control, the Fire Department, and the City's Building and Safety Department. Additional responsibilities include interfacing with private organizations and utilities within the City that provide services which relate to the responsibilities of the Commission and affect City policies. Commissioners also serve on the Disaster Council which provides an overview of the Emergency Operations Plan (EOP). They also review and conduct studies on issues of public safety, administer public education programs, and staff and operate the Emergency Operations Center for the City.

Office of Emergency Services

The Hidden Hills Office of Emergency Services (OES) is responsible for the development of the City's Emergency Operations Plan, which provides for the effective mobilization of all the City's resources, both public and private, to meet any condition constituting a local emergency, state of emergency or state of war emergency.

OES consists of all officers and employees of the City, Public Safety Commissioners, volunteer forces enrolled to aid during an emergency, and all groups, organizations and persons who may, by agreement or operations of law, including persons impressed into service, be charged with duties incident to the protection of life and property in the City during an emergency.

OES provides a liaison to Round Meadow Elementary School. This liaison is a member of the school's Disaster Preparedness Committee.

Hidden Hills Community Association (HHCA) - Equestrian Services Committee

This Committee is responsible for coordinating the evacuation of horses and other livestock in the community during emergency or disaster situations.

Community Emergency Response Team (CERT)

The Community Emergency Response Team is a group of volunteers who have been certified as emergency response personnel. Volunteers receive training under a nationally recognized program for emergency and disaster response. CERT members have also received additional training to aid in preliminary damage assessment. To facilitate coordination of emergency response efforts, the City has been divided into seven (7) geographic regions.

Emergency Medical Response

An Emergency Medical Response trailer is equipped to aid in providing services to 350 - 400 victims. Storage is also provided for medical supplies and search and rescue equipment.

Communication Systems

The City has an assigned Federal Communications Commission, Public Safety Pool Radio frequency and maintains a repeater, several base stations positioned throughout the City, and handheld radios distributed for use throughout the city, as well as at the EOC. In addition, the City has several licensed HAM operators. The City can maintain contact with Round Meadow Elementary School and the Hidden Hills Community Association in emergencies.

The City of Hidden Hills implemented the Blackboard Connect® service allowing authorized civic leaders to create and rapidly disseminate emergency messages to every telephone number stored in the notification database. In addition, the City is authorized to issue emergency messages via cell phones through IPAWS Wide Area Alerts.

Cable TV Channel 3 is used as a community notification and bulletin board. Throughout the year the station is used to show videos related to emergency and disaster preparedness. Additionally, in the event of an emergency, emergency messaging can be broadcast on Channel 3.

Hidden Hills uses an E-mail notification system that immediately provides important information to residents who have voluntarily joined the program. This system is also used to circulate public service announcements, such as reminding seniors to check alternate electrical power sources in the event of an electric shutdown.

Finally, the City of Hidden Hills circulates a monthly newsletter. The newsletter provides general bulletins as well as emergency preparedness recommendations and information.

MALIBU

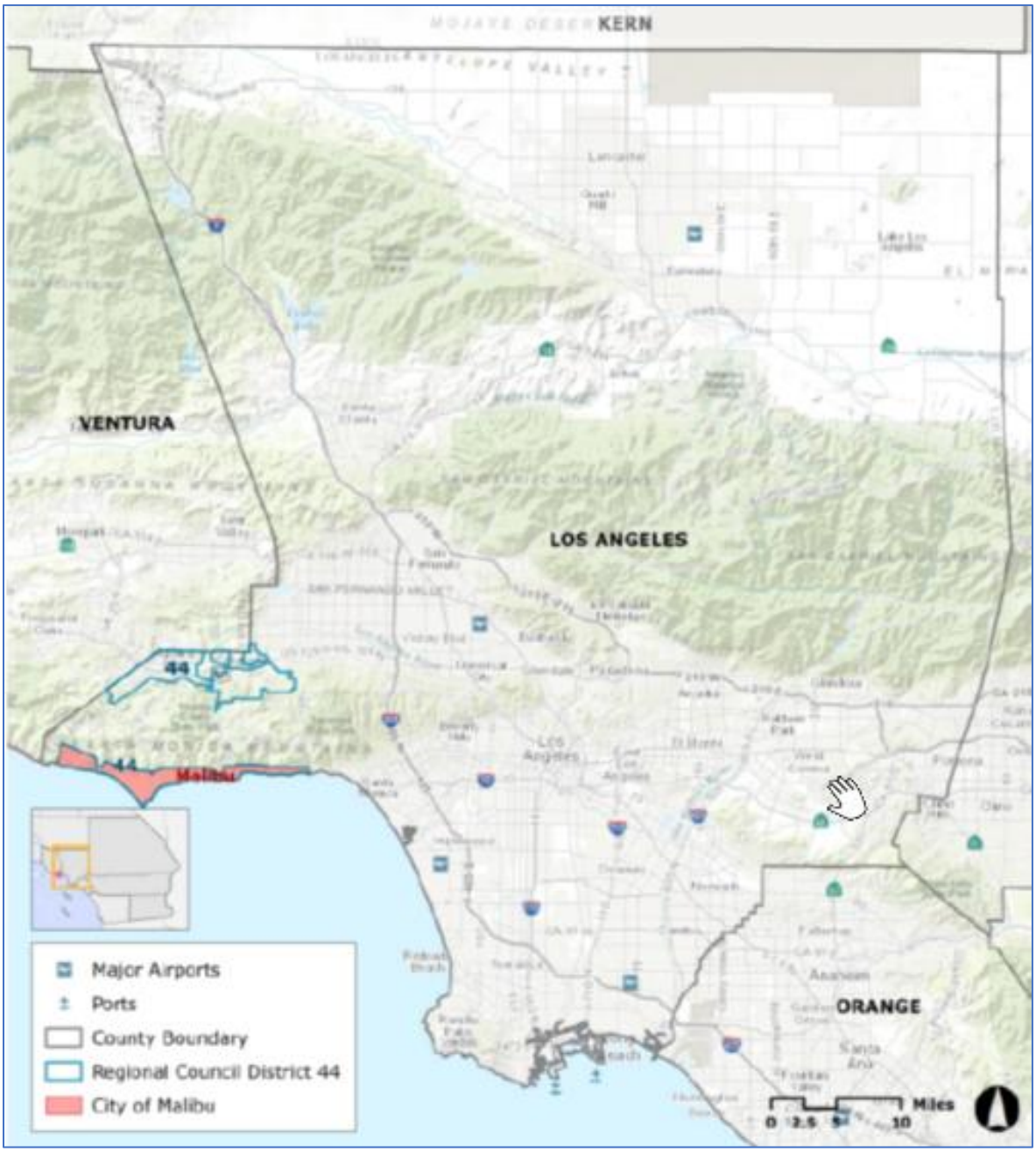
The City of Malibu is located along the Pacific Ocean northwest of the City of Los Angeles. Malibu is generally bounded on the north by the Santa Monica Mountains, on the east by Topanga Canyon, on the west by Ventura County and on the south by the Pacific Ocean. Malibu was incorporated on March 28, 1991. The City has 21 miles of coastline along the Pacific Ocean and has a population of 12,853 (2016 U.S. Census estimate)

The City of Malibu is a dynamic, internationally recognized community in Northern Los Angeles County that offers a high quality of life for its residents. Celebrated for its natural beauty and unique coastal resources, the City is also renowned for its leadership in environmental stewardship, excellent schools and political activism. Malibu has seven miles of public beaches, canyons and watershed along its 21 miles of coastline and provides numerous opportunities for recreation and outdoor activities.

Figure 42: City of Malibu Aerial View

Source: Google Maps

General Coordinates	
Latitude	34° 2’ 16” North
Longitude	118° 41’ 34” West



Source: 2016 SCAG City Boundary Data
Map 10: Malibu Location Map

Brief History

The Malibu area was settled in the 1890s by the Rindge Family, which owned the Rancho Topanga Malibu Sequit, a large ranch. Its remote location between the ocean and the mountains led to its small-town, rural residential community development pattern. Malibu has remained a primarily residential community. Commercial areas are limited to small neighborhood-serving and visitor-serving uses interspersed throughout the City, but located primarily in the Las Flores, Civic Center, Point Dume and Trancas areas.

Figure 43: Malibu Coastline

Climate/Topography

Malibu has a unique climate due to its location, which is wedged between the Santa Monica Mountains and the Pacific Ocean. Temperatures range from the low 50s to the mid-60s during the winter months and from the low 60s to mid-70s in the summer months. Average rainfall for the area is 13.27 inches per year, with the winter months characterized as wetter than summer months.

Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Temperature (°F)	57.0	57.0	57.0	58.5	60.0	62.5	65.5	66.5	67.0	64.5	60.5	58.0
Minimum Temperature (°F)	50	51	52	54	56	59	62	63	63	59	54	51
Maximum Temperature (°F)	64	63	62	63	64	66	69	70	71	70	67	65
Average Rainfall (inches)	3.06	3.29	2.56	0.53	0.25	0.04	0.01	0.13	0.17	0.36	1.02	1.85

Source: Intellicast

Table 41: City of Malibu Average Monthly Temperatures and Rainfall

The geography of Malibu includes a wide variety of terrain changes including mesas, canyons and rugged cliffs facing sandy beaches. The landscape ranges from lush greenery with exotic plants to natural habitats consisting of endemic chaparral, scrub grasses, riparian woodlands, and wetlands. Malibu lies on the fringe of the Santa Monica Mountains, which is an extensive chaparral wilderness area. The City has three large deep gorges and canyons with extensive vegetation growth due to its many streams and creeks.

Economic Activity

Malibu is a residential community that is also a popular tourist destination. The city has 21 miles of coastline and its beaches are a main attraction. The City has 21 miles of coastline and its beaches are a main attraction. There are also parks owned and operated by the City, National Park Service, State of California, and the Santa Monica Mountains Conservancy / Mountains Recreation Conservation Authority in the Santa Monica Mountains.

Economic activity is one indicator of the potential losses that may be incurred in the event of a disaster. In addition to tourism and recreation, there are numerous retail locations along Pacific Coast Highway including the Malibu Civic Center area. Other service industries in Malibu include real estate, financial, health and beauty, medical, and construction.

Malibu Employer Categories and Number of Employees

Category (by NAICS code)	Number of Establishments	Number of Employees	Percent of Total City Employment
Manufacturing	6	58	0.94%
Wholesale Trade	24	323	5.21%
Retail Trade	101	754	12.16%
Transportation and Warehousing	2	40 (estimate)	0.64%
Information	68	288	4.64%
Finance and Insurance	41	145	2.34%
Real Estate and Rental and Leasing	78	222	3.58%
Professional, Scientific, and Technical Services	131	993	16.01%
Administrative and Support and Waste Management and Remediation Services	36	413	6.66%
Educational Services	14	237	3.82%
Health Care and Social Assistance	64	587	9.47%
Arts, Entertainment, and Recreation	87	177	2.85%
Accommodation and Food Services	67	1,807	29.14%
Other Services (except Public Administration)	36	157	2.53%
Total	**755**	**6,201**	**100.00%**

Source: 2012 Economic Census of the U.S. for the City of Malibu

Table 42: City of Malibu Employer Categories and Number of Employees

The following tables list the principal property tax payers in Malibu and the City's Revenues for the 2017 Fiscal Year. Each of these statistics provide an overall snapshot of economic activity.

Malibu Principal Property Tax Payers

Company	Taxable Assessed Value (thousands)	Percent of Total City Assessed Value
Jamestown Premier Malibu Village	$124,264	0.84%
HRL Laboratories LLC	104,170	0.70%
Lester J. Knispel Trust	97,631	0.66%
Malibu Realty LLC	96,529	0.65%
Carbonview Limited LLC	91,342	0.62%
Goldman Sachs Trust	77,498	0.52%
Lawrence Rudolph Trust	71,727	0.48%
KW Malibu Colony Plaza LLC	70,419	0.48%
Glimcher Properties LP	68,116	0.46%
Point Dume Limited	63,232	0.43%
Top 10 Total	**$864,928**	**5.84%**

Source: 2016- 2017 Comprehensive Annual Financial Report for the City of Malibu, Fiscal Year Ended June 2017
Table 43: City of Malibu Principal Property Tax Payers

Malibu Tax Revenues

Category	Revenues	Percent of Total
Property Taxes	$11,911,466	50.11%
Other Taxes*	10,540,856	44.35%
Other Revenues	1,317,742	5.54%
Total 2017 Revenue	$23,770,064	100.00%

Source: 2016- 2017 Comprehensive Annual Financial Report for the City of Malibu, Fiscal Year Ended June 2017
Table 44: City of Malibu Revenues

*Includes Sales Taxes and Transient Occupancy Taxes

Malibu Economy

Category	Value (in thousands)	Percent
Total Accommodation and Food Services Sales	$122,347	19.55%
Total Health Care and Social Assistance Receipts/Revenue	$106,677	17.05%
Total Manufacturer's Shipments	D	D
Total Merchant Wholesaler Sales	$205,624	32.86%
Total Retail Sales	$191,028	30.53%
Total	**$625,676**	**100.00%**

Source U.S. Census Bureau 2012 Economic Census of the U.S. information **D Suppressed to avoid disclosure of confidential**

Table 45: City of Malibu Economy

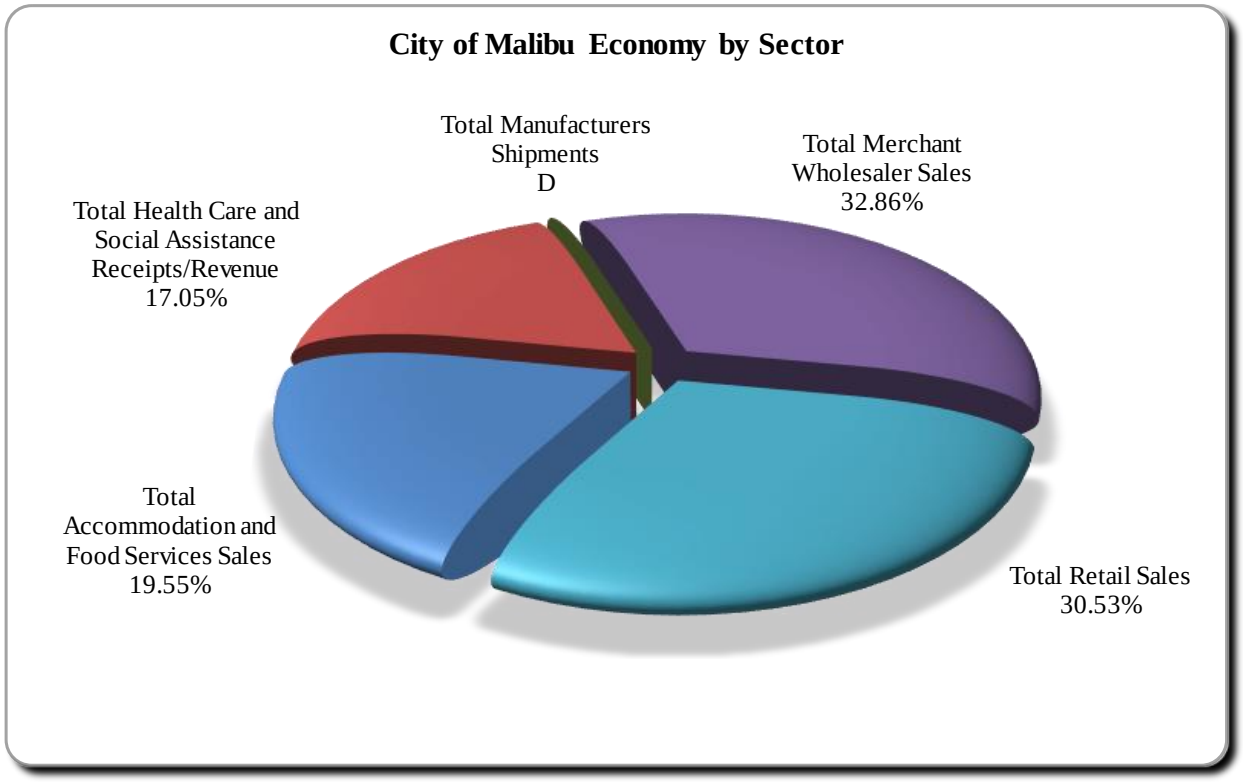


Figure 44: City of Malibu Economy by Sector

Population Demographics

The following tables summarize the population and demographic groups at risk from natural disasters and other catastrophic events in Malibu.

Sex and Age Distribution

Demographic Estimates		
Sex and Age	**Estimate**	**Percent**
Total Population	**12,853**	**100.0%**
Male	6,296	49.00%
Female	6,557	51.00%
Under 5 years	367	2.90%
5 to 9 years	484	3.80%
10 to 14 years	722	5.60%
15 to 19 years	652	5.10%
20 to 24 years	581	4.50%
25 to 34 years	865	6.70%
35 to 44 years	1,146	8.90%
45 to 54 years	2,253	17.50%
55 to 59 years	1,624	12.60%
60 to 64 years	1,071	8.30%
65 to 74 years	1,875	14.60%
75 to 84 years	762	5.90%
85 years and over	451	3.50%
Median age (years)	52.2	

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 46: City of Malibu Sex and Age Demographics

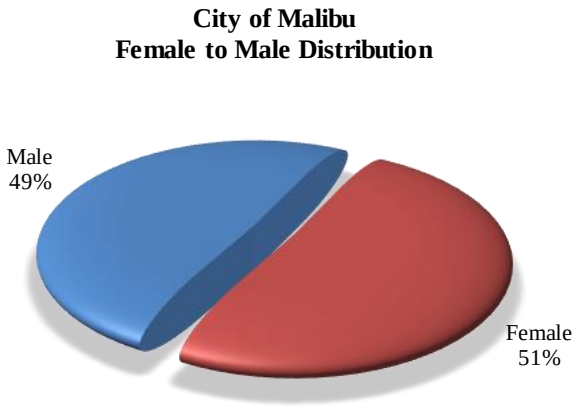


Figure 45: City of Malibu Female to Male Distribution

The average age of residents in Malibu is 52.2 years with females (51.0%) outnumbering males (49.0%). Mitigation planning must consider the unique needs of population groups, for example those under 15 years of age and those over 65 years of age.

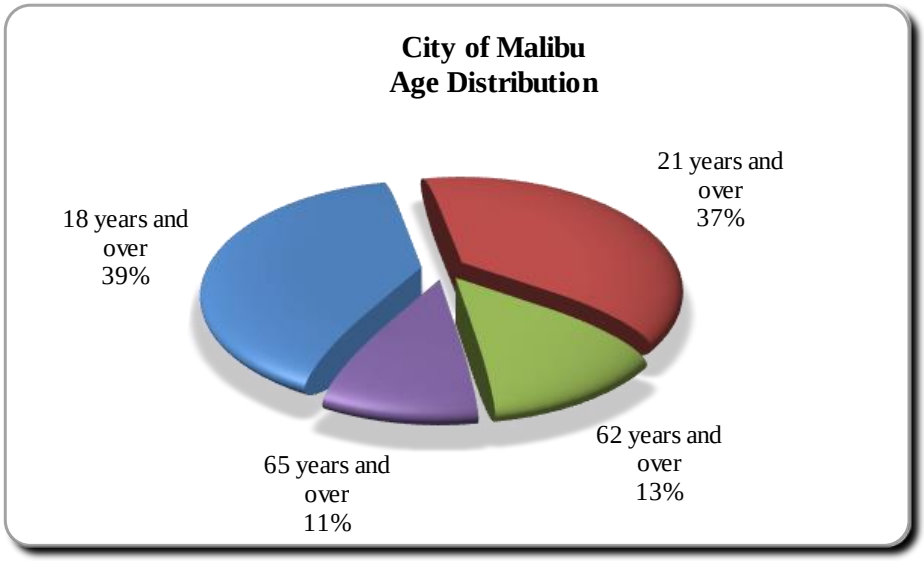


Figure 46: City of Malibu Age Distribution

Race and Language Composition

Race

One aspect of mitigation planning is the need to address the cultural and language (communications) needs of local populations. This includes the ability to distribute information and provide notification in the event of a regional emergency. For Malibu, an estimated 14.9% of the population speaks languages other than English (including English and another language or non-English only) with nearly 15.2% of these speaking English "less than very well".

Race	Population	Percent of Total
Total Population	**12,853**	**100.00%**
White alone	10,780	83.87%
Black or African American alone	196	1.52%
Hispanic or Latino (of any race)	962	7.48%
American Indian and Alaska Native alone	0	0.00%
Asian alone	445	3.46%
Native Hawaiian and Other Pacific Islander alone	7	0.05%
Some other race alone	0	0.00%
Two or more races	463	3.60%

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 47: City of Malibu Race Composition

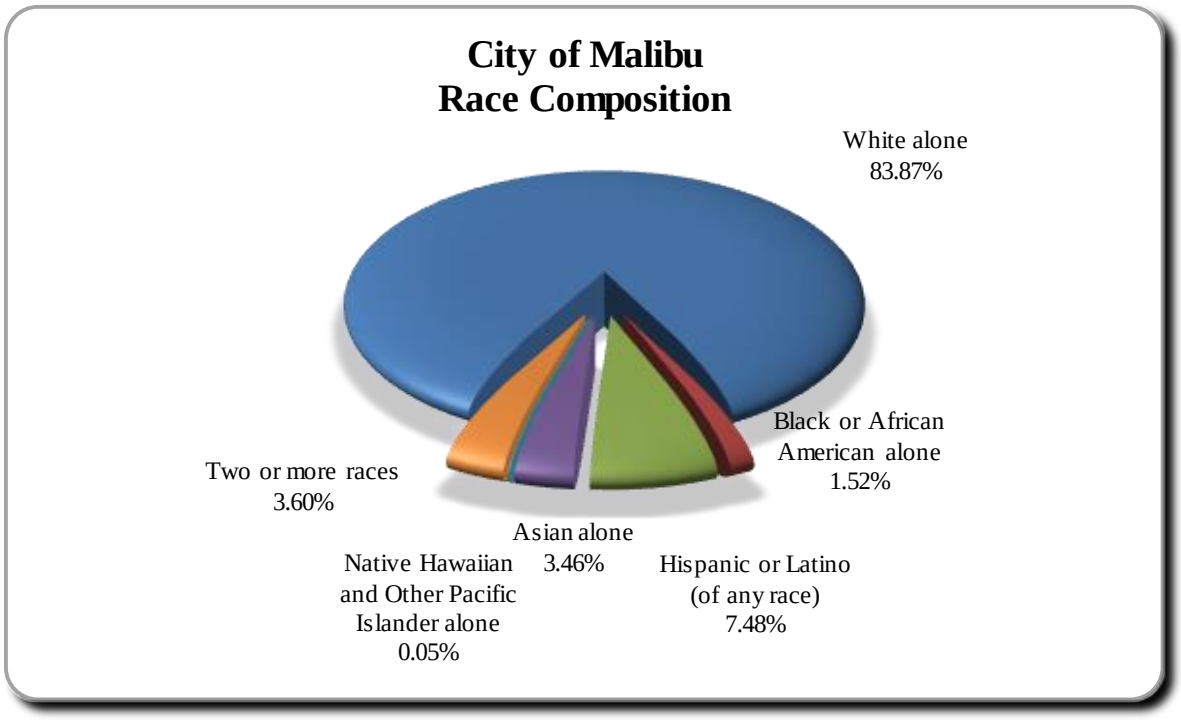


Figure 47: City of Malibu Race Composition

Languages Spoken at Home

Language	2016 Estimated Population	Percent of Total
Speaks only English	10,623	85.10%
Language other than English spoken at home, percent of persons age 5 years+, 2012-2016	1,863	14.90%
Speak a Language Other than English	**2016 Estimated Population**	**Percent of Total**
Spanish	470	3.80%
5 to 17 years old	31	0.20%
18 to 64 years old	339	2.70%
65 years old and over	100	0.80%
Other Indo-European languages	1,125	9.00%
5 to 17 years old	164	1.30%
18 to 64 years old	680	5.40%
65 years old and over	281	2.30%
Asian and Pacific Island languages	152	1.20%
5 to 17 years old	0	0.00%
18 to 64 years old	113	0.90%
65 years old and over	39	0.30%
Other languages	116	0.90%
5 to 17 years old	0	0.00%
18 to 64 years old	109	0.90%
65 years old and over	7	0.10%

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 48: City of Malibu Languages Spoken at Home

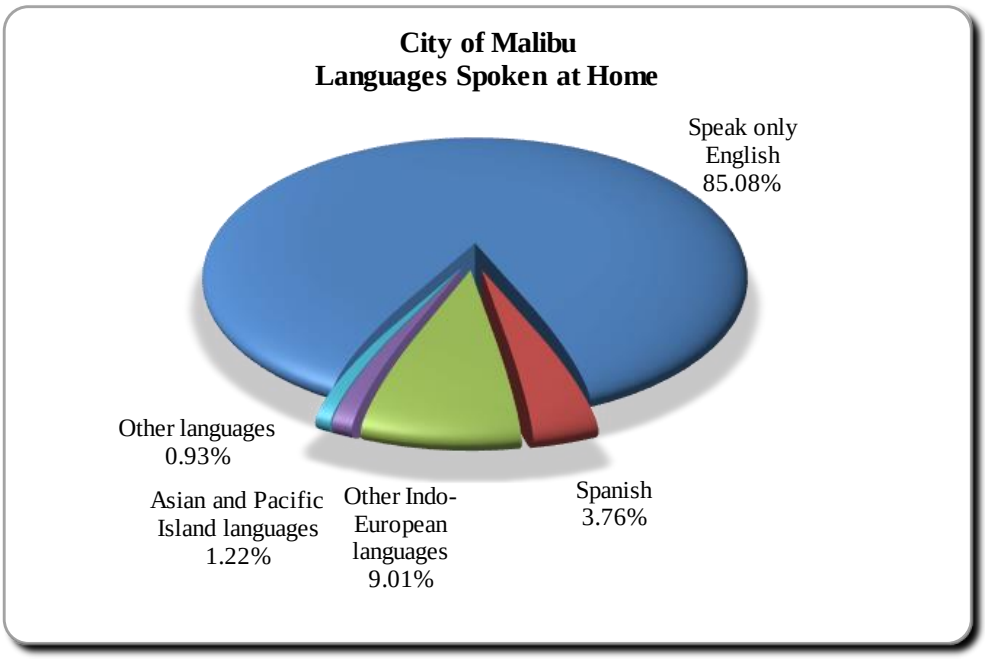


Figure 48: City of Malibu Languages Spoken at Home

Income Distribution

Household income is a factor for mitigation planning since population groups in lower income ranges are less able to cope with the impact of disasters.

Furthermore, the availability of household funds can have a direct impact on the level of individual and family hazard mitigation activities and emergency preparedness.

While the mean household income in Malibu is over $234,817 there are a limited number of households with incomes less than $25,000, near the 2018 U.S. poverty level of $25,100 for a family of four as defined by the *2018 HHS Poverty Guidelines*, by the U.S. Department of Health & Human Services.*

Income and Benefits (in 2016 Inflation-Adjusted Dollars)		
	Estimate	**Percent**
Total Households	**5,589**	**100.00%**
Less than $10,000	340	6.10%
$10,000 to $14,999	210	3.80%
$15,000 to $24,999	269	4.80%
$25,000 to $34,999	219	3.90%
$35,000 to $49,999	257	4.60%
$50,000 to $74,999	554	9.90%
$75,000 to $99,999	428	7.70%
$100,000 to $149,999	1,021	18.30%
$150,000 to $199,999	496	8.90%
$200,000 or more	1,795	32.10%
Median household income (dollars)	**$116,904**	**(X)**
Mean household income (dollars)	**$234,817**	**(X)**

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 49: City of Malibu Income and Benefits (2016 Inflation Adjusted Dollars)

*Note: The households with minimal incomes may also be attributable to retirees and others that have other sources of funds not reportable as income.

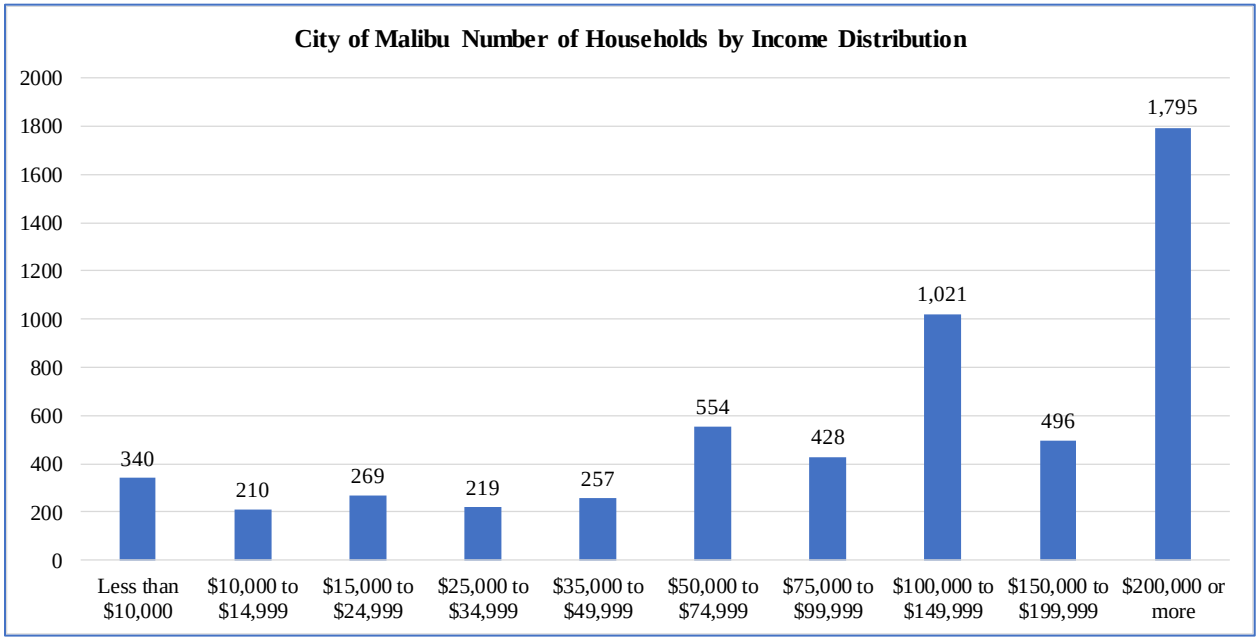


Figure 49: City of Malibu Income Distribution

Land Use

Malibu is a beachfront community with the majority of residents living along Pacific Coast Highway (PCH) or in small residential communities that gain primary access from PCH. Designated as State Route 1, PCH is the major four lane arterial roadway traversing the City from east to west. PCH is a major transportation corridor with thousands of daily commuters. Beach traffic substantially increases congestion along PCH during the summer months.

The Santa Monica Mountains serve as a natural boundary to the north. A number of residences are interspersed throughout the Santa Monica Mountains along canyons and hillsides within a mile or more inland. Furthermore, the City has experienced a great deal of 'in-fill' development, which has increased the population density, creating greater service loads on the existing infrastructure including roads, water supplies, sewer services and storm drains. In-fill development is defined as development of vacant or partially developed parcels which are surrounded by or in close proximity to areas that are substantially or fully developed.

Housing Characteristics

The following housing statistics provide a summary of the numbers and types of housing units that are at risk if a natural disaster or other catastrophic event were to occur in Malibu. Housing data includes: Housing Occupancy, Housing Unit Change from 2012 to 2016, Number of Structures Built by Year, Home Values, and Home Value Distribution. For Malibu, the number of 1-unit, mobile home, and some multi-unit structures has increased while the number of large multi-unit structures (20+ units) has decreased since 2012.

Housing Occupancy	Estimate	Percent
Total Housing Units	**7,378**	**7,378**
Occupied housing units	5,589	75.80%
Vacant housing units	1,789	24.20%

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 50: City of Malibu Housing Occupancy

Units In Structure	2016		2012		Change	
	Estimated Number	Percent of Units	Number	Percent of Units	Difference 2016-2012	Percent Change
Total Housing Units	**7,378**	**7,378**	**6,650**	**6,650**	**728**	**10.95%**
1-unit, detached	4,625	62.70%	4,562	68.60%	63	1.38%
1-unit, attached	589	8.00%	546	8.20%	43	7.88%
2 units	156	2.10%	39	0.60%	117	300.00%
3 or 4 units	470	6.40%	219	3.30%	251	114.61%
5 to 9 units	167	2.30%	190	2.90%	-23	-12.11%
10 to 19 units	236	3.20%	160	2.40%	76	47.50%
20 or more units	264	3.60%	378	5.70%	-114	-30.16%
Mobile home	871	11.80%	556	8.40%	315	56.65%
Boat, RV, van, etc.	0	0.00%	0	0.00%	0	-

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 51: City of Malibu Units in Structure Change from 2012 to 2016

In terms of risk and disaster mitigation, older structures that have not been retrofitted or otherwise improved may be more susceptible to damage or destruction due to age and the fact that older building codes were less stringent than those required for newer structures. As a result, the inventory of older structures is a consideration when developing mitigation plans.

In Malibu, 79.20% of structures (5,841) were built prior to 1990 and 60.90% (4,494) before 1980.

Year Structure Built	Estimate	Percent
Total housing units	**7,378**	**100.00%**
Built 2014 or later	30	0.40%
Built 2010 to 2013	77	1.00%
Built 2000 to 2009	496	6.70%
Built 1990 to 1999	934	12.70%
Built 1980 to 1989	1,347	18.30%
Built 1970 to 1979	1,906	25.80%
Built 1960 to 1969	1,297	17.60%
Built 1950 to 1959	832	11.30%
Built 1940 to 1949	222	3.00%
Built 1939 or earlier	237	3.20%

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 52: Year Structures Built in Malibu

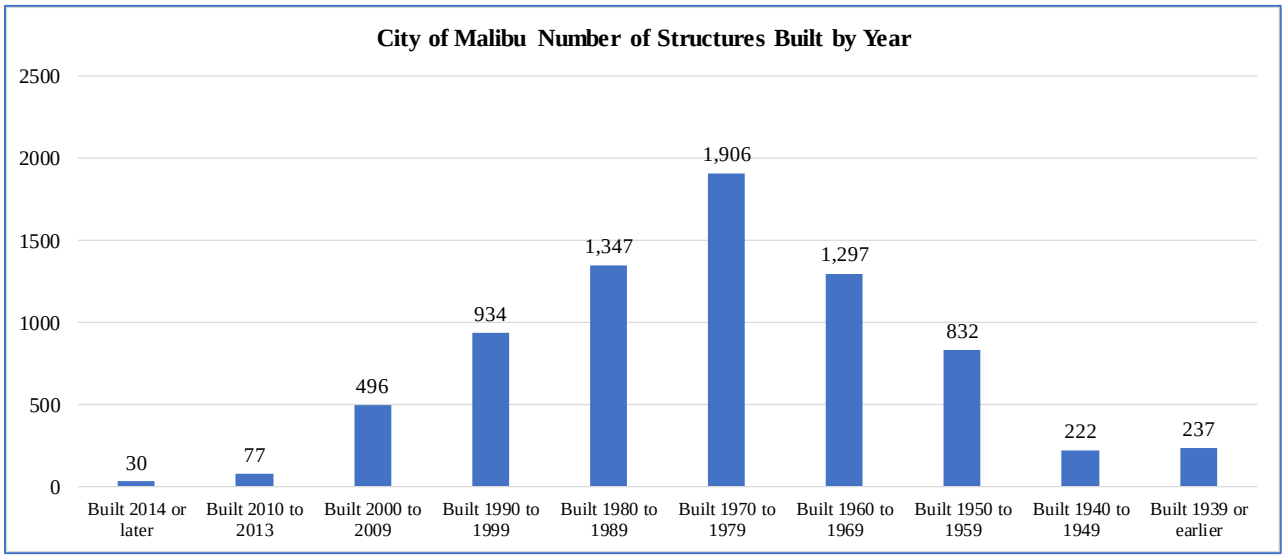


Figure 50: City of Malibu Number of Structures Built by Year

Home values are an important consideration when evaluating the potential dollar loss due to disasters. These values can also be used to assess the cost/benefit of mitigation activities and planning. In Malibu, the majority of Owner Occupied Units are valued over $1,800,000. Consequently, the potential dollar losses from a disaster can rapidly escalate – illustrating the need for mitigation planning.

Value	Estimate	Percent
Owner-Occupied Units	**3,944**	**3,944**
Less than $50,000	69	1.70%
$50,000 to $99,999	43	1.10%
$100,000 to $149,999	92	2.30%
$150,000 to $199,999	52	1.30%
$200,000 to $299,999	67	1.70%
$300,000 to $499,999	185	4.70%
$500,000 to $999,999	735	18.60%
$1,000,000 or more	2,701	68.50%
Median (dollars)	**1,802,800**	**(X)**

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 53: City of Malibu Home Value Distribution

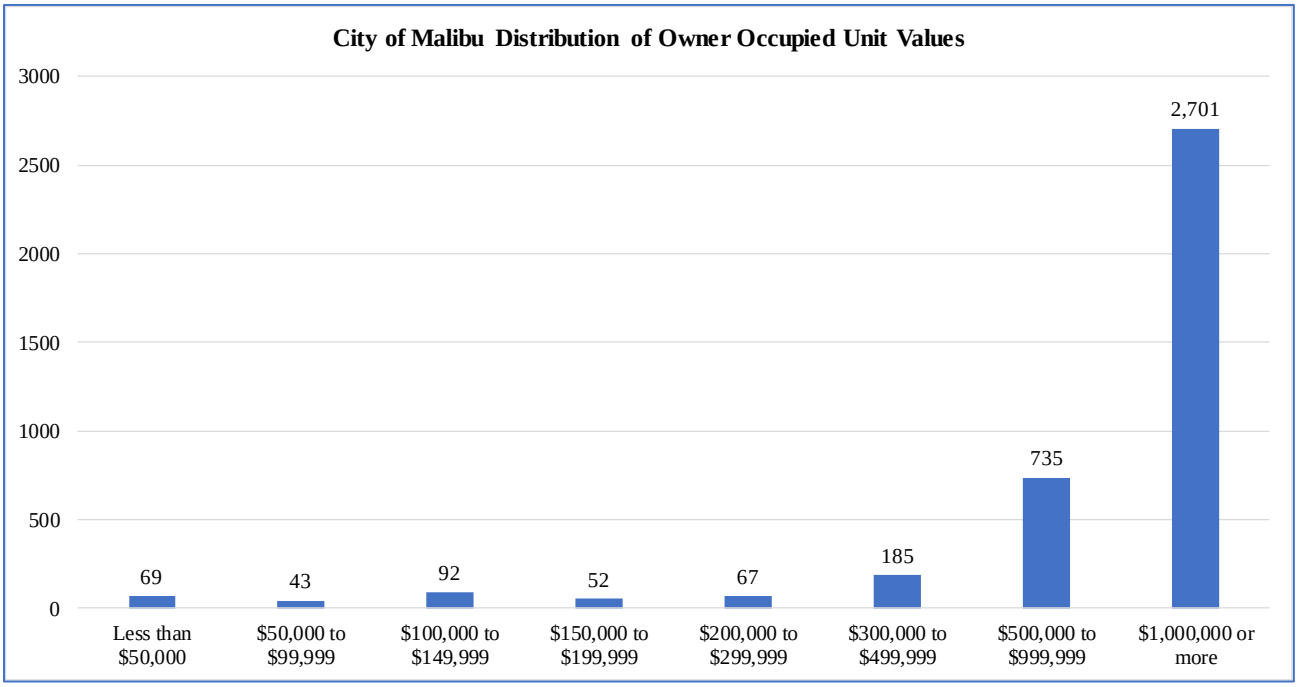


Figure 51: City of Malibu Distribution of Owner Occupied Unit Values

Emergency Preparedness

The potential impacts of natural hazards associated with Malibu's unique terrain makes its environment and population vulnerable to natural disasters. Earthquakes, landslides, winter storms, floods, storm surge, and sea level rise can take their toll on Malibu. However, the most dangerous and perennial of hazards is wildfire. Driven by the dry Santa Ana winds in the summer months, wind speeds can reach up to 70 mph. As a result, small spot fires can quickly explode into huge firestorms capable of consuming entire communities.

Emergency Preparedness Program

In response to the numerous floods, fires, and storms experienced during the first decade of incorporation, between 1991 and 2001, the City created an Emergency Preparedness Program to train personnel and to develop an emergency response protocol in preparation for future disasters.

Services conducted under the Emergency Preparedness program include an annual training exercise to familiarize staff and volunteers with the functions of the Malibu Emergency Operations Center (EOC) and their individual roles under various potential disaster scenarios. Under this program, the City has also implemented an emergency decal program for residents, designed to facilitate community access in the event of major road closures.

Malibu Search & Rescue Team

The Malibu Search & Rescue Team (SAR) was founded in 1977 and is an all-volunteer organization comprised of Los Angeles County Sheriff's Department Reserve Deputy Sheriffs and a select group of Civilian Volunteer Specialists and Incident Support Personnel. The Malibu SAR Team is a unit of the Los Angeles County Sheriff's Department and a member of the California region of the Mountain Rescue Association.

The Malibu SAR jurisdiction covers 187 square miles of the Santa Monica Mountains from the Los Angeles/Ventura County line to Pacific Palisades, the east face of the Santa Susana Mountains and the contract cities of Westlake Village, Agoura Hills, Malibu, Calabasas, and Hidden Hills.

The Malibu SAR will also travel anywhere in Los Angeles County to assist other LASD teams. Furthermore, the team will respond to other states or other country if requested to do so through the California Governor's Office of Emergency Services (Cal OES). The Los Angeles County Sheriff's Department provides the team with rescue vehicles and rescue operations are conducted under the guidance of the Los Angeles County Sheriff.

Public Involvement Groups

The City has over 60 Home Owners Associations that are very active in public services. In fact, residents sometimes hold Community Emergency Response Team (CERT) training meetings in their homes.

In addition, the City sponsors the Malibu Volunteer Patrol (MVP), a group of residents trained to assist law enforcement personnel. The volunteers work various assignments including patrolling the community, assisting with dissemination of information to the community and providing community services. The involvement of members of the community working alongside Sheriff's Department personnel improves the communication and understanding between the two groups.

The City participates in the Community Emergency Response Team Program (CERT). Under the CERT Program, volunteers are provided with a FEMA-approved 20-hour program. The City holds CERT trainings three times per year. Approximately 30 CERT graduates have taken additional training to become part of the Malibu CERT Team and are registered as Disaster Service Workers.

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WESTLAKE VILLAGE

Westlake Village is a master-planned community located on the western edge of Los Angeles County in the Conejo Valley. It borders the City of Thousand Oaks and Ventura County to the west and the Santa Monica Mountains to the south. It is 40 miles west of downtown Los Angeles along the US Highway 101 corridor. With a total land area of 5.62 square miles, the community supports a population of approximately 8,443 people (2016 U.S. Census estimate). Westlake Village is comprised of a mixture of residential and commercial areas.

Figure 52: City of Westlake Village Aerial View

Source: Google Maps

General Coordinates	
Latitude	34° 8’ 31” North
Longitude	118° 49’ 10” West

Source: 2016 SCAG City Boundary Data

Map 11: Westlake Village Location Map

Brief History

The City of Westlake Village is located on a portion of the former Albertson Ranch, whose cattle-grazing operation on the land ended in the mid-1960's when construction of Westlake Village commenced. The ranch was a portion of the former El Conejo land grant, the original boundary lines that form the City's southern and eastern limits today. In 1966 the American Hawaiian Steamship Company developed Westlake Village as a master-planned community. Responsibilities subsequently passed to the Prudential Insurance Company.

The original community straddled the Los Angeles-Ventura County line. The Ventura portion was incorporated as part of the City of Thousand Oaks in 1968. However, the build-out of the two halves has proceeded in a coordinated and interlinked manner, relatively indifferent to the corporate limits which separate them.

The City of Westlake Village was incorporated on December 11, 1981, as the 82nd city in Los Angeles County. As a master-planned community, Westlake Village is characterized by its wide, tree-lined boulevards, its cohesive, yet identifiable neighborhoods with interconnected greenbelts, its lakeside parks and promenades, and its diverse office and commercial centers.

The City of Westlake Village is a general law municipality, operating on a contract basis in which many of the day-to-day services of local government are provided by public and private agencies. The residents of Westlake Village elect a five-member City Council to oversee City operations and guide future development of the community. Council members are elected to serve a four-year term. Each year the Council selects one of its members to serve as Mayor and Mayor Pro Tem.

Climate/Topography

The climate in Westlake Village is characterized by mild winters with temperatures ranging from the low 40's to the high 60's, and warm summers with temperatures ranging from the low 60's to the high 90's. Average annual rainfall is 14.4 inches with the greatest portion of precipitation occurring in the winter months. The City averages 900 feet above sea level, and is framed by the Simi Hills to the north and the Santa Monica Mountains to the south.

Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Temperature (°F)	54.0	55.5	57.0	61.5	65.0	71.0	76.0	77.0	73.5	66.5	58.5	53.5
Minimum Temperature (°F)	40	41	42	45	49	53	57	58	55	49	42	38
Maximum Temperature (°F)	68	70	72	78	81	89	95	96	92	84	75	69
Average Rainfall (inches)	3.83	4.4	3.6	0.88	0.32	0.07	0.01	0.15	0.24	0.62	1.29	2.38

Source: Intellicast

Table 54: City of Westlake Village Average Monthly Temperatures and Rainfall

Economic Activity

There are approximately 850 commercial and light industrial firms within the Westlake Village City limits. The city is located along the "Technology Corridor" that runs along US Highway 101 from Calabasas to the Oxnard plain. In addition, there are multiple business parks and the city is home to several company headquarters.

Westlake Village Principal Employers

Company	Employees	Percent of Total City Employment
Bank of America	650	14.96%
Move, Inc.	600	13.81%
Four Seasons Hotel	500	11.51%
Farmers Insurance	535	12.32%
Conversant LLC	500	11.51%
Dole Food Co., Inc.	404	9.30%
Keller Williams Realty	350	8.06%
Costco Wholesale Corp.	290	6.68%
Oaks Christian School	265	6.10%
Securitas Security Services USA, Inc.	250	5.76%
Top 10 Total	**4,344**	**100.00%**
Total Employment (2015 estimate)*	**13,886**	

Source: 2016- 2017 Comprehensive Annual Financial Report for the City of Westlake Village, Fiscal Year Ended June 2017
**California Employment Development Department, InfoGroup, and SCAG estimate – Note: Approximately 33% of people commute to Westlake Village from outside of Los Angeles County*
Table 55: City of Westlake Village Principal Employers

Westlake Village Principal Property Tax Payers

Company	Taxable Assessed Value	Percent of Total City Assessed Value
Dole Food Company Inc	$177,257,164	5.33%
Lindero Headquarters Company Inc	57,656,842	1.73%
Russell Ranch Road II LLC	48,660,000	1.46%
BRE California Office Owner LLC	47,495,500	1.43%
GPT Westlake Owner LP	43,655,750	1.31%
Teachers Insurance and Annuity Associates	42,900,000	1.29%
CH Realty IV North Ranch LP	38,129,468	1.15%
Westlake HHG Hotel Development LP	26,385,466	0.79%
Target Corporation	25,612,678	0.77%
Guitar Center Inc	24,128,436	0.73%
Top 10 Total	**$531,881,304**	**16.00%**
Total Property Tax Assessed Value	**$3,323,375,113**	

Source: 2016- 2017 Comprehensive Annual Financial Report for the City of Westlake Village, Fiscal Year Ended June 2017
Table 56: City of Westlake Village Principal Property Tax Payers

Westlake Village Taxable Sales

Category	Taxable Sales	Percent of Total
Business to Business	447,247	10.57%
Construction	350,248	8.28%
Food Products	1,012,203	23.92%
General Retail	2,164,844	51.16%
Miscellaneous	58,216	1.38%
Transportation	198,369	4.69%
Total	**4,231,127**	**100.00%**

Source: 2016- 2017 Comprehensive Annual Financial Report for the City of Westlake Village, Fiscal Year Ended June 2017

Table 57: City of Westlake Village Taxable Sales

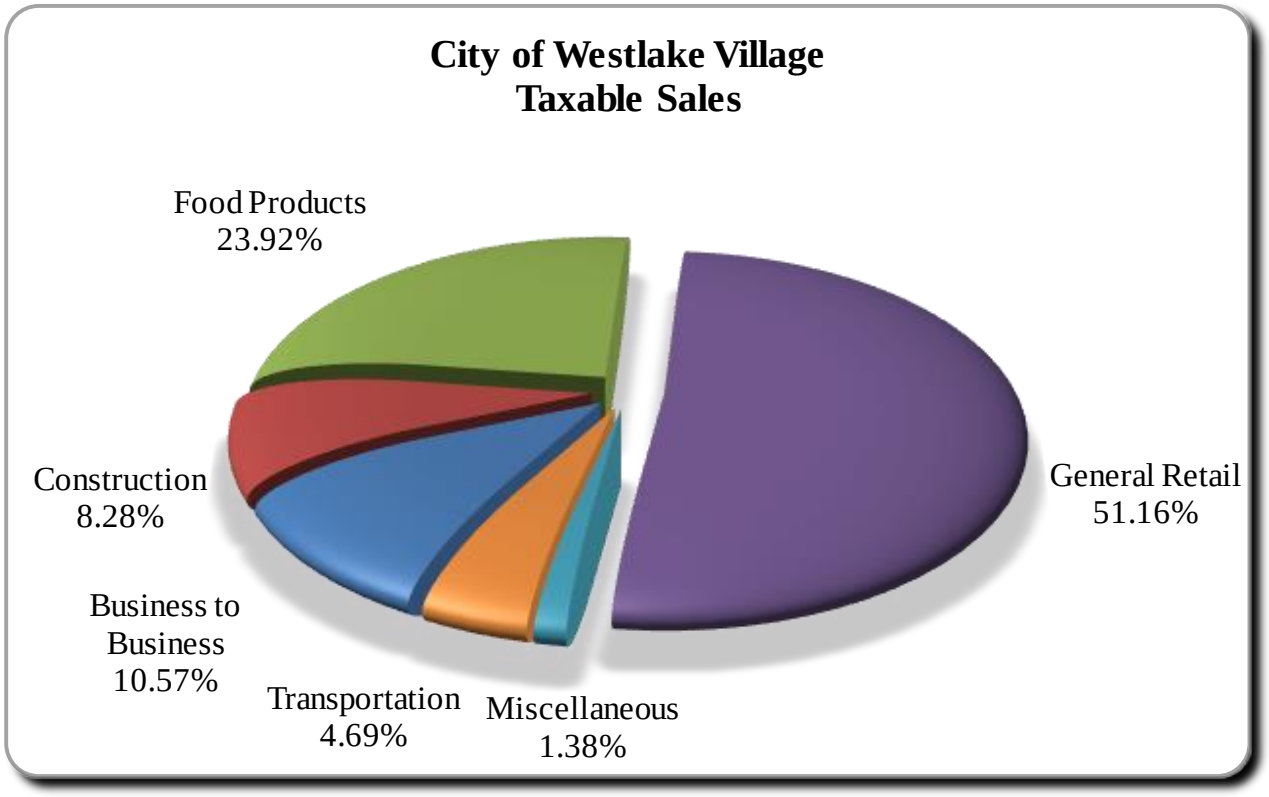

Figure 53: City of Westlake Village Taxable Sales Percentage by Category

Westlake Village Economy

Category	Value (in thousands)	Percent
Total Accommodation and Food Services Sales	$88,946	4.70%
Total Health Care and Social Assistance Receipts/Revenue	$64,056	3.38%
Total Manufacturer's Shipments	$142,999	7.55%
Total Merchant Wholesaler Sales	$1,296,770	68.46%
Total Retail Sales	$301,526	15.92%
Total	**$1,894,297**	**100.00%**

Source U.S. Census Bureau 2012 Economic Census of the U.S. information **D Suppressed to avoid disclosure of confidential**

Table 58: City of Westlake Village Economy

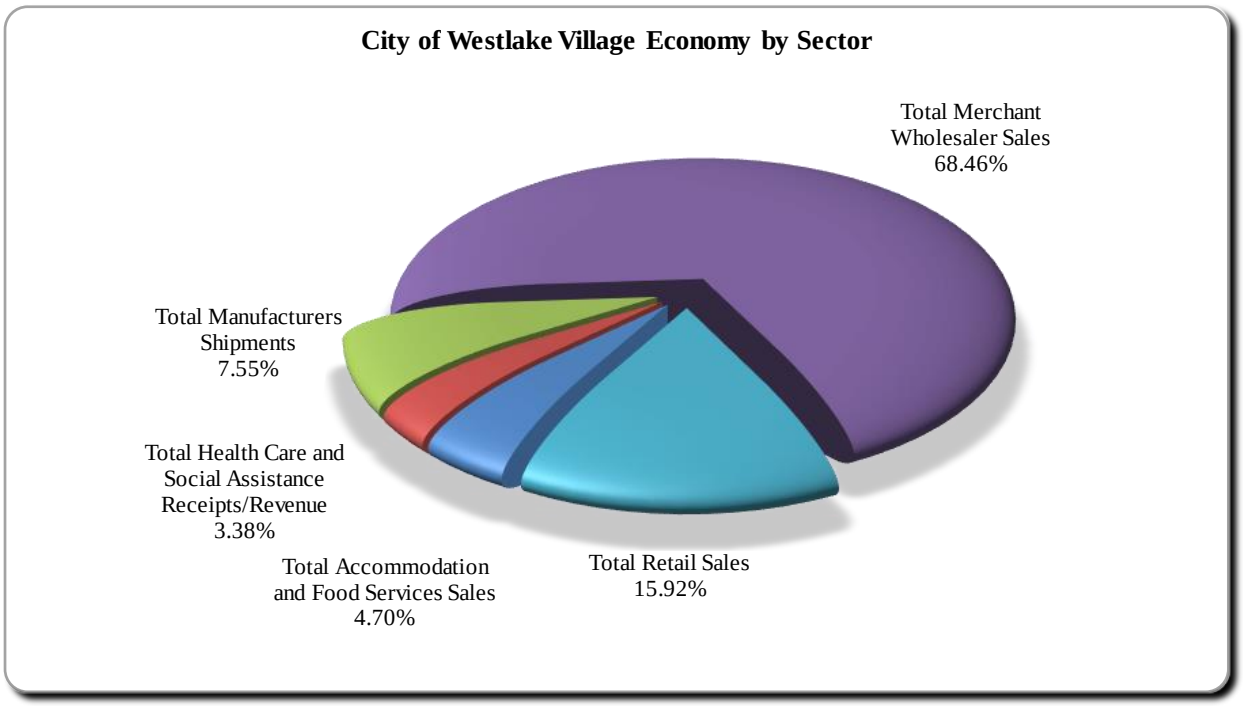

Figure 54: City of Westlake Village Economy by Sector

Population and Demographics

The following tables summarize the population and demographic groups at risk from a disaster in Westlake Village.

Sex and Age Distribution

Demographic Estimates		
Sex and Age	**Estimate**	**Percent**
Total Population	**8,443**	**100.0%**
Male	4,260	50.50%
Female	4,183	49.50%
Under 5 years	301	3.60%
5 to 9 years	413	4.90%
10 to 14 years	489	5.80%
15 to 19 years	667	7.90%
20 to 24 years	300	3.60%
25 to 29 years	483	5.70%
30 to 34 years	671	7.90%
35 to 39 years	1,431	16.90%
40 to 44 years	760	9.00%
45 to 49 years	816	9.70%
50 to 54 years	1,124	13.30%
55 to 59 years	717	8.50%
60 to 64 years	271	3.20%
65 to 69 years	301	3.60%
70 to 74 years	413	4.90%
75 to 79 years	489	5.80%
80 to 84 years	667	7.90%
85 years and over	300	3.60%
Median age (years)	52.2	

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 59: City of Westlake Village Sex and Age Demographics

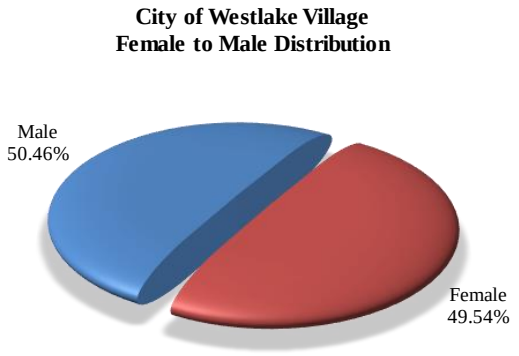

Figure 55: City of Westlake Village Female to Male Distribution

The average age of residents in Westlake Village is 52.2 with males (50.50%) outnumbering females (49.50%). Mitigation planning must consider the unique needs of population groups, for example those under 15 years of age and those over 65 years of age.

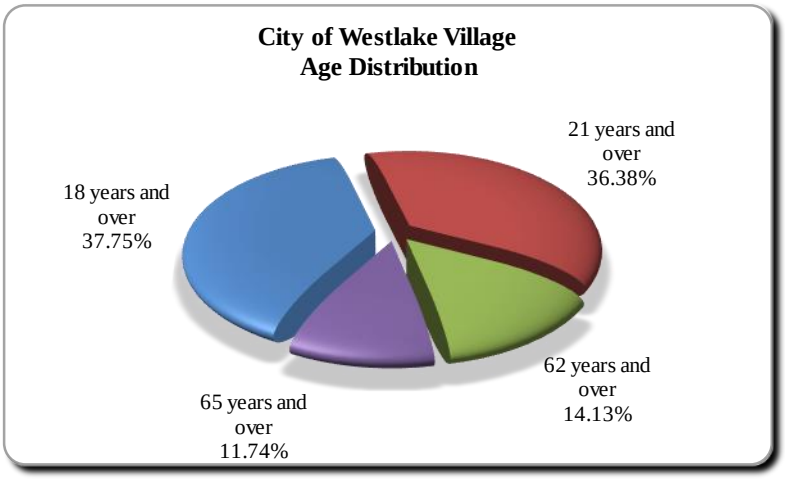

Figure 56: City of Westlake Village Age Distribution

Race and Language Composition

Race

One aspect of mitigation planning is the need to address the cultural and language (communications) needs of local populations. This includes the ability to distribute information and provide notification in the event of a regional emergency. For Westlake Village, an estimated 13.8% of the population speaks languages other than English (including English and another language or non-English only) with 3.8% speaking English "less than very well".

Race	2016 Estimated Population	Percent of Total
Total Population	**8,443**	**100.0%**
White alone	6,718	79.60%
Black or African American alone	77	0.90%
Hispanic or Latino (of any race)	629	7.40%
American Indian and Alaska Native alone	0	0.00%
Asian alone	698	8.30%
Native Hawaiian and Other Pacific Islander alone	0	0.00%
Some other race alone	0	0.00%
Two or more races	321	3.80%

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 60: City of Westlake Village Race Composition

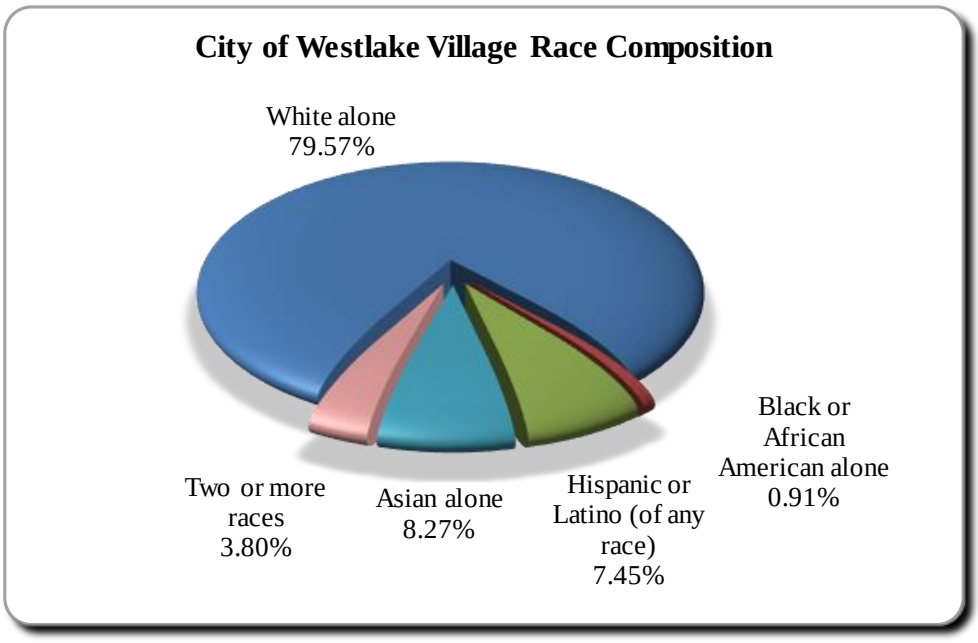

Figure 57: City of Westlake Village Race Distribution

Languages Spoken at Home

Language	2016 Estimated Population	Percent of Total
Speaks only English	7,017	86.20%
Language other than English spoken at home, percent of persons age 5 years+, 2012-2016	1,125	13.80%
Speak a Language Other than English	**2016 Estimated Population**	**Percent of Total**
Spanish	**241**	**3.00%**
5 to 17 years old	17	0.20%
18 to 64 years old	196	2.40%
65 years old and over	28	0.30%
Other Indo-European languages	**496**	**6.10%**
5 to 17 years old	21	0.30%
18 to 64 years old	377	4.60%
65 years old and over	98	1.20%
Asian and Pacific Island languages	**319**	**3.90%**
5 to 17 years old	29	0.40%
18 to 64 years old	155	1.90%
65 years old and over	135	1.70%
Other languages	**69**	**0.80%**
5 to 17 years old	26	0.30%
18 to 64 years old	33	0.40%
65 years old and over	10	0.10%

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 61: City of Westlake Village Languages Spoken at Home

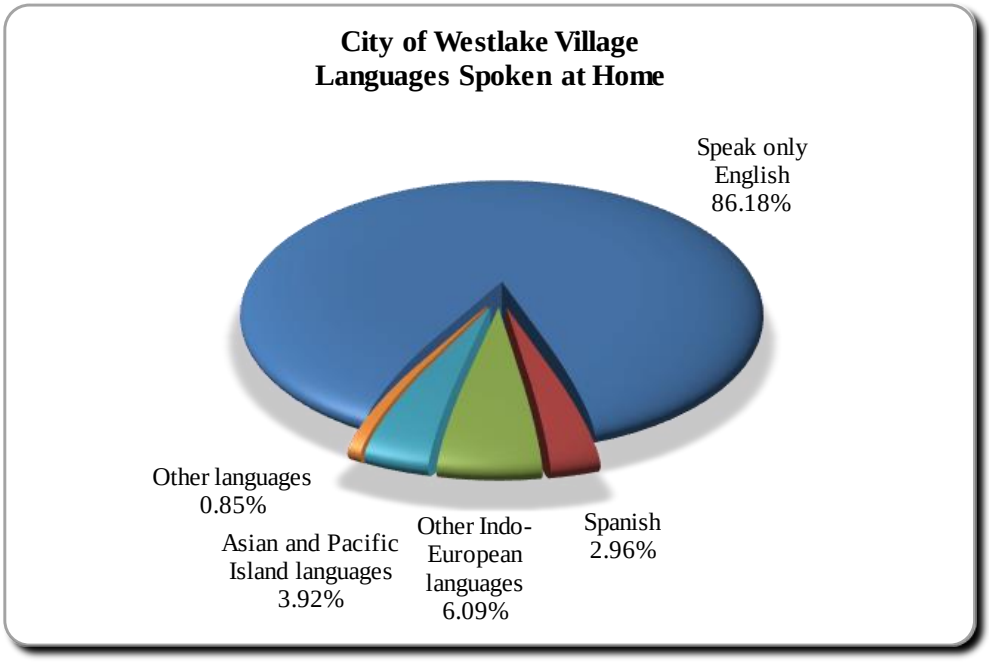

Figure 58: City of Westlake Village Languages Spoken at Home

Income Distribution

Household income is a factor for mitigation planning since population groups in lower income ranges are less able to cope with the impact of disasters.

Furthermore, the availability of household funds can have a direct impact on the level of individual and family hazard mitigation activities and emergency preparedness.

In Westlake Village, while the mean household income is $168,987 there are a limited number of households with incomes less than $25,000, near the 2018 U.S. poverty level of $25,100 for a family of four as defined by the *2018 HHS Poverty Guidelines*, by the U.S. Department of Health & Human Services.*

Income and Benefits (in 2016 Inflation-Adjusted Dollars)		
	Estimate	**Percent**
Total Households	**3,382**	**100.0%**
Less than $10,000	121	3.60%
$10,000 to $14,999	66	2.00%
$15,000 to $24,999	140	4.10%
$25,000 to $34,999	131	3.90%
$35,000 to $49,999	234	6.90%
$50,000 to $74,999	263	7.80%
$75,000 to $99,999	321	9.50%
$100,000 to $149,999	658	19.50%
$150,000 to $199,999	430	12.70%
$200,000 or more	1,018	30.10%
Median household income (dollars)	**130,272**	**(X)**
Mean household income (dollars)	**168,987**	**(X)**

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 62: City of Westlake Village Income and Benefits (2016 Inflation Adjusted Dollars)

*Note: The households with minimal incomes may also be attributable to retirees and others that have other sources of funds not reportable as income.

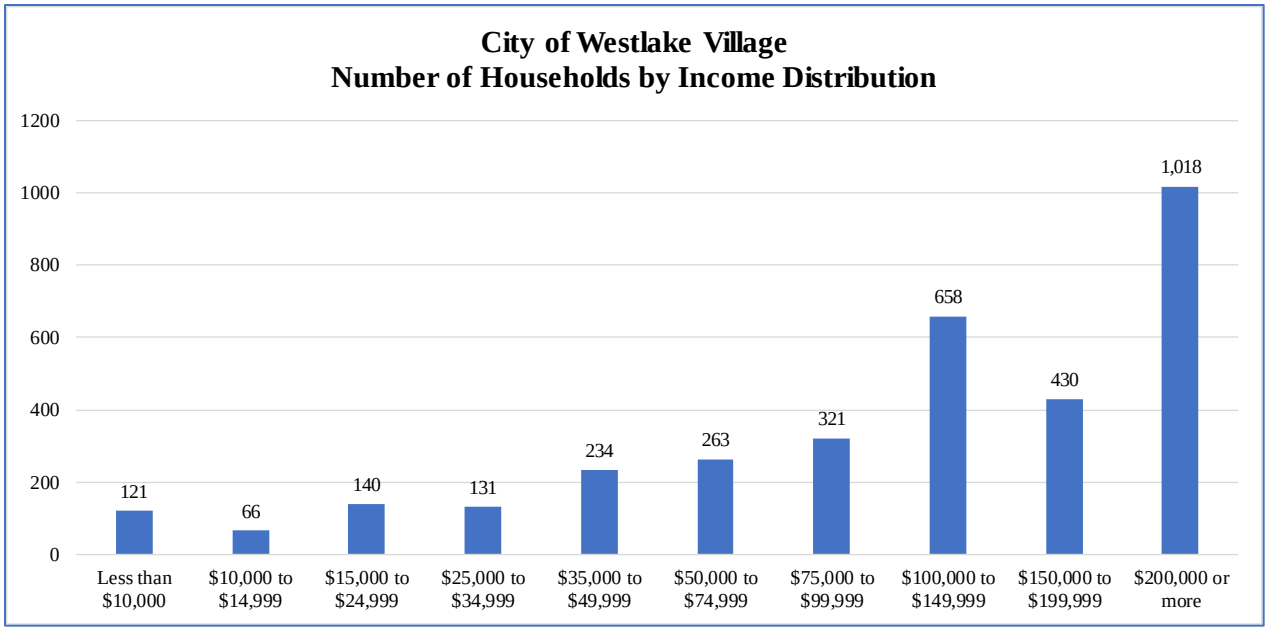

Figure 59: City of Westlake Village Income Distribution

Land Use

Westlake Village is a master-planned community which began development in 1966. The City is centered around a man-made lake which straddles the Los Angeles and Ventura County line. Westlake Village encompasses twenty individual neighborhoods, with active homeowners' associations to promote and maintain architectural standards. The City has an array of housing types including: townhomes, condominiums, mobile homes, single-family and lakefront residences, and view-oriented estates. In addition, within the Westlake Village city limits are approximately 850 commercial and light industrial businesses. There multiple business parks and the city hosts several company headquarters.

Housing Characteristics

The following housing statistics provide a summary of the numbers and types of housing units that are at risk if a disaster were to occur in Westlake Village. Housing data includes: Housing Occupancy, Units in Structure Change from 2012 to 2016, Number of Structures Built by Year, Home Values, and Home Value Distribution. In Westlake Village, there has been an overall increase in structures since 2012.

Housing Occupancy	Estimate	Percent
Total Housing Units	**3,570**	**100.00%**
Occupied housing units	3,382	94.70%
Vacant housing units	188	5.30%

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 63: City of Westlake Village Housing Occupancy

Units In Structure	2016		2012		Change	
	Estimated Number	Percent of Units	Number	Percent of Units	Difference 2012-2016	Percent Change
Total Housing Units	**3,570**	**100.00%**	**3,385**	**100.00%**	**185**	**5.47%**
1-unit, detached	2,449	68.60%	2,312	68.30%	137	5.93%
1-unit, attached	762	21.30%	692	20.40%	70	10.12%
2 units	25	0.70%	0	0.00%	25	-
3 or 4 units	72	2.00%	91	2.70%	-19	-20.88%
5 to 9 units	41	1.10%	29	0.90%	12	41.38%
10 to 19 units	69	1.90%	84	2.50%	-15	-17.86%
20 or more units	59	1.70%	49	1.40%	10	20.41%
Mobile home	93	2.60%	128	3.80%	-35	-27.34%
Boat, RV, van, etc.	0	0.00%	0	0.00%	0	-

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 64: City of Westlake Village Units in Structure Change from 2012 to 2016

In terms of risk and disaster mitigation, older structures that have not been retrofitted or otherwise improved may be more susceptible to damage or destruction due to age and the fact that older building codes were less stringent than those required for newer structures. As a result, the inventory of older structures is a consideration when developing mitigation plans.

In Westlake Village, 82.50% of structures (2,951) were built prior to 1990 and 62.80% (2,246) before 1980.

Year Structure Built	Estimate	Percent
Total housing units	**3,570**	**100.00%**
Built 2014 or later	0	0.00%
Built 2010 to 2013	9	0.30%
Built 2000 to 2009	87	2.40%
Built 1990 to 1999	523	14.60%
Built 1980 to 1989	705	19.70%
Built 1970 to 1979	982	27.50%
Built 1960 to 1969	1,182	33.10%
Built 1950 to 1959	66	1.80%
Built 1940 to 1949	11	0.30%
Built 1939 or earlier	5	0.10%
Built 2014 or later	0	0.00%

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 65: Year Structures Built in Westlake Village

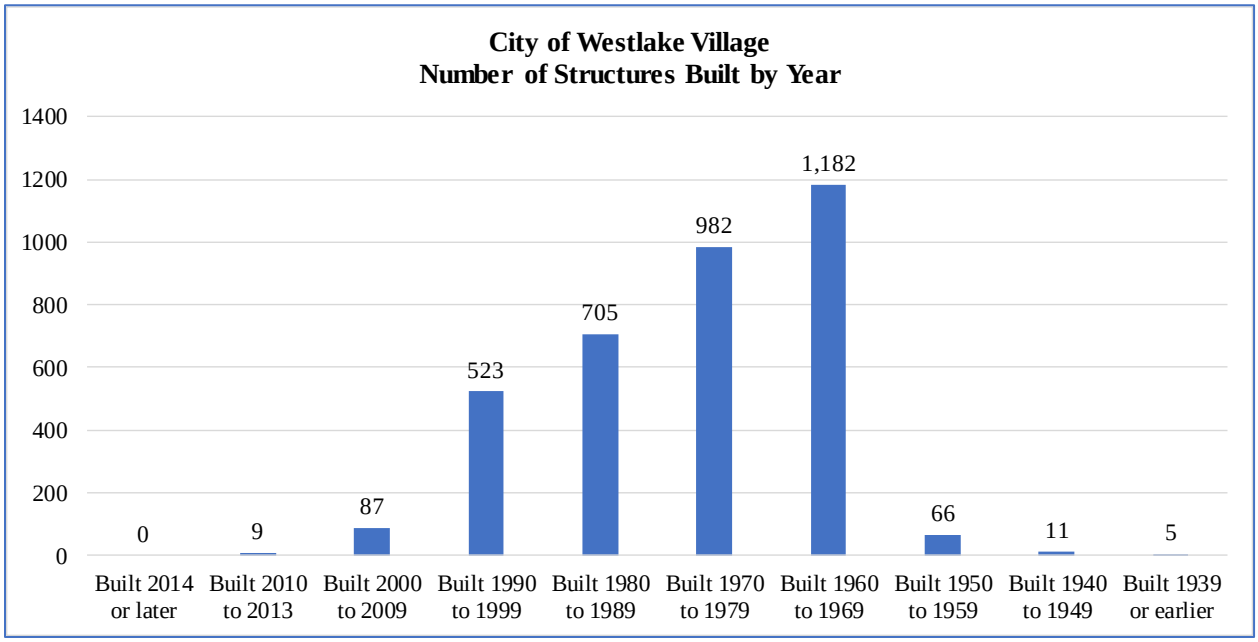

Figure 60: City of Westlake Village Number of Structures Built by Year

Home values are an important consideration when evaluating the potential dollar loss due to disasters. These values can also be used to assess the cost/benefit of mitigation activities and planning. In Westlake Village, the majority of Owner Occupied Units are valued over $500,000. Consequently, the potential dollar losses from a disaster can rapidly escalate – illustrating the need for mitigation planning.

Value		
	Estimate	**Percent**
Owner-Occupied Units	**2,934**	**100.0%**
Less than $50,000	47	1.60%
$50,000 to $99,999	62	2.10%
$100,000 to $149,999	9	0.30%
$150,000 to $199,999	24	0.80%
$200,000 to $299,999	51	1.70%
$300,000 to $499,999	219	7.50%
$500,000 to $999,999	1,501	51.20%
$1,000,000 or more	1,021	34.80%
Median (dollars)	**$819,900**	**(X)**

Source U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimate

Table 66: Westlake Village Home Value Distribution

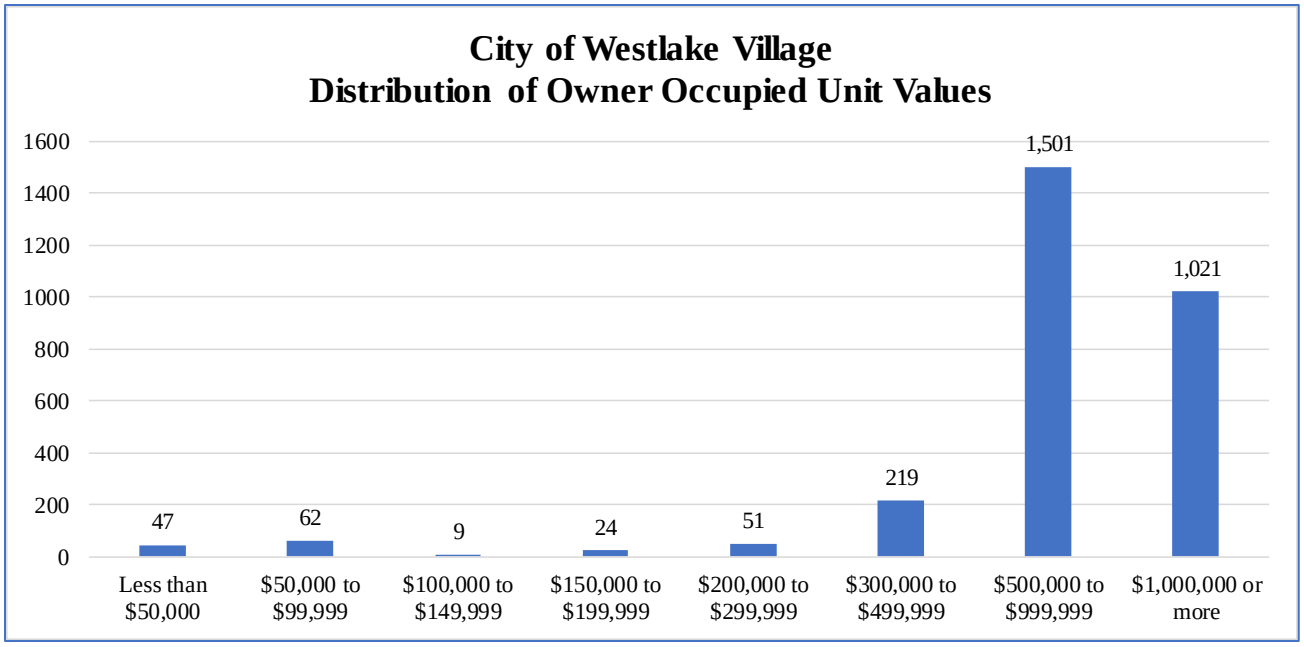

Figure 61: Westlake Village Distribution of Owner Occupied Unit Values

Emergency Preparedness

The City of Westlake Village contracts with the Los Angeles County Sheriff for local public safety services primarily through the Malibu/Lost Hills Sheriff Station. Fire protection is through the Los Angeles County Fire Protection District with Fire Station #144 providing suppression, rescue, and fire prevention services. Westlake Village also provides Emergency Preparedness information to the public via the Westlake Village website.

Standard Emergency Management System

The City of Westlake Village has adopted California's Standardized Emergency Management System (SEMS) for managing the response to a multi-agency and multi-jurisdiction emergency. SEMS also serves to facilitate communications and coordination among all levels of the response system and among all responding agencies.

Public Involvement Groups

Public input and participation plays an important role in Westlake Village's emergency preparedness efforts. Residents participate on advisory boards and committees (e.g., the Public Safety Advisory Board) as well as the Westlake Village Disaster Response Team.

Disaster Response Team

Since 1994 the City of Westlake Village has maintained a volunteer disaster response team comprised of local residents. The Westlake Village Disaster Response Team (WLVDRT) is activated in the event of a disaster and functions to aid local neighborhoods and assist emergency response personnel. An order for activation can come from the City Council, the City Manager, the Sheriff's Department or the Fire Department.

The WLVDRT also provides community disaster preparedness education by conducting basic training classes for residents. Residents who attend the basic training are better prepared to protect themselves, their families, and their businesses in the event of a disaster. The intent is that for every person who attends this training there will be one less person who will need aid during a disaster.

Volunteers in Policing

The City of Westlake Village enhances local law enforcement services through the City's Volunteers in Policing Program. The program consists of a core group of volunteers who are sponsored by the City of Westlake Village and are trained by the Malibu/Lost Hills Sheriff's Station. Westlake Village provides a marked vehicle, uniforms, and specialized equipment. The program volunteers provide a variety of services including patrolling neighborhoods and shopping centers, performing patrol checks of businesses, checking on the homes of residents when they are on vacation, and responding to related civilian requests. In addition, the volunteer patrol members serve as a mobile Neighborhood Watch for the community.

Connect-CTY

The City of Westlake Village implemented the Connect-CTY (Blackboard Inc.) service allowing authorized civic leaders to create and rapidly disseminate emergency messages to every telephone number stored in the notification database.

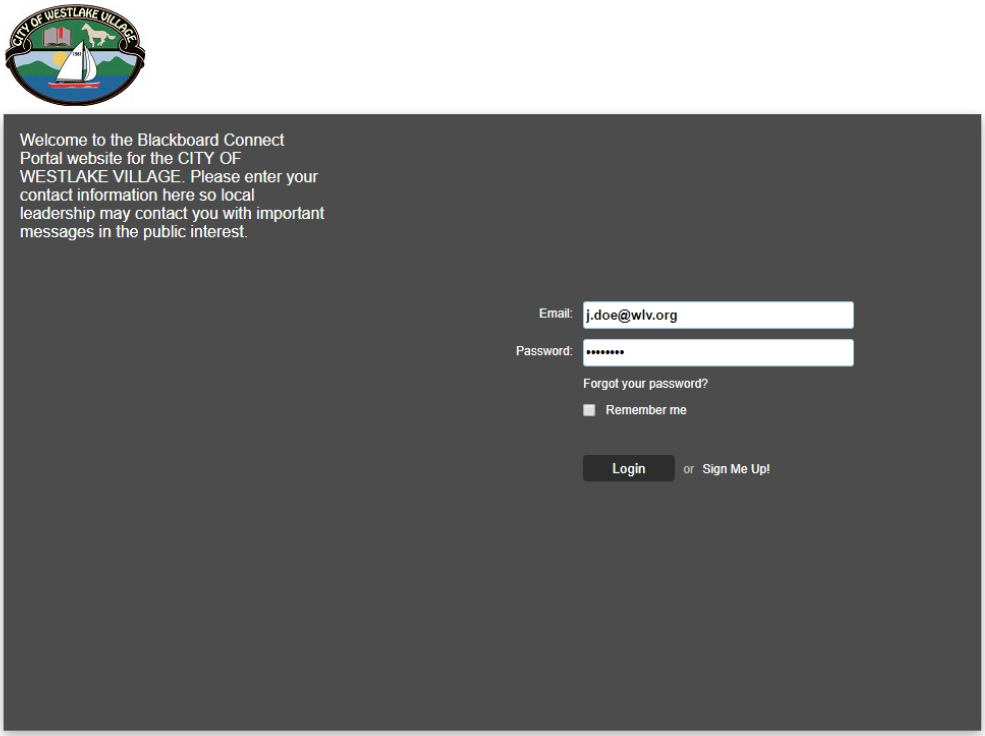

Figure 62: City of Westlake Village Blackboard Connect Sign-up Page

SECTION 3. RISK ASSESSMENT

The goal of mitigation is to reduce the future impacts of hazards. Hazards can result in injuries and the loss of life, cause property damage, disrupt the local economy, and force the expenditure of large amounts of public and private funds to assist with recovery. In order to focus efforts on the most likely and highest impact scenarios, mitigation must be based on a comprehensive Risk Assessment.

A Risk Assessment measures the potential loss from a hazard event by evaluating the vulnerability of buildings, infrastructure and people. It identifies the characteristics and potential consequences of hazards, how much of the community could be affected by a hazard, and the impact on community assets. Risk Assessments consist of:

- Hazard Identification and Risk Analysis
- Vulnerability Analysis / Loss Estimates

Note: This Risk Assessment presents loss estimates and provides a foundation for evaluating mitigation measures should a real hazard event occur. The loss estimates are intended to support the decision-making process for mitigation efforts.

It is important to note that the loss estimates calculated for this Risk Assessment used available data and methodologies and are approximate. These estimates should be used to understand the relative risk from hazards and potential losses and are not intended to be predictive of precise results.

Uncertainties are inherent in any loss estimation methodology arising in part from incomplete scientific knowledge concerning natural hazards and their effects on the built environment. Uncertainties also result from approximations and simplifications that are necessary in developing vulnerability estimates (e.g., risk of loss projections and relative likelihood of occurrence). These factors can result in a range of uncertainty in loss estimates produced by this analysis.

DISASTER HISTORY

Emergencies and disasters can cause damage to the Las Virgenes-Malibu Region and its residents, businesses, infrastructure and the environment. These disasters can cause fatalities or injuries and expense in terms of response and recovery dollars.

The cities that comprise the Las Virgenes-Malibu Council of Governments have experienced natural disasters in the past and continue to have the potential for future events. While the risk of disasters cannot be eliminated, the effects can be reduced through a well-organized public education and awareness effort, preparedness and mitigation. In addition, communities must be prepared to provide efficient and effective response and recovery. Furthermore, careful planning and collaboration among public agencies, private sector organizations, and citizens within the community can minimize the losses that result from disasters.

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To illustrate the potential hazards to the region, a review of historical events can provide indicators for future threats to the area. The table below provides a summary of FEMA declared disasters occurring in Los Angeles County since 1995.

Disaster Number	IH Program Declared	IA Program Declared	PA Program Declared	HM Program Declared	Disaster Type	Incident Type	Title	Incident Begin Date	Incident End Date
4353	Yes	No	Yes	Yes	DR	Fire	WILDFIRES, FLOODING, MUDFLOWS, AND DEBRIS FLOWS	12/4/2017	
3396	No	No	Yes	No	EM	Fire	WILDFIRES	12/4/2017	12/29/2017
4305	No	No	Yes	Yes	DR	Flood	SEVERE WINTER STORMS, FLOODING, AND MUDSLIDES	1/18/2017	1/23/2017
2851	No	No	Yes	No	FM	Fire	CROWN FIRE	7/29/2010	8/3/2010
1884	No	No	Yes	Yes	DR	Severe Storm(s)	SEVERE WINTER STORMS, FLOODING, AND DEBRIS AND MUD FLOWS	1/17/2010	2/6/2010
2830	No	No	Yes	No	FM	Fire	STATION FIRE	8/27/2009	9/25/2009
2828	No	No	Yes	No	FM	Fire	PV FIRE	8/27/2009	8/29/2009
1810	Yes	No	Yes	Yes	DR	Fire	WILDFIRES	11/13/2008	11/28/2008
2792	No	No	Yes	No	FM	Fire	FREEWAY FIRE COMPLEX	11/15/2008	11/20/2008
2791	No	No	Yes	No	FM	Fire	SAYRE FIRE	11/14/2008	
2789	No	No	Yes	No	FM	Fire	SESNON FIRE	10/13/2008	10/19/2008
2788	No	No	Yes	No	FM	Fire	MAREK FIRE	10/12/2008	10/17/2008
2763	No	No	Yes	No	FM	Fire	SANTA ANITA FIRE	4/26/2008	5/2/2008
1731	Yes	Yes	Yes	Yes	DR	Fire	WILDFIRES, FLOODING, MUD FLOWS, AND DEBRIS FLOWS	10/21/2007	3/31/2008
3279	No	No	Yes	No	EM	Fire	WILDFIRES	10/21/2007	3/31/2008
2736	No	No	Yes	No	FM	Fire	RANCH FIRE	10/20/2007	
2733	No	No	Yes	No	FM	Fire	BUCKWEED FIRE	10/21/2007	
2732	No	No	Yes	No	FM	Fire	CANYON FIRE	10/21/2007	
2708	No	No	Yes	No	FM	Fire	CANYON FIRE	7/7/2007	7/10/2007
2694	No	No	Yes	No	FM	Fire	ISLAND FIRE	5/10/2007	5/15/2007
2691	No	No	Yes	No	FM	Fire	GRIFFITH PARK FIRE	5/8/2007	5/11/2007
1689	No	Yes	No	Yes	DR	Freezing	SEVERE FREEZE	1/11/2007	1/17/2007
2583	No	No	Yes	No	FM	Fire	TOPANGA FIRE	9/28/2005	10/10/2005
3248	No	No	Yes	No	EM	Hurricane	HURRICANE KATRINA EVACUATION	8/29/2005	10/1/2005

Disaster Number	IH Program Declared	IA Program Declared	PA Program Declared	HM Program Declared	Disaster Type	Incident Type	Title	Incident Begin Date	Incident End Date
1585	No	No	Yes	Yes	DR	Severe Storm(s)	SEVERE STORMS, FLOODING, LANDSLIDES, AND MUD AND DEBRIS FLOWS	2/16/2005	2/23/2005
1577	Yes	Yes	Yes	Yes	DR	Severe Storm(s)	SEVERE STORMS, FLOODING, DEBRIS FLOWS, AND MUDSLIDES	12/27/2004	1/11/2005
2535	No	No	Yes	No	FM	Fire	CA-CROWN WILDFIRE-07-21-2004	7/20/2004	7/23/2004
2534	No	No	Yes	No	FM	Fire	CA-FOOTHILL WILDFIRE-07-18-2004	7/17/2004	7/23/2004
2528	No	No	Yes	No	FM	Fire	CA - PINE FIRE - 7-13-2004	7/12/2004	7/21/2004
1498	Yes	Yes	Yes	Yes	DR	Fire	WILDFIRES, FLOODING, MUDFLOW AND DEBRIS FLOW DIRECTLY RELATED T	10/21/2003	3/31/2004
2502	No	No	Yes	No	FM	Fire	CA-VERDALE FIRE 10-25-2003	10/24/2003	10/29/2003
2466	No	No	Yes	No	FM	Fire	CA - WILDFIRE (PACIFIC FIRE) - 01-06-2003	1/6/2003	1/10/2003
2464	No	No	Yes	No	FS	Fire	WILLIAMS FIRE	9/22/2002	9/29/2002
2462	No	No	Yes	No	FS	Fire	LEONA FIRE	9/3/2002	9/12/2002
2417	No	No	Yes	No	FS	Fire	CA - COPPER FIRE - 06-06-2002	6/5/2002	6/14/2002
1203	No	Yes	Yes	No	DR	Severe Storm(s)	SEVERE WINTER STORMS AND FLOODING	2/2/1998	4/30/1998
3120	No	Yes	Yes	Yes	EM	Fire	SEVERE FIRESTORMS	10/21/1996	10/31/1996
1046	No	Yes	Yes	Yes	DR	Severe Storm(s)	SEVERE WINTER STORMS, FLOODING LANDSLIDES, MUD FLOW	2/13/1995	4/19/1995
1044	No	Yes	Yes	Yes	DR	Severe Storm(s)	SEVERE WINTER STORMS, FLOODING, LANDSLIDES, MUD FLOWS	1/3/1995	2/10/1995

Table 67: Los Angeles County Federal Declared Disasters from 1995-2010

Source: FEMA

FEMA Disaster Declaration Key

Disaster Number Sequentially assigned number used to designate an event or incident declared as a disaster.
IH Denotes whether the Individuals and Households program was declared for this disaster
IA Denotes whether the Individual Assistance program was declared for this disaster.
PA Denotes whether the Public Assistance program was declared for this disaster.
HM Denotes whether the Hazard Mitigation program was declared for this disaster.
Disaster Type Two-character code that defines if this is a major disaster, fire management or emergency declaration.
Incident Type Type of incident such as fire or flood. The incident type affects the types of assistance available.

FEDERAL REQUIREMENTS FOR RISK ASSESSMENTS

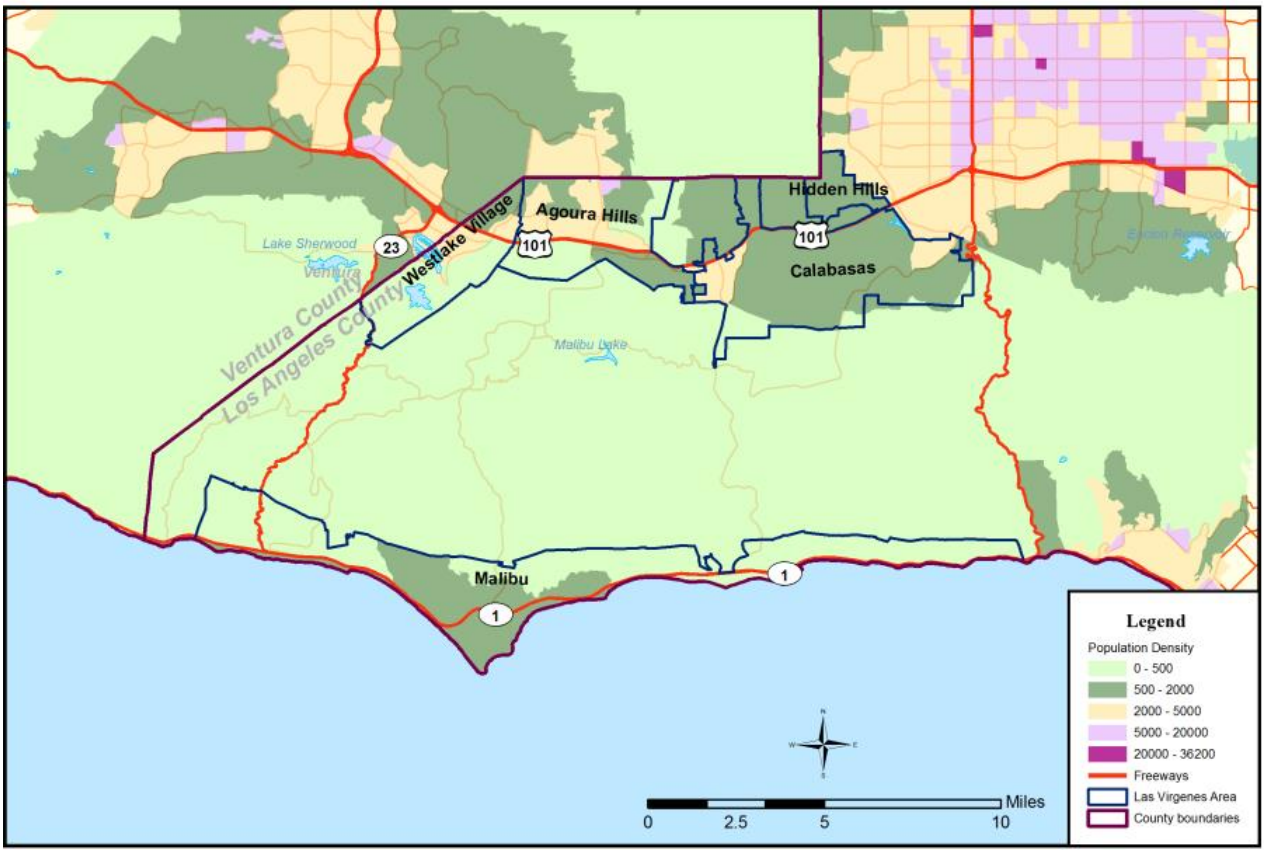
Federal regulations for hazard mitigation plans outlined in 44 CFR Part 201 include a requirement for conducting a Risk Assessment. This Risk Assessment requirement is intended to provide information that will help communities identify and prioritize mitigation activities that will reduce losses from the identified hazards. The hazards profiled in this mitigation plan, include: earthquakes, earth movement (including landslide), flooding, fires (including wildland and structural), windstorms and terrorism.

The Federal criteria for conducting Risk Assessments under 44 CFR Part 201 (Section 322 of the Stafford Act, 42 U.S.C. 5165) and information on how the Las Virgenes-Malibu Council of Governments Hazard Mitigation Plan meets those criteria are outlined below.

Section 322 Plan Requirement	How is this addressed?
Identifying Hazards	Each hazard section includes an inventory of selected available data sources that identify hazard areas. Maps identifying the locations of hazards in the Las Virgenes-Malibu Council of Governments Region are provided in this Risk Assessment and in each individual hazard section, i.e., Earthquake, Wildfire, Wind, Landslide, Flood, and Terrorism.
Profiling Hazard Events	Each hazard section includes documentation of the history and causes and characteristics of the hazard in the Region.
Assessing Vulnerability: Identifying Assets	The "hazard identification" and "risk assessment" provide a summary of the vulnerability assessment from each hazard and (where data is available) contain the types and numbers of existing buildings, infrastructure and critical facilities exposed to each hazard.
Assessing Vulnerability: Estimating Potential Losses	The calculations of the impact of the hazard (if data was available), the economic exposure, and physical losses, are discussed in this Risk Assessment and under each hazard of this Hazard Mitigation Plan. Vulnerability assessments were completed for the hazards addressed in the plan, and quantitative estimates were made (when data was available) for each hazard.
Assessing Vulnerability: Analyzing Development Trends	The Community Profile Section of this plan provides a description of the development trends in the Region, including the geography and environment, population and demographics, land use and development, housing and community development, employment, business-base, and transportation data.

HAZARD IDENTIFICATION AND RISK ANALYSIS

Hazard identification consists of (1) defining the study area in terms of scale and coverage; and (2) collecting and compiling a list of prevalent hazards in the study area to help narrow the focus of the analysis. The figure below depicts the study area and population density (Las Virgenes-Malibu COG jurisdictions and nearby communities).



Map 12: LVMCOG Study Area and Population Density

Hazard Identification Process

Input on the types of hazards and relative risk was solicited from the Steering Committee and Planning Group. In addition, members of the community were asked for their feedback and participation in a Community Disaster Preparedness and Risk Survey that asked questions regarding the public's general preparedness for disasters as well as which hazards were most likely to impact the local area. The following sections describe the process and results obtained.

Steering Committee and Planning Group

The Steering Committee and Planning Group participated in rating the hazards by taking the Hazard Rating Survey. In addition, in order to get a more comprehensive rating of the hazards, a Planning Group was created to assess the risk and vulnerability of the hazards. This method of tabulation considers the probability, magnitude/severity, the duration and warning time for each hazard and then produces a risk index.

Community Participation

The cities of Agoura Hills, Calabasas, Hidden Hills, Malibu and Westlake Village posted the Community Disaster Preparedness and Risk Survey (see **Annex C**) on their city websites. Based on the results of the survey, community participants felt that earthquake and fire were the most likely hazard events to affect the area. These responses were based on magnitude, impact and probability.

Hazard Risk Survey

The Planning Group along with the Steering Committee completed a Hazard Risk Survey (see **Annex D**) to rank identified hazards according to probability, magnitude/severity, warning time, and duration using the following values.

Probability

Description	Value
Highly Likely: Frequent events with a well-documented history of occurrence OR an annual probability that is greater than 0.1.	4
Likely: Occasional occurrences with at least two or more documented historic events OR an annual probability that is between 0.1 and 0.01.	3
Possible: Rare occurrences with at least one documented or anecdotal historic event OR an annual probability between 0.01 and 0.001.	2
Unlikely: Extremely rare with no documented history of occurrence or events OR an annual probability less than 0.001.	1
Not Applicable	0

Magnitude/Severity

Description	Value
Catastrophic: Severe property damages (greater than 50% of critical and non-critical facilities and infrastructure). Injuries or illnesses result in permanent disability and multiple deaths. Shut down of critical facilities for more than 1 month.	4
Critical: Moderate property damages (greater than 25% and less than 50% of critical and non-critical facilities and infrastructure). Injuries or illnesses result in permanent disability and at least one death. Shut down of critical facilities for more than 1 week and less than 1 month.	3
Limited: Slight property damages (greater than 5% and less than 25% of critical and non-critical facilities and infrastructure). Injuries or illnesses do not result in permanent disability and there are no deaths. Moderate quality of life lost. Shut down of critical facilities for more than 1 day and less than 1 week.	2
Negligible: Negligible property damages (less than 5% of critical and non-critical facilities and infrastructure). Injuries or illnesses are treatable with first aid and there are no deaths. Negligible quality of life lost. Shut down of critical facilities for less than 24 hours.	1
Not Applicable	0

Warning Time

From the initial notification of a possible event to the actual occurrence of the event.

Description	Value
Less than 6 hours or no warning	4
6 to 12 hours	3
12 to 24 hours	2
More than 24 hours	1
Not Applicable	0

Duration

From the start of the event to the return to normal conditions.

Description	Value
More than 1 week	4
Greater than 24 hours, up to 1 week	3
Greater than 6 hours, up to 24 hours	2
Less than 6 hours	1
Not Applicable	0

The following table summarizes the results using the following equation and weighting factors:[5]

Risk = 0.45 * Probability + 0.3 * Magnitude/Severity + 0.15 * Warning Time + 0.1 * Duration

Hazard	Probability	Magnitude or Severity	Warning Time	Duration	Risk
Wildfire	1.53	0.72	0.57	0.38	3.20
Major Earthquake (M6.0 and above)	1.17	0.78	0.6	0.38	2.93
Power Outage / Energy Disruption	1.08	0.66	0.51	0.30	2.55
Severe Heat	1.44	0.60	0.18	0.32	2.54
Major Drought	1.24	0.60	0.15	0.40	2.39
Terrorism	0.54	0.83	0.60	0.33	2.29
Windstorm	0.99	0.60	0.33	0.34	2.26
Hazardous Materials Release	0.72	0.6	0.6	0.28	2.20
Climate Change	1.08	0.53	0.15	0.40	2.16
Storm Surge (Malibu)	0.45	0.60	0.60	0.40	2.05
Tsunami (Malibu)	0.45	0.60	0.60	0.40	2.05
Landslide or Mudslide	0.72	0.54	0.42	0.30	1.98
Severe Winter Storm	0.63	0.60	0.19	0.35	1.77
Flood	0.45	0.38	0.34	0.25	1.41

Table 68: Hazard Rating Survey

[5] Formula published by the Arizona Division of Emergency Management (2008)

Identified Hazards

Based on the risk ratings for each hazard to the region, the Steering Committee and Planning Group chose to incorporate the following hazards into the Hazard Mitigation Plan:

- Earthquake
- Wildfire
- Climate Change (including Drought and Extreme Heat)
- Energy Disruption / Power Outage
- Landslide (including Earth Movement/Debris Flow)
- Windstorm
- Flood and Severe Winter Storm
- Terrorism

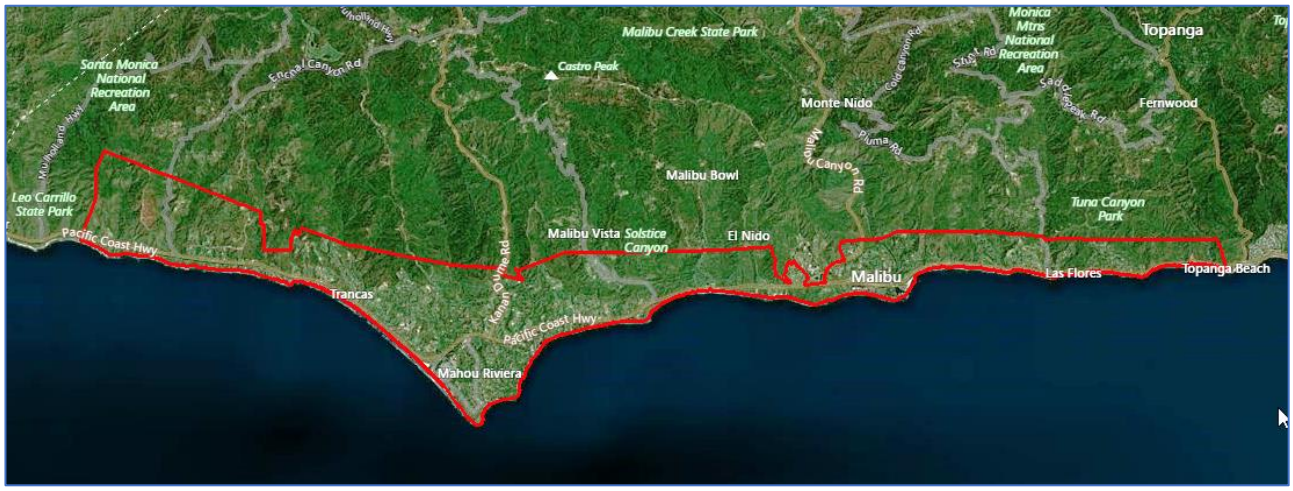
Each of these disasters can have widespread effects that include loss of life and property, disruption to critical infrastructure (utilities, communications, transportation, etc.), and economic impact to the area. Note: The only human generated disaster included in the plan for the Las Virgenes-Malibu Council of Governments is terrorism. Although this threat is viewed as unlikely, the lack of warning time raises the overall risk score.

Other Natural Disasters

Tsunami, storm surge, sea-level rise, and drought are natural disasters that are other potential natural disasters. However, the overall risks of tsunami, storm surge, and sea-level rise are unique to the City of Malibu and not applicable to the other cities within the LVMCOG. Information and a discussion of the impact of tsunami, storm surge, and sea-level rise is included below and in the **Climate Change** section.

Tsunami

Although a tsunami has not been recorded within the Las Virgenes-Malibu Region, the City of Malibu is adjacent to the Pacific Ocean. So, while there is no record of a tsunami or repercussions of such an event in the area, the risk cannot be fully eliminated.



Map 13: City of Malibu Boundaries and Coastline

A 2013, a USGS study[6] developed a hypothetical but plausible tsunami scenario created by an earthquake of magnitude 9.1 along a fault length of 360 km in the Semidi subduction sector off the coast of Alaska. Based on this scenario, the study stated that, *"The SAFRR tsunami scenario demonstrates that many of the currently eroding beaches will have severe tsunami impacts and are at risk of beach loss. Malibu Beach will experience tsunami amplitudes of up to 2.5 m. Current velocities will average 2–3 m/s with some shoreline velocities of 5–8 m/s. The results show that much of the beach will be repeatedly inundated, as will several beach-front properties, including many high value homes."*

Map 14: Tsunami Malibu Flood Zone Scenario of a M9.1 Alaska Earthquake

SOURCE: USGS

[6] Brosnan, Wein, and Wilson, SAFRR Tsunami Scenario – Impacts on California Ecosystems, Species, Marine Natural Resources, and Fisheries, 2013 (USGS Open File Report 2013-1170-G).

To plan for and mitigate the impact of a tsunami to the general public, the City of Malibu has developed a tsunami information brochure and has designated several Tsunami Safe Areas and evacuation routes.

Tsunami Safe Areas
• Malibu Bluffs Park • Hughes Research Labs parking lot • Malibu Creek State Park • Salvation Army Camps (behind Tapia Park)
Evacuation Routes
• Topanga Canyon Blvd. • Malibu Canyon Road • Kanan Road • Encinal Canyon Road • Mulholland Highway

Table 69: City of Malibu Tsunami Safe Areas and Evacuation Routes

Storm Surge

As a coastal community, the City of Malibu is vulnerable to high waves and storm surge. For example, in August 2014, Hurricane Marie caused extremely high surf in the region which resulted in the closure of several beaches in Los Angeles County and damage to the Malibu Pier. During this event, wave heights peaked from 10 to 15 feet. The damage to the pier took more than 2 years to completed at an estimated cost of $4.6 million which included the replacement of at least 59 pilings.[7]

Figure 63: Topanga State Beach

Source: Source: California Department of Parks & Recreation

Figure 64: Malibu Pier
Source: California Department of Parks & Recreation

This risk of storm surge is related to the continued impact of sea-level rise and will continue to escalate as a risk in terms of life, safety, and economic impact into the future. In order to mitigate the threat of sea-level rise, the City of Malibu regulates development activities along the coast in conjunction with the regulatory authority of the State of California.

[7] Tallal, The Malibu Times, Phase II of Malibu Pier Repairs to Being This Week, December 21, 2016.

Sea-Level Rise

According to the City of Malibu General Plan, *"Elevations within the City range from sea level to approximately 1,700 feet above sea level. Most of the developed areas along the coast lie below 100 feet with the exception of the Point Dume and Malibu Park areas which reach an elevation of 500 feet. The hillsides and coastal mesas such as Big Rock and Las Flores have elevations ranging from 300 to 400 feet above sea level."* As a consequence, the threat of sea level rise is a concern. According to a 2016 report on the risk of sea-level rise prepared for the County of Los Angeles[8], the City of Malibu is at risk of sea-level rise due to the close proximity of assets and infrastructure to the shoreline and the anticipated reduction of beach width (sand front) along the coast due to wave runup and inundation. Further, continued sea-level rise will leave the City of Malibu more vulnerable to future storm events. Finally, if the situation continues, the erosion and loss of beaches can have a significant economic impact to the City.

As with the risk of storm surge, the City of Malibu regulates development activities along the coast in conjunction with the regulatory authority of the State of California. Other mitigation strategies in the future that may be undertaken by the State or County of Los Angeles may include beach sand replacement, sand dune maintenance, and shorefront protection strategies. These strategies were summarized in the 2016 report in the table, "Suggested Adaptive Management Strategy for Los Angeles County Public Beach Assets"[8] as follows:

Region	Malibu									Santa Monica Bay							Palos Verdes		
Potential strategy for existing or future asset on beach	**Nicholas Canyon County Beach**	**El Sol County Beach**	**Zuma County Beach**	**Point Dume County Beach**	**Latigo Shores County Beach**	**Dan Blocker County Beach**	**Malibu Surfrider County Beach**	**Las Tunas County Beach**	**Topanga County Beach**	**Will Rogers State Beach**	**Venice Beach**	**Dockweiler State Beach**	**Manhattan Beach**	**Hermosa Beach**	**Redondo Beach**	**Torrance Beach**	**Royal Palms County Beach**	**White Point County Beach**	**Point Fermin Beach**
Temporary winter berm protection			1							2	1	1	2	1	2	2			
Dune building and maintenance	2											2							
Maintain existing sand retention devices										2	2	2			2				
Beach nourishment			3	3					3	3	3	3	3	3	3	3			
Natural dunes and retreat	3	3			3	3	3	3									3	3	3

Adaptive management strategy key

1 = Short term period when sea-level rise is less than than 1 foot
2 = Transitional period when sea-level rise is between 1 and 2 feet
3 = Long term period when sea-level rise exceeeds 2 feet

Table 70: Suggested Adaptive Management Strategy for Los Angeles County Public Beach Assets

[8] Noble Consultants-G.E.C., Inc., Final Report Los Angeles County Public Beach Facilities Sea-Level Rise Vulnerability Assessment, 2016.

Drought

Drought can have a major economic, wildland/wildlife, and human impact. As of 2018, the Las Virgenes-Malibu region and much of the population in the State of California remain under severe drought conditions after more than 6 years of drought (U.S. Drought Monitor for California map below). Additional details on the impact of drought and climate change on the LVMCOG Region are included in the **Climate Change** section of this HMP.

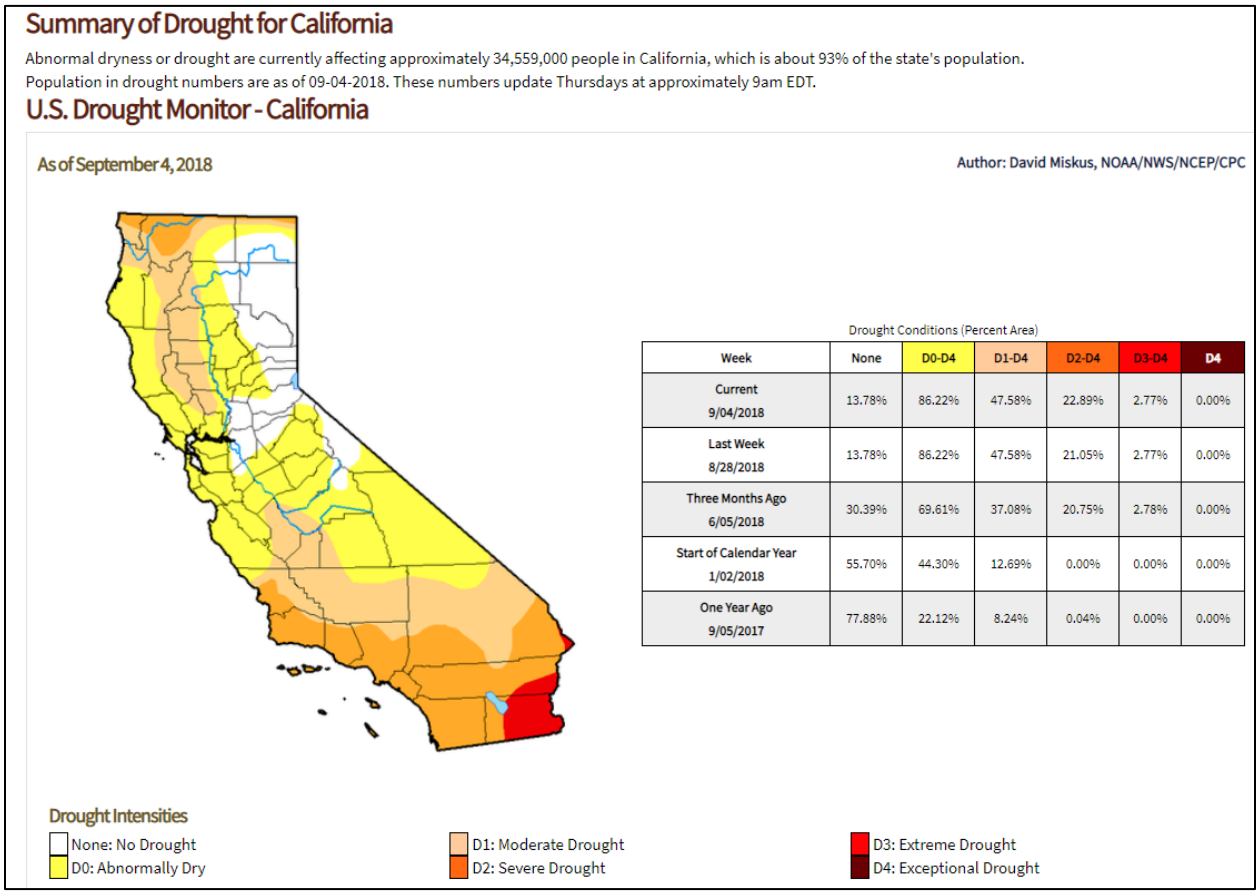


Figure 65: California Drought Monitor, September 2018

Source: National Integrated Drought Information System

Further, it is important to note that drought can have a secondary impact to the hydro-electric power generation capabilities of the entire western U.S. As a result, drought remains a concern for the entire western region.

2011 to 2017 Drought

The 2011 to 2017 drought had a major impact on the entire state including the imposition of water use restrictions, water shortages in some areas, agricultural losses, and an increase in the threat of wildfire.

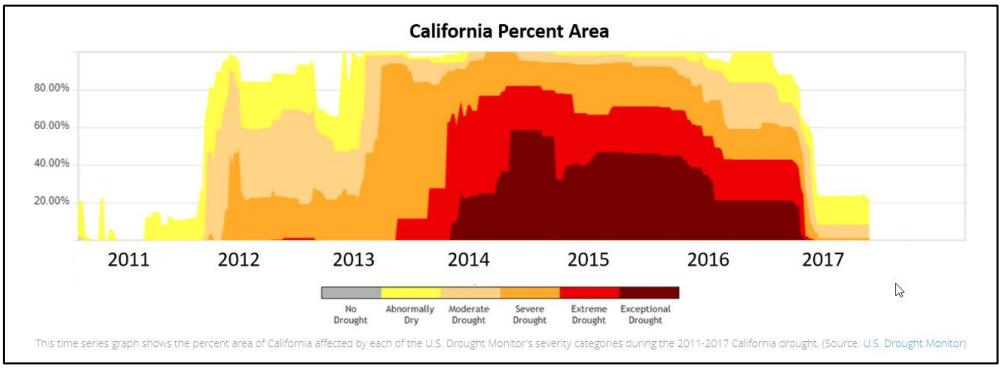
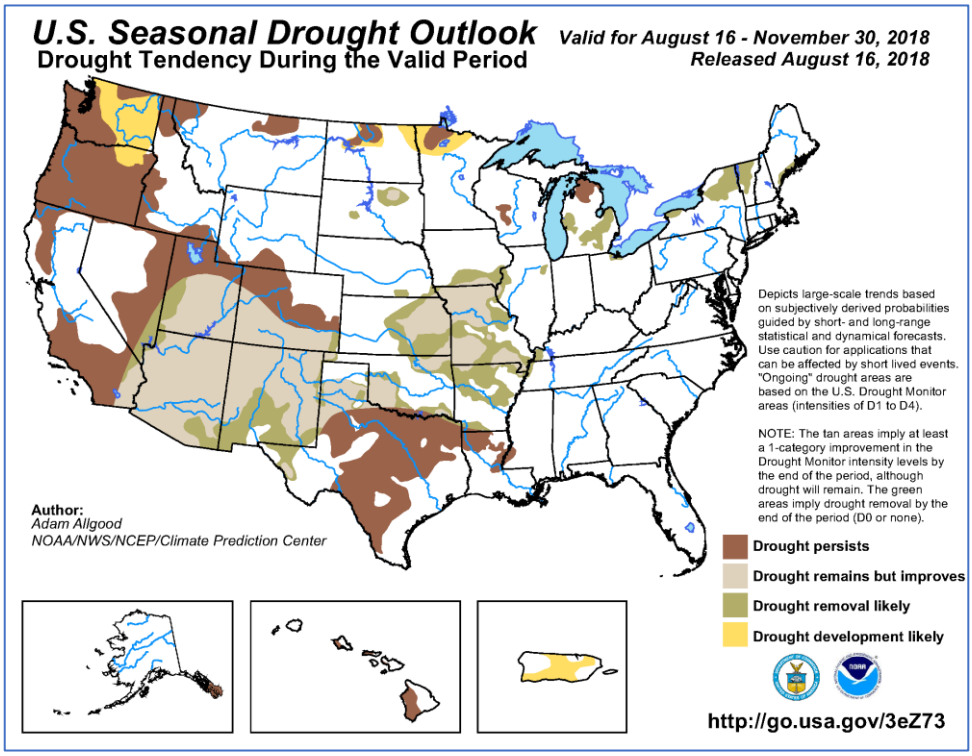


Figure 66: 2011-2017 California Drought Percent of Area Impact by Year
Source: National Integrated Drought Information System

Future Drought Projections

Despite the heavy rains in 2017 that ended the historic California drought, the threat of ongoing and frequent drought remains. In fact, throughout 2018, drought has persisted in Southern California and much of the Western U.S. (see U.S. Seasonal Drought Outlook map below).

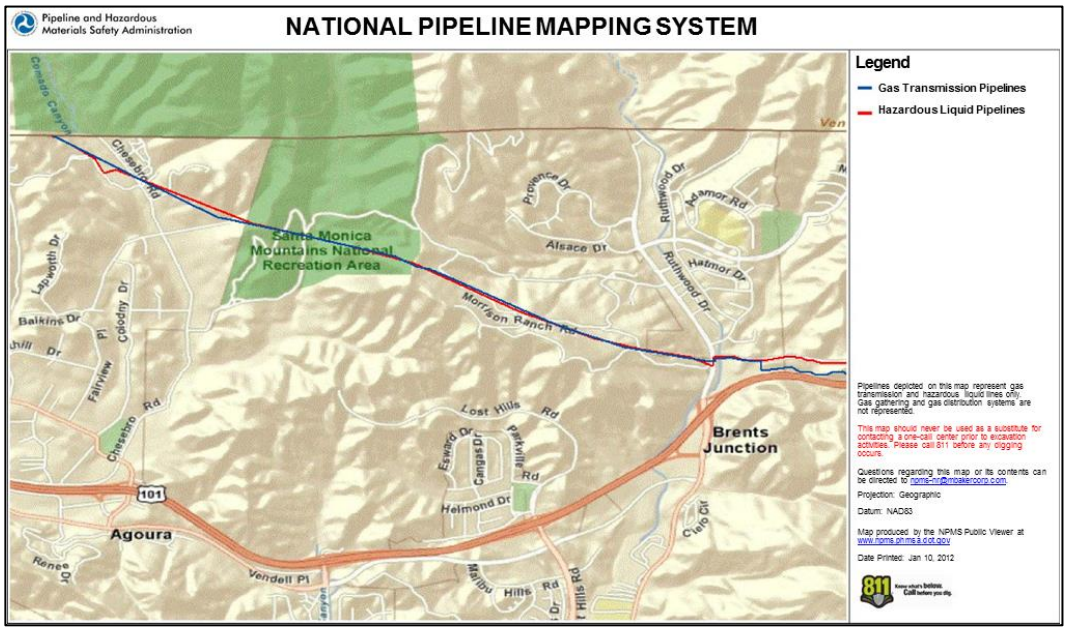


Map 15: U.S. Seasonal Drought Outlook
Source: NWS Climate Prediction Center

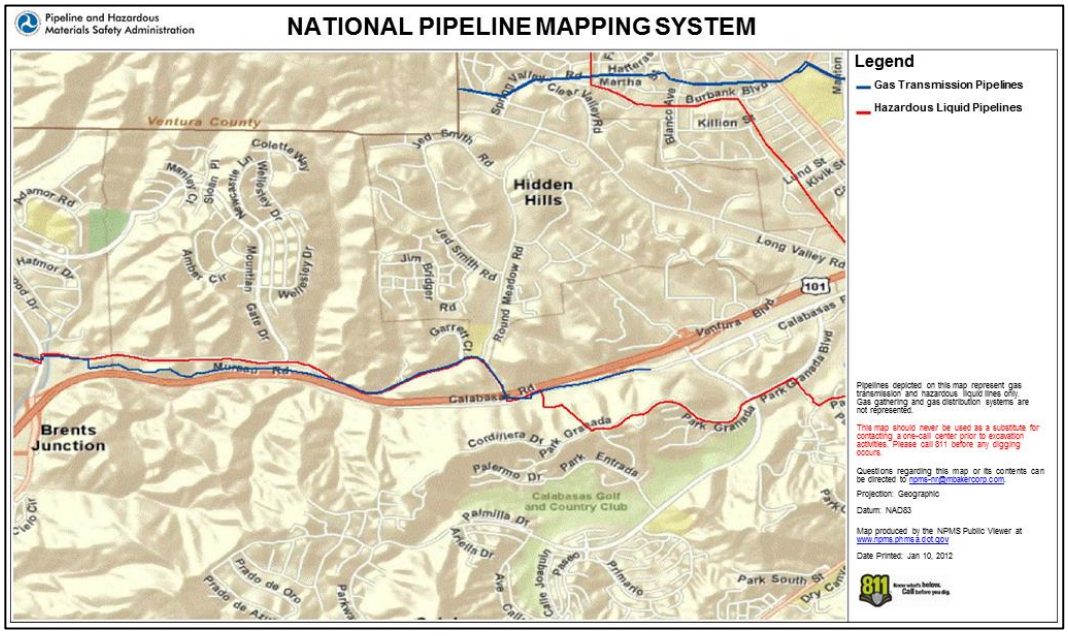
Human Generated and Technology Disasters

Pipeline Rupture / Explosion

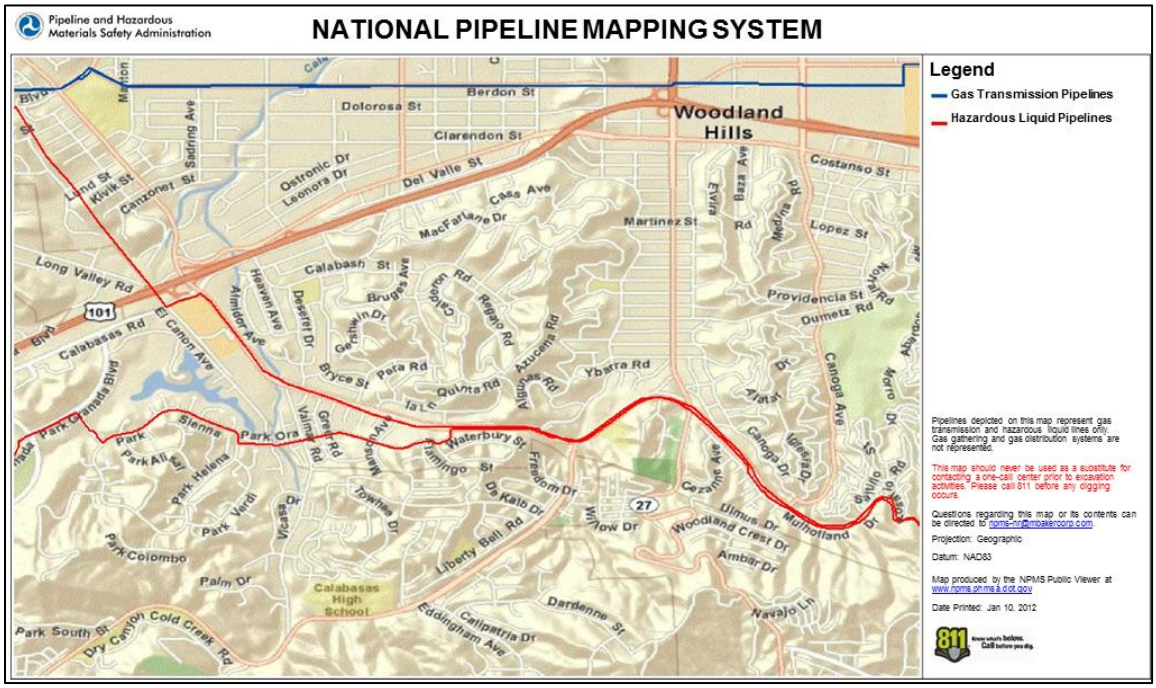
Natural gas transmission and hazardous liquid pipelines are present within the Las Virgenes-Malibu Region and there is a conceivable risk from rupture and/or explosion. Portions of Agoura Hills, Calabasas and Hidden Hills including areas of US 101 (Ventura Freeway), Ventura Boulevard, and surrounding neighborhoods have underground pipelines that pose a potential risk to discrete locations in the community.



Map 16: Pipelines - Agoura Hills



Map 17: Pipelines – West Calabasas and Hidden Hills



Map 18: Pipelines - East Calabasas

The San Bruno, California natural gas transmission pipeline rupture and fire on September 9, 2010 demonstrated the impact of this type of disaster to local populations. The pipeline operated by Pacific Gas and Electric Company ruptured releasing 47.6 million standard cubic feet of natural gas and produced a 72 foot-long by 26 foot-wide crater.

The explosion and resulting fire killed 8 people, left numerous injuries, destroyed 38 homes and damaged 70.[9] In addition, people in the surrounding neighborhood had to be evacuated until the danger subsided. While catastrophic in terms of lives and property loss, a pipeline rupture and/or explosion would be a localized event and not impact the Las Virgenes-Malibu Region as a whole. In terms of regional impact, the most widespread disruption would occur if there were significant damage to US 101. This would cause transportation issues for the entire area.

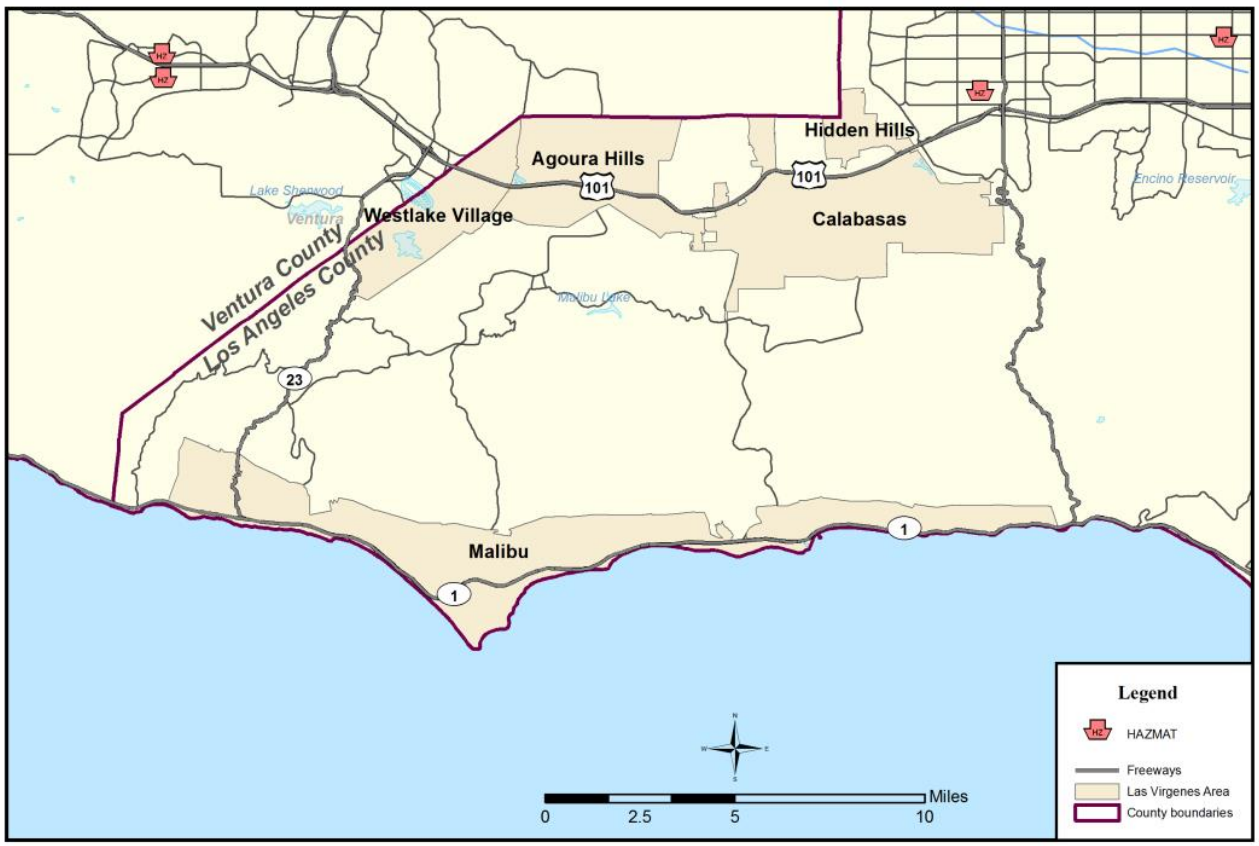
Figure 67: San Bruno Pipeline Explosion

Source: Cal-OES

[9] NTSB Pipeline Accident Report, Pacific Gas and Electric Company Natural Gas Transmission Pipeline Rupture and Fire, San Bruno, California, September 9, 2010 (NTSB Number: PAR-11-01, NTIS Number: PB2011-916501, Adopted: August 30, 2011).

Hazardous Material Accidents

The Las Virgenes-Malibu Region could be affected by hazardous materials incidents. The spills/releases of material can result from both stationary and mobile sources. The level of exposure from stationary sources is considered to be very low, due to the types of business and industry conducted within the Region (traffic from major highways and railways still pose a risk). Although there are sites in the general vicinity known to harbor hazardous materials, there is no record of a major hazardous material spill or incident in the cities within the Region. Because of this low historical frequency, the Steering Committee did not address this disaster. The following map identifies minimal hazardous waste handlers and generators in the vicinity.



Map 19: Hazardous Materials Sites

Aircraft Crash

The airports nearest to the Las Virgenes-Malibu Region which handle the greatest amount of air traffic that could cause a risk to the area are Los Angeles International Airport and Burbank Bob Hope Airport. There are also multiple general aviation airports, military airports, and heliports that support air traffic in the Los Angeles region.

The airports within 25 miles of the Las Virgenes-Malibu Region are:

- Los Angeles International Airport
- Santa Monica Municipal Airport
- Van Nuys Airport
- Whiteman Airport (including Los Angeles County Fire Department operations from Barton Heliport)
- Burbank (Bob Hope) Airport
- Camarillo Airport
- Hawthorne Municipal Airport

There is a small but existing risk of an aircraft crash in the Las Virgenes-Malibu Region. Nevertheless, if an aircraft were to crash, the impact would be limited to a localized area and would not disrupt the entire region.

Map 20: Airports within 25 miles

Civil Unrest/Riot

Los Angeles County experienced the Los Angeles Civil Unrest in 1992 and the Watts Riots in 1965. During these periods, the Las Virgenes-Malibu Region suffered no loss of life or property. Similarly, during 2011 "Occupy LA" and other civil protests were staged in Los Angeles County and across the U.S. While somewhat disruptive to the immediate vicinities and targeted sites, the Las Virgenes-Malibu Region was unaffected. As a result, the actual risk of a riot or major civil disturbance is considered minimal.

VULNERABILITY AND LOSS ESTIMATES

Assessing vulnerability is a three-step process. The first step is to identify existing structures and critical facilities that are located within the hazard area. Government critical facilities are of particular concern because these buildings provide essential products and services to the general public that are necessary to preserve the welfare and quality of life in the Region and fulfill important public safety, emergency response, and/or disaster recovery functions.

Once existing structures are identified, the next step is to include an estimate of losses for the identified asset. Estimating potential loss involves assessing the damage, injuries, and financial costs likely to be sustained in a geographic area over a given period of time. This level of analysis involves using mathematical models.

The two measurable components of risk analysis are magnitude of the harm that may result and the likelihood of the harm occurring. Describing vulnerability in terms of dollar losses provides the community and the state with a common framework in which to measure the effects of hazards on assets. The last step in assessing the Region's vulnerability to hazards is to analyze development trends in the Region.

The following loss exposures have been developed using HAZUS-MH base data. Per HAZUS-MH the total exposure for the Las Virgenes-Malibu COG area is more than $11 billion.

NOTE: HAZUS-MH utilizes data at the block level from diverse sources such as the U.S. Census. Due to the data compilation process, estimates based on city boundaries are difficult to generate. Consequently, the HAZUS-MH data presented in this Risk Assessment groups some areas as indicated. Neighboring cities are included for reference purposes.

City Name	Total Exposure [$B]	Residential [$B]	Commercial [$B]	Industrial [$B]
Agoura Hills (including Agoura)	3.892	3.291	0.508	0.093
Calabasas / Hidden Hills	2.132	1.826	0.271	0.035
Malibu	2.658	1.893	0.742	0.023
Westlake Village Area	2.25	1.661	0.522	0.067
Totals	**10.932**	**8.671**	**2.043**	**0.218**

Table 71: Estimated Building Distribution by Key Occupancy

Profiling Hazards

The profiling hazards process describes the causes and characteristics of each hazard, how the selected hazard has affected the Las Virgenes-Malibu Region in the past, and what part of the Las Virgenes-Malibu Region population, infrastructure, and environment has historically been vulnerable to each specific hazard. A careful examination of hazard event profiles within the study area provides a reference point for understanding the potential impacts from future events.

Reviewing historic data assists in evaluating hazard event profiles. Hazard profiles focus on answering the following questions: *What/Where/How Often/How Bad?* Summaries of the hazards included in this plan are provided below. Detailed profiles are provided in each of the individual hazard sections included in this plan:

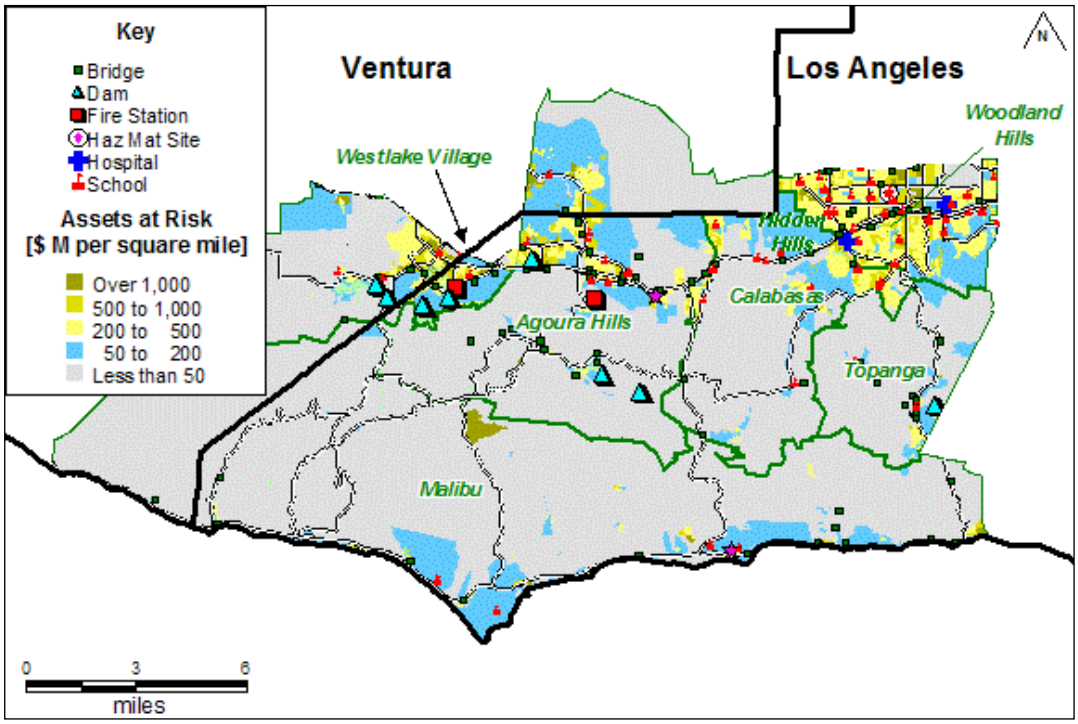
- Section 6 Earthquake
- Section 7 Wildfire
- Section 8 Climate Change
- Section 9 Energy Disruption
- Section 10 Landslide
- Section 11 Severe Wind
- Section 12 Flood
- Section 13 Terrorism

Facilities and Infrastructure Overview

Critical and essential facilities are those facilities that are vital to the continued delivery of key government services or that may significantly impact the public's ability to recover from the emergency. The lists below and on the following pages illustrate the critical and essential facilities and public infrastructure within the Las Virgenes-Malibu Region. These facilities were deemed "critical" by the Steering Committee along with Planning Group.

City Name	Schools	Hospitals	Bridges	Dams
Agoura Hills (including Agoura)	10	0	17	3
Calabasas / Hidden Hills	11	0	7	0
Malibu	6	0	15	0
Westlake Village Area	6	1	9	4

Table 72: Estimated Number of Critical Facilities in the Area



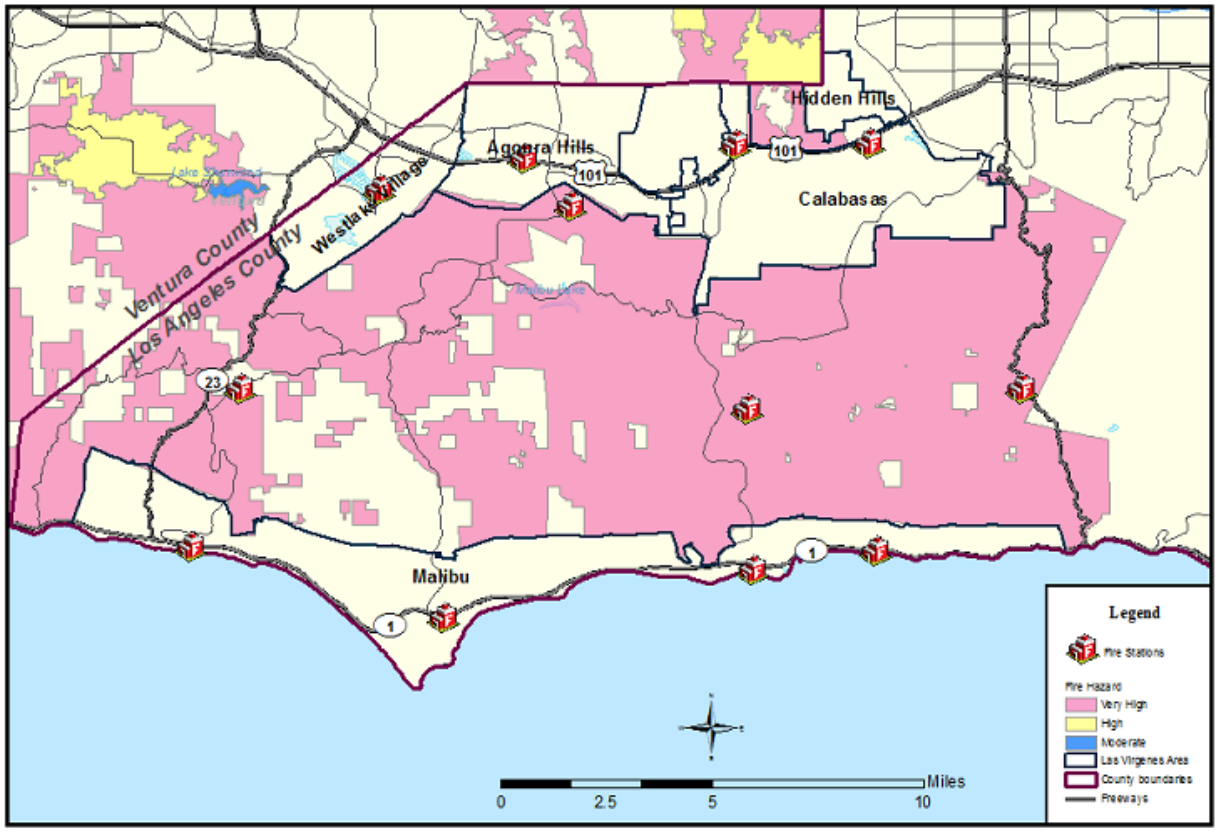
Map 21: Estimated Critical Facilities in the Area

Fire Stations

The following fire stations are located within the Las Virgenes-Malibu COG Region.

LOS ANGELES COUNTY FIRE DEPARTMENT BATTALION 5	
Fire Station #65	4206 N Cornell Rd, Agoura, 91301
Fire Station #67	25801 Piuma Rd, Calabasas, 91302
Fire Station #68	24130 Calabasas Rd, Calabasas, 91302
Fire Station #69	401 S Topanga Cyn Blvd, Topanga, 90290
Fire Station #70 - Headquarters	3970 Carbon Cyn Rd, Malibu, 90265
Fire Station #71	28722 W Pacific Coast Hwy, Malibu, 90265
Fire Station #72	1832 Decker Canyon Rd, Malibu, 90265
Fire Station #88	23720 W Malibu Rd, Malibu, 90265
Fire Station #89	29575 Canwood St., Agoura Hills, 91301
Fire Station #99	32550 Pacific Coast Hwy, Malibu, 90265
Fire Station #125	5215 N Las Virgenes Rd, Calabasas, 91302
Fire Station #144	31981 Foxfield Dr, Westlake Village, 91361

Table 73: Las Virgenes-Malibu COG Fire Stations



Map 22: Las Virgenes-Malibu COG Fire Hazard Areas and Fire Stations

Los Angeles County Sheriff's Stations

The LVMCOG region's sheriff's station is located at 27050 Agoura Road, Agoura Hills, CA 91301. This station serves the western portion of Los Angeles County, which is a blend of residential, rural, mountain, beach and recreational areas. The cities served by this station include Agoura Hills, Calabasas, Hidden Hills, Malibu, and Westlake Village as well as the unincorporated communities of Chatsworth Lake Manor, Malibu Lake, Topanga, and West Hills.

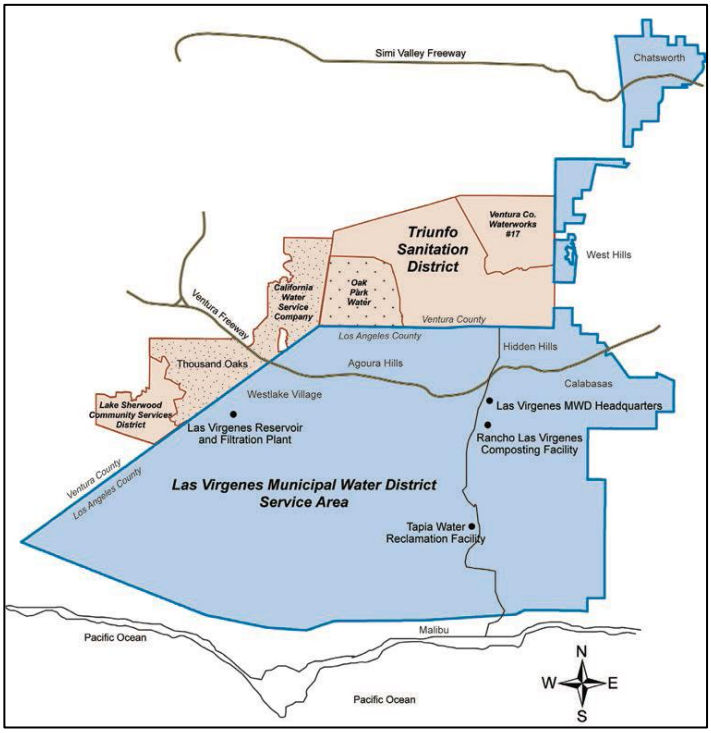
Las Virgenes Municipal Water District

The Las Virgenes Municipal Water District (LVMWD) serves the cities of Agoura Hills, Calabasas, Hidden Hills and Westlake Village (the City of Malibu is served by Los Angeles County Water District 29). They have 24 water tanks and 24 pumping stations, 10,000 acre-foot Las Virgenes Reservoir, and the Westlake Village Filtration Plat.

The Las Virgenes Reservoir dam is located at 2860 Three Springs Drive, Westlake Village. The water filtration plant is located at 32601 Torchwood Place, Westlake Village. Water is also purchased from the Metropolitan Water District of Southern California (MWD).

The LVMWD takes precautions to secure their facilities including fencing sites and securing facilities with alarms. Major facilities have security access gates locked 24/7 and a security company monitors and responds to alarms.

The district has operating and response procedures to ensure that any potential interruption of services will be as short as possible. Further, the district has completed a Vulnerability Assessment as required by federal law to assess and mitigate any potential security issues.



Map 23: Las Virgenes Municipal Water District Service Area

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Summary of Critical Facilities and Infrastructure

The following locations have been identified by the individual cities within the Las Virgenes- Malibu COG as essential due to the impact of a disaster on the public (e.g., large public meeting places), economy, or key infrastructure. The Critical Infrastructure Sectors listed are based on Homeland Security Presidential Directive 7 (HSPD-7).

Critical Infrastructure Sectors	Description	Agoura Hills	Calabasas	Hidden Hills	Malibu	Westlake Village
Agriculture and Food	Farming, livestock, poultry, food distribution, etc.	N/A	N/A	N/A	N/A	Dole Foods
Banking and Finance	Banks, thrifts, credit unions, insurers, securities brokers/dealers, investment companies, financial services, etc. Includes Bank / Financial headquarters, loan processing centers, credit card processing centers, data centers	Bank of America	Bank of America	N/A	N/A	Bank of America
Chemical Industry	Chemical manufacturers, pharmaceutical, consumer products, agricultural chemicals, etc.	N/A	N/A	N/A	N/A	N/A
Commercial Facilities	Public Assembly (e.g., arenas, stadiums, aquariums, zoos, museums, convention centers), Sports Leagues (e.g., professional sports leagues and federations) Gaming (e.g., casinos), Lodging (e.g., hotels, motels, conference centers), Outdoor Events (e.g., theme and amusement parks, fairs, campgrounds, parades), Entertainment and Media (e.g., motion picture studios, broadcast media), Real Estate (e.g., office/apartment buildings, condominiums, mixed-use facilities, self-storage) and, Retail (e.g., retail centers and districts, shopping malls)	Civic Center Recreation and Event Center Agoura Hills Commercial Center Agoura Hills Town Center Reyes Adobe Plaza Whizin Market Square Twin Oaks Shopping Center Shops at Oak Creek Sheraton Agoura Hills Hampton Inn & Suites Homewood Suites Regency 8 Theater	Civic Center Creekside Village The Commons (retail, food, entertainment) Parkway Calabasas The Summit at Calabasas Auto Row Hilton Garden Inn The Anza A Hotel Edwards 6 Theater	Community Center (not city owned)	Civic Center Malibu Village Malibu Colony Plaza Malibu Country Mart Point Dume Plaza Shopping Center Trancas Country Market Zuma Beach Evacuation Area Malibu Playhouse Lisa Smith Wengler Center for the Arts	Civic Center County Line Shopping Center North Ranch Gateway Northgate Plaza Shoppes at WLV Westlake Plaza Four Seasons Hotel Hyatt Regency Hotel Residence Inn Westlake Village Inn Regency Theatre Cinepolis Cinemas

Critical Infrastructure Sectors	Description	Agoura Hills	Calabasas	Hidden Hills	Malibu	Westlake Village
Communications	Terrestrial, satellite, and wireless transmission systems (major hubs, transmission/reception centers, etc.)	Spectrum Communications LVUSD & City Antennas City CERT Antenna (Kimberly Peak)	N/A	N/A	N/A	Time Warner Building Agoura Road, Fiber Optics trunk Line parallel to 101 freeway and La Tienda
Critical Manufacturing	Primary metal manufacturing (iron and steel mills, ferro-alloys, aluminum, nonferrous metal production and processing), machinery manufacturing (engine, turbine, power transmission), electrical equipment (electrical equipment, appliance, and component manufacturing), transportation equipment manufacturing (motor vehicle, aerospace, railroad, etc.)	N/A	N/A	N/A	N/A	N/A
Dams	Dams, navigation locks, levees, hurricane barriers, mine tailings impoundments, or other similar water retention and/or control facilities	N/A	N/A	N/A	N/A	Banning Dam Las Virgenes Reservoir
Defense Industrial Base	Department of Defense (DoD), government, and the private sector worldwide industrial complex with the capabilities of performing research and development, design, production, delivery, and maintenance of military weapons systems, subsystems, components, or parts to meet military requirements	N/A	N/A	N/A	HRL Laboratories	N/A
Emergency Services	First-responder disciplines that include: emergency management, emergency medical services, fire, hazardous material, law enforcement, bomb squads, tactical operations/special weapons assault teams, and search and rescue	LA County Fire Station #89	LA County Fire Stations: #68 and #125 LA County Sheriff Lost Hills Station	Hidden Hills EOC	LA County Fire Station #70: Battalion HQ LA County Fire Stations: #71, #72, #88, #99	LA County Fire Station #144
Energy	Electricity, petroleum, natural gas	Natural Gas Pipelines Oil Pipelines Edison Substation	Natural Gas Pipelines Oil Pipelines	Oil Pipelines	N/A	N/A

Critical Infrastructure Sectors	Description	Agoura Hills	Calabasas	Hidden Hills	Malibu	Westlake Village
Government Facilities	General-use office buildings and special-use military installations, embassies, courthouses, national laboratories, and structures that may house critical equipment and systems, networks, and functions as well as cyber elements that contribute to the protection of sector assets (e.g., access control systems and closed-circuit television systems) and the protection of individuals who possess tactical, operational, or strategic knowledge or perform essential functions	Agoura Hills City Hall Agoura Hills Library	Calabasas City Hall Calabasas Library	Hidden Hills City Hall	Malibu City Hall	Westlake Village City Hall
Information Technology	Public and private sector information systems including the Internet	IBM Corporation Teradyne Inc.	Alcatel Internetworking IXIA Communications	N/A	N/A	N/A
National Monuments and Icons	Listed in the National Register of Historic Places, List of National Historic Landmarks, icons, or other recognized physical structures, objects, or geographic sites	Reyes Adobe Historical Site Leonis Adobe Museum	N/A	N/A	N/A	N/A
Nuclear Reactors, Materials, and Waste	Nuclear power plants; non-power nuclear reactors used for research, testing, and training; nuclear materials used in medical, industrial, and academic settings; nuclear fuel fabrication facilities; decommissioning reactors; and the transportation, storage, and disposal of nuclear material and waste	N/A	N/A	N/A	N/A	N/A
Postal & Shipping	High volume processing facilities, delivery units, collection locations, retail operations, transport vehicles, postal/delivery information and communications networks	U.S. Post Office	N/A	N/A	N/A	N/A
Healthcare and Public Health	Public and private hospitals and healthcare facilities	N/A	N/A	N/A	N/A	N/A
Transportation	Aviation, highways, maritime transportation, mass transit, pipeline systems, and rail	101 Freeway Pipelines (see Energy)	101 Freeway Natural Gas and Oil Pipelines (see Energy)	101 Freeway	Highway 1 PCH	101 Freeway

Critical Infrastructure Sectors	Description	Agoura Hills	Calabasas	Hidden Hills	Malibu	Westlake Village
Water	Drinking water and waste water	Water Storage Tanks	Las Virgenes Malibu Water District HQ	N/A	Water Storage Tanks	Las Virgenes Reservoir
Other	Other locations not otherwise defined	N/A	Round Meadow Elementary School (not city owned)	N/A	N/A	N/A

Table 74: Summary of Critical Facilities and Infrastructure

Earthquake and Flood Loss Estimates

The **Hazards U.S. Multi-Hazard (HAZUS-MH)** tool is a nationally applicable standardized methodology. The Federal Emergency Management Agency (FEMA) developed HAZUS-MH under contract with the National Institute of Building Sciences (NIBS). HAZUS-MH uses state-of-the-art Geographic Information Systems (GIS) software to map and display hazard data and the results of damage and economic loss estimates for buildings and infrastructure. It also allows users to estimate the impacts of earthquakes, hurricane winds, and floods on populations. The following loss exposures have been developed using HAZUS-MH (from available base data).

NOTE: HAZUS-MH utilizes data at the census tracts/block level from diverse sources such as the U.S. Census. Due to the data compilation process, estimates based on city boundaries are difficult to generate. Consequently HAZUS-MH data groups some areas and city specific figures should be considered approximate. Also, for security reasons some data (such as pipeline and potable water locations) are not included. Furthermore, the following disclaimer applies to HAZUS-MH generated reports:

> ***Disclaimer:***
> *The estimates of social and economic impacts contained in this report were produced using HAZUS loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific earthquake. These results can be improved by using enhanced inventory, geotechnical, and observed ground motion data.*

HAZUS-MH Estimated Dollar Exposure

Dollar Exposure represents the value of residential, commercial, and industrial properties in the area. Note: the sums provided are not equal to the total value of the area since some groups such as agriculture, government, and education are omitted.

City Name	Total Exposure [$B]	Residential [$B]	Commercial [$B]	Industrial [$B]
Agoura Hills (including Agoura) Note: HAZUS-MH aggregates portions of Agoura Hills under Westlake Village	1.833	1.273	0.431	0.077
Calabasas/Hidden Hills	3.355	2.781	0.468	0.043
Malibu	3.453	2.271	1.070	0.044
Westlake Village (includes portions of Agoura Hills and Los Angeles County)	2.998	2.231	0.602	0.092
Totals	**11.639**	**8.555**	**2.571**	**0.257**

Table 75: Estimated $ Exposure

City Name	Total Depreciated Exposure [$B]	Depreciated Residential [$B]	Depreciated Commercial [$B]	Depreciated Industrial [$B]
Agoura Hills (including Agoura) Note: HAZUS-MH aggregates portions of Agoura Hills under Westlake Village	1.278	0.909	0.286	0.051
Calabasas/Hidden Hills	2.323	1.972	0.287	0.025
Malibu	2.207	1.493	0.653	0.025
Westlake Village (includes portions of Agoura Hills and Los Angeles County)	2.062	1.590	0.370	0.056
Totals	**7.870**	**5.964**	**1.595**	**0.157**

Table 76: Estimated Depreciated Exposure

HAZUS-MH Estimated Building Counts

Estimated Building Counts represent the number of residential, commercial, and industrial properties in the area. Note: the sums provided are not equal to the total number of the area since some groups such as agriculture, government, and education are omitted.

City Name	Total Number of Buildings	Residential Buildings	Commercial Buildings	Industrial Buildings
Agoura Hills (including Agoura) Note: HAZUS-MH aggregates portions of Agoura Hills under Westlake Village	4,751	4,193	397	108
Calabasas/Hidden Hills	10,816	9,989	577	153
Malibu	8,996	8,132	594	165
Westlake Village (includes portions of Agoura Hills and Los Angeles County)	9,548	8,700	614	154
Totals	**34,111**	**31,014**	**2,183**	**580**

Table 77: Estimated Building Count

HAZUS-MH Loss Scenarios

The following HAZUS-MH loss estimates were generated for two earthquake and two flood scenarios:

- Magnitude 7.0 Simi-Santa Rosa Fault Earthquake
- Magnitude 7.0 Malibu Coast Fault Earthquake
- 50-year Flood
- 100-year Food

In terms of earthquake, the Simi-Santa Rosa Fault and Malibu Coast Fault were selected based on their proximity to the study area and potential magnitude. For each earthquake scenario, a hypothetical epicenter was chosen to model the impact on the local area. Based on HAZUS-MH projections, maps of Peak Ground Acceleration and potential losses were generated. For reference purposes, the USGS developed an Instrumental Intensity Scale that provides relative values for selected PGA ranges.

Instrumental Intensity	Acceleration (g)	Perceived Shaking	Potential Damage
I	< 0.0017	Not Felt	None
II-III	0.0017 - 0.014	Weak	None
IV	0.014 - 0.039	Light	None
V	0.039 - 0.092	Moderate	Very light
VI	0.092 - 0.18	Strong	Light
VII	0.18 - 0.34	Very Strong	Moderate
VIII	0.34 - 0.65	Severe	Moderate to Heavy
IX	0.65 - 1.24	Violent	Heavy
X+	> 1.24	Extreme	Very Heavy

Table 78: USGS PGA Instrumental Intensity Scale

Flood estimates used 50-year and 100-year scenarios. A 100-year flood is defined as an event having a one percent chance of being equaled or exceeded in any given year. This is the regulatory standard "base flood". The base flood is used by the NFIP and all Federal agencies for the purposes of requiring the purchase of flood insurance and regulating new development. Base Flood Elevations (BFEs) are typically shown on Flood Insurance Rate Maps (FIRMs). A 50-year flood has a 2% chance of being equaled or exceeded in any given year.

Magnitude 7.0 Simi-Santa Rosa Fault Earthquake Scenario

HAZUS-MH was used to estimate the impact of a magnitude 7.0 earthquake on the Simi-Santa Rosa Fault (epicenter "red circle" at Latitude 34.2902 Longitude -118.741 and a depth of 1 Km with a rupture length of 35.48 Km). The map below depicts the estimated Peak Ground Acceleration for the area.

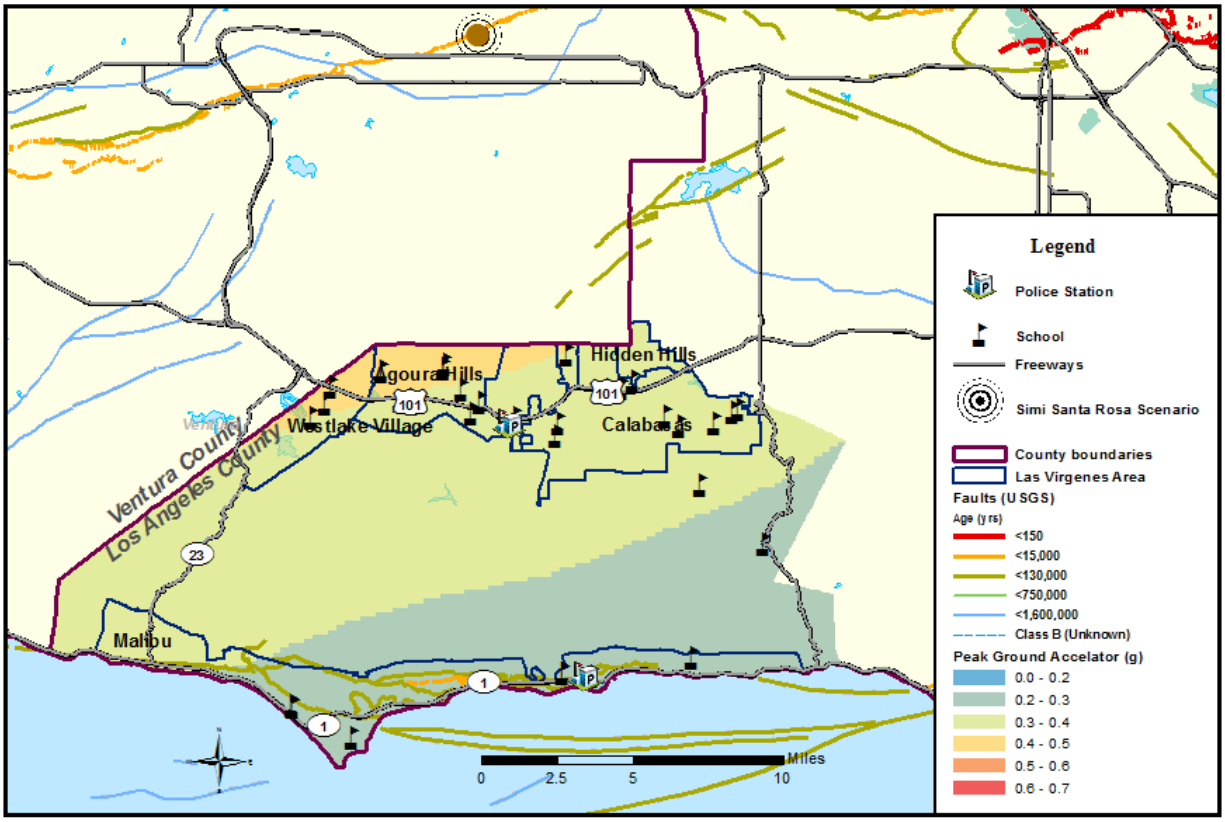


Figure 68: Simi-Santa Rosa M7.0 EQ Peak Ground Acceleration Estimate

Based on projected Peak Ground Acceleration, the greatest impact (and damage) will be in the Agoura Hills and Westlake Village areas (PGA 0.4 to 0.5). This corresponds to severe shaking and moderate to heavy damage. Though somewhat less intense, Calabasas and Hidden Hills (PGA 0.3 to 0.4) would also experience severe shaking and moderate to heavy damage while Malibu (PGA 0.2 to 0.3) would experience very strong shaking with moderate damage.

Additional projected impacts on the Las Virgenes-Malibu Council of Governments area are included in the following sections for:

- Casualties
- Shelter Requirements
- Fire
- Debris Generation
- Financial Impact to Infrastructure and Buildings
- Damage by Building and Facility Type
- Economic Loss

Casualties

HAZUS-MH estimates the number of people that will be injured and killed by the earthquake. The casualties are broken down into four (4) severity levels that describe the extent of the injuries. The levels are described as follows:

Severity Level 1	Injuries will require medical attention, but hospitalization is not needed.
Severity Level 2	Injuries will require hospitalization but are not considered life-threatening.
Severity Level 3	Injuries will require hospitalization and can become life threatening if not promptly treated.
Severity Level 4	Victims are killed by the earthquake.

Casualty estimates are provided for three (3) times of day: 2:00 AM, 2:00 PM and 5:00 PM. These times represent the periods of the day that different sectors of the community are at their peak occupancy loads. The 2:00 AM estimate considers that the residential occupancy load is at maximum, the 2:00 PM estimate considers that the educational, commercial and industrial sector loads are at maximum and 5:00 PM represents peak commute time. The table below provides a summary of the casualties estimated for this earthquake scenario.

Time	Sector	Level 1	Level 2	Level 3	Level 4
2 AM	Commercial	4	1	0	0
	Commuting	0	0	0	0
	Educational	0	0	0	0
	Hotels	1	0	0	0
	Industrial	5	1	0	0
	Other-Residential	28	6	1	1
	Single Family	47	5	0	0
	Total	**85**	**13**	**1**	**1**
2 PM	Commercial	190	48	7	14
	Commuting	0	0	0	0
	Educational	36	9	1	3
	Hotels	0	0	0	0
	Industrial	40	10	2	3
	Other-Residential	4	1	0	0
	Single Family	7	1	0	0
	Total	**277**	**69**	**10**	**20**
5 PM	Commercial	152	38	6	11
	Commuting	30	42	69	13
	Educational	5	1	0	0
	Hotels	0	0	0	0
	Industrial	25	6	1	2
	Other-Residential	10	2	0	0
	Single Family	18	2	0	0
	Total	**240**	**91**	**76**	**26**

Table 79: Simi-Santa Rosa Fault M7.0 EQ Casualty Estimates

Shelter Requirement

HAZUS-MH estimates the number of households that are expected to be displaced from their homes due to the earthquake and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 195 households to be displaced due to the earthquake. Of these, 104 people will seek temporary shelter in public shelters.

Fires

Fires often occur after an earthquake. Because of the number of fires and the lack of water to fight the fires, they can often burn out of control. HAZUS-MH uses a Monte Carlo simulation model to estimate the number of ignitions and the amount of burnt area. For this scenario, the model estimated that there would be little or no impact of fires to the area.

Debris Generation

HAZUS-MH estimates the amount of debris that will be generated by the earthquake. The model classifies debris into two general categories: a) Brick/Wood and b) Reinforced Concrete/Steel. This distinction is made because of the different types of material handling equipment required to handle the debris.

The model estimates that a total of 0.22 million tons of debris will be generated. Of the total amount, Brick/Wood comprises 31.00% of the total, with the remainder being Reinforced Concrete/Steel. If the debris tonnage is converted to an estimated number of truckloads, it will require 8,880 truckloads (@25 tons/truck) to remove the debris generated by the earthquake.

Financial Impact to Infrastructure and Buildings

The following estimates were generated using HAZUS-MH.

System	Component	# Locations/ # Segments	Replacement Value (millions of dollars)
Highway	Bridges	67	80.1
	Segments	28	901.1
	Tunnels	7	17.9
		Total	**999.1**

Table 80: Simi-Santa Rosa Fault M7.0 EQ Transportation System Lifeline Inventory Replacement Values

System	Component	# Locations / Segments	Replacement Value (millions of dollars)
Potable Water	Distribution Lines	Multiple	28.6
	Facilities	0	0.0
		Subtotal	28.6
Waste Water	Distribution Lines	Multiple	17.2
	Facilities	2	170.2
		Subtotal	187.3
Natural Gas	Distribution Lines	Multiple	11.5
	Facilities	0	0.0
		Subtotal	11.5
		Total	**454.7**

Table 81: Simi-Santa Rosa Fault M7.0 EQ Water Utility Lifeline Inventory Replacement Values

Note: Electric Power, Communication, and Oil System data was not available.

Occupancy Type	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	45	0.28	28	0.26	20	0.47	8	0.9	3	1.18
Commercial	794	4.96	502	4.64	490	11.48	210	24.51	68	27.38
Education	30	0.19	16	0.15	11	0.26	4	0.46	1	0.44
Government	14	0.09	7	0.07	7	0.16	3	0.37	1	0.44
Industrial	194	1.21	129	1.19	139	3.24	64	7.42	23	9.05
Other Residential	1,504	9.39	1,066	9.86	799	18.7	383	44.63	105	42.4
Religion	49	0.31	30	0.27	24	0.56	11	1.24	4	1.46
Single Family	13,388	83.57	9,037	83.56	2,782	65.12	175	20.47	44	17.65
Total	**16,018**		**10,815**		**4,272**		**858**		**249**	

Table 82: Simi-Santa Rosa Fault M7.0 EQ Expected Building Damage by Occupancy

Damage by Building and Facility Type

Building Type	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Wood	14,552	90.84	9827	90.86	3,039	71.15	200	23.32	56	22.43
Steel	213	1.33	143	1.32	198	4.64	99	11.55	33	13.19
Concrete	255	1.59	161	1.49	129	3.02	64	7.46	24	9.59
Precast	191	1.19	123	1.14	145	3.39	60	6.94	17	6.68
RM	508	3.17	196	1.82	198	4.62	85	9.97	18	7.34
URM	64	0.4	50	0.46	51	1.21	23	2.69	10	4.17
MH	237	1.48	315	2.91	511	11.97	326	38.06	91	36.6
Total	16,020		10,815		4,271		857		249	

Table 83: Simi-Santa Rosa Fault M7.0 EQ Expected Building Damage by Building Type

Notes:
RM Reinforced Masonry
URM Unreinforced Masonry
MH Manufactured Housing

Classification	Total	Number of Facilities		
		At Least Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Schools	32	0	0	14

Table 84: Simi-Santa Rosa Fault M7.0 EQ Expected Damage to Essential Facilities - Schools

System	Component	Locations/ Segments	Number of Locations			
			With at Least Mod. Damage	With Complete Damage	With Functionality > 50%	
					After Day 1	After Day 7
Highway	Bridges	67	4	0	62	67
	Segments	28	0	0	28	28
	Tunnels	7	0	0	7	7

Table 85: Simi-Santa Rosa Fault M7.0 EQ Expected Damage to Transportation Systems

System	Total #	Number of Locations			
		With at Least Mod. Damage	With Complete Damage	With Functionality > 50%	
				After Day 1	After Day 7
Waste Water	2	2	0	0	2

Table 86: Simi-Santa Rosa Fault M7.0 EQ Expected Damage to Waste Water Utility Systems

System	Total Pipelines Length (kms)	Number of Leaks	Number of Breaks
Potable Water	1,322	324	81
Waste Water	793	163	41
Natural Gas	529	529	14

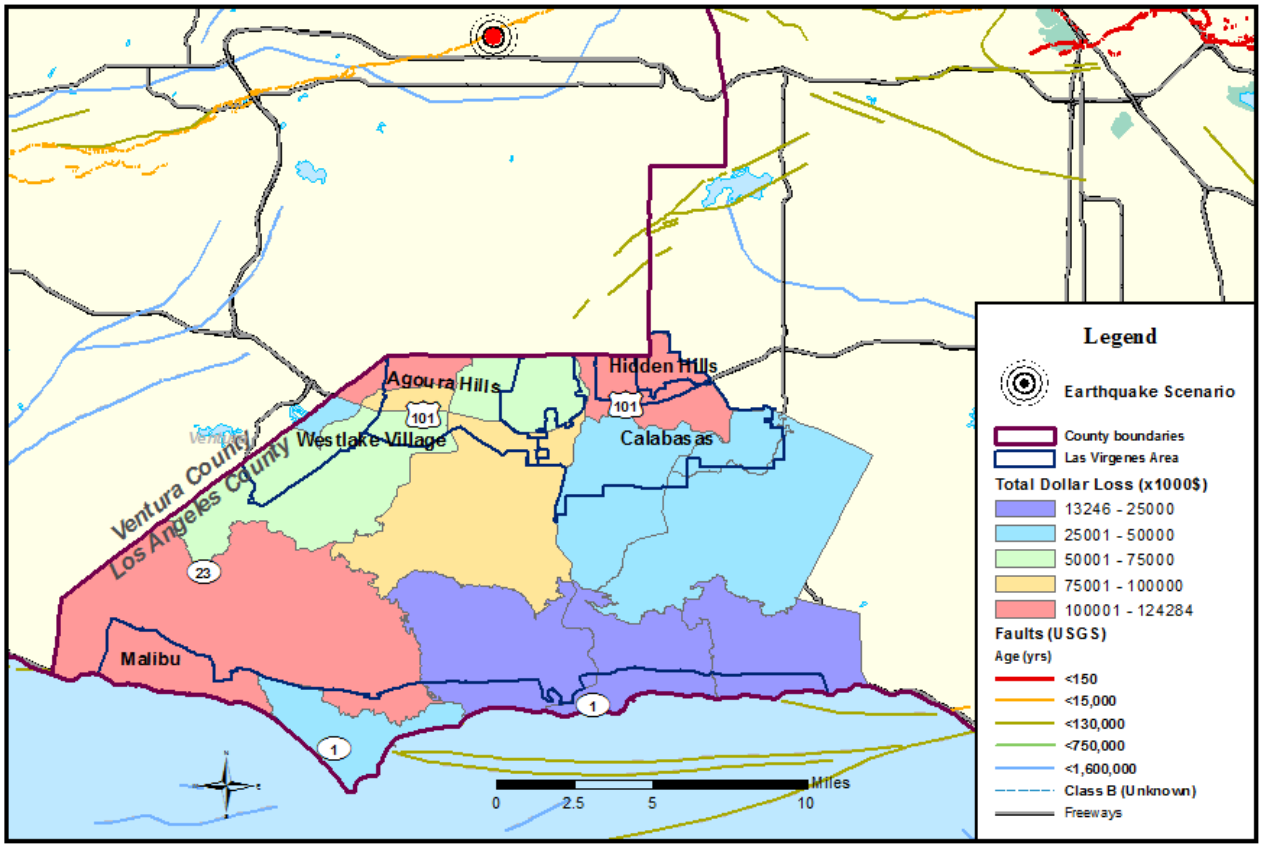
Table 87: Simi-Santa Rosa Fault M7.0 EQ Expected Utility System Pipeline Damage

System	Total # of Households	Number of Households without Service				
		At Day 1	At Day 3	At Day 7	At Day 30	At Day 90
Potable Water	29,844	4,665	7	0	0	0
Electric		4,171	2,248	753	119	7

Table 88: Simi-Santa Rosa Fault M7.0 EQ Expected Potable Water and Electric Power System Performance

Economic Loss

The total economic loss estimated for the earthquake is $1,284,000,000 which includes building and lifeline related losses based on the region's available inventory.



Map 24: Simi-Santa Rosa M7.0 EQ Total $ Loss Estimate

Losses are anticipated to be greatest in the northern areas of Agoura Hills, Hidden Hills, and Westlake Village as well as the western portion of Malibu. Additional details are provided in the following sections.

Building - Related Losses

Building losses are segmented into two categories: direct building losses and business interruption losses. Direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. Business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the earthquake. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the earthquake. The total estimated building-related losses are $1,215.64 million (19% of the estimated losses were related to the business interruption of the region). By far, the largest loss was sustained by the residential occupancies which made up over 45 % of the total loss.

The table below provides a summary of the losses associated with income and capital stock.

Category	Area	Single Family $M	Other Residential $M	Commercial $M	Industrial $M	Others $M	Total $M
Income Losses	Wage	0	0.97	36.67	0.83	1.19	39.67
	Capital-Related	0	0.42	40.82	0.49	0.31	42.04
	Rental	4.98	3.46	28.41	0.42	0.58	37.86
	Relocation	18.67	3.96	40.35	2.33	4.75	70.06
	Subtotal	**23.65**	**8.82**	**146.25**	**4.07**	**6.84**	**189.64**
Capital Stock	Losses						
	Structural	42.16	6.99	55.23	5.89	5.48	115.75
	Non-Structural	239.10	37.55	180.27	20.97	16.78	494.67
	Content	85.53	9.27	85.33	13.79	8.42	202.33
	Inventory	0.00	0.00	1.44	2.03	0.14	3.62
	Subtotal	**366.79**	**53.81**	**322.27**	**42.68**	**30.82**	816.37
	Total	**390.44**	**62.63**	**468.53**	**46.75**	**37.66**	**1006.00**

Table 89: Simi-Santa Rosa Fault M7.0 EQ Building-Related Economic Loss Estimates

Transportation and Utility Lifeline Losses

For the transportation and utility lifeline systems, HAZUS-MH computes the direct repair cost for each component only. There are no losses computed by HAZUS-MH for business interruption due to lifeline outages. The following table provides a detailed breakdown in the expected lifeline losses for selected categories.

System	Component	Inventory Value $M	Economic Loss $M	Loss Ratio (%)
Highway	Bridges	80.10	6.25	7.79
	Segments	901.08	0.00	0.00
	Tunnels	17.89	0.58	3.28
	Total	**999.07**	**6.83**	

Table 90: Simi-Santa Rosa Fault M7.0 EQ Transportation System Economic Losses

System	Component	Inventory Value $M	Economic Loss $M	Loss Ratio (%)
Potable Water	Distribution Lines	28.58	1.58	5.53
	Facilities	NA	-	-
	Subtotal	**28.58**	**1.58**	
Waste Water	Distribution Lines	17.21	0.79	4.59
	Facilities	170.15	20.94	12.31
	Subtotal	**187.36**	**21.73**	
Natural Gas	Distribution Lines	11.47	0.27	2.36
	Facilities	NA	-	-
	Subtotal	**11.47**	**0.27**	
	Total	**227.41**	**23.59**	

Table 91: Simi-Santa Rosa Fault M7.0 EQ Utility System Economic Losses

Note: Electric Power, Communication, and Oil System data was not available (NA).

15 Year Projected Impact

HAZUS-MH estimates the long-term economic impacts to the region for 15 years after the earthquake. The model quantifies this information in terms of income and employment changes within the region.

Year	Loss	Total	Percent
First Year	Employment Impact (# of people)	0	0.00%
	Income Impact ($M)	<7>	-0.61%
Second Year	Employment Impact (# of people)	0	0.00%
	Income Impact ($M)	<21>	-1.87%
Third Year	Employment Impact (# of people)	0	0.00%
	Income Impact ($M)	<27>	-2.41%
Fourth Year	Employment Impact (# of people)	0	0.00%
	Income Impact ($M)	<27>	-2.41%
Fifth Year	Employment Impact (# of people)	0	0.00%
	Income Impact ($M)	<27>	-2.41%
Years 6 to 15	Employment Impact (# of people)	0	0.00%
	Income Impact ($M)	<27>	-2.41%

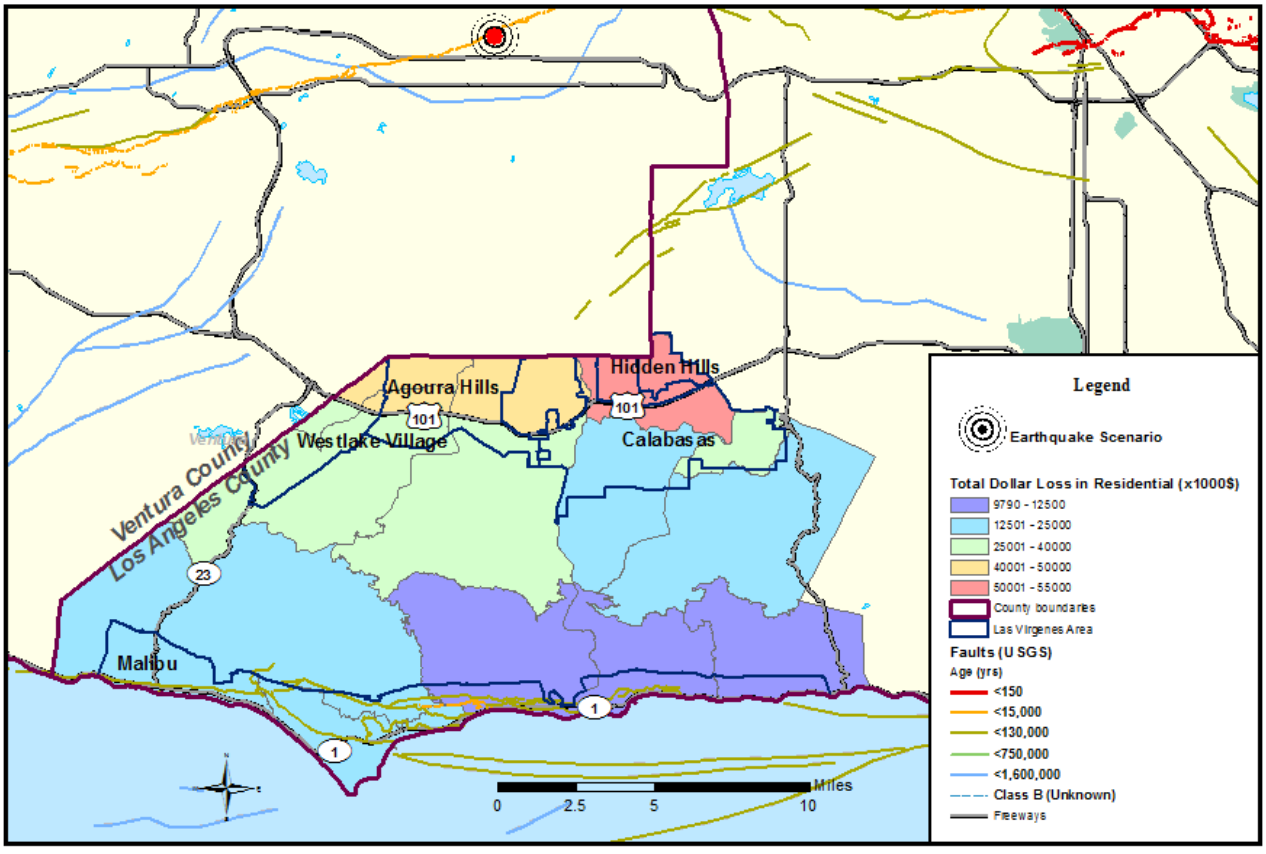
Table 92: Simi-Santa Rosa Fault M7.0 EQ Indirect Economic Impact

Estimated Losses by City

The following dollar loss estimates for residential, commercial, and industrial facilities were generated utilizing HAZUS-MH. Note: The total loss is not equal to the sum due to overlaps in structural and building losses.

City Name	Residential Total Loss [$M]	Residential Structural Loss [$M]	Residential Non-Structural Loss [$M]	Residential Building Loss [$M]	Residential Content Loss [$M]
Agoura Hills (including Agoura)	78.91	8.01	48.38	56.39	16.24
Calabasas/Hidden Hills	137.68	15.05	84.32	99.36	29.44
Malibu	76.74	8.55	47.52	56.07	15.48
Westlake Village	159.65	17.53	96.44	113.98	33.66
Totals	**452.98**	**49.14**	**276.66**	**325.80**	**94.82**

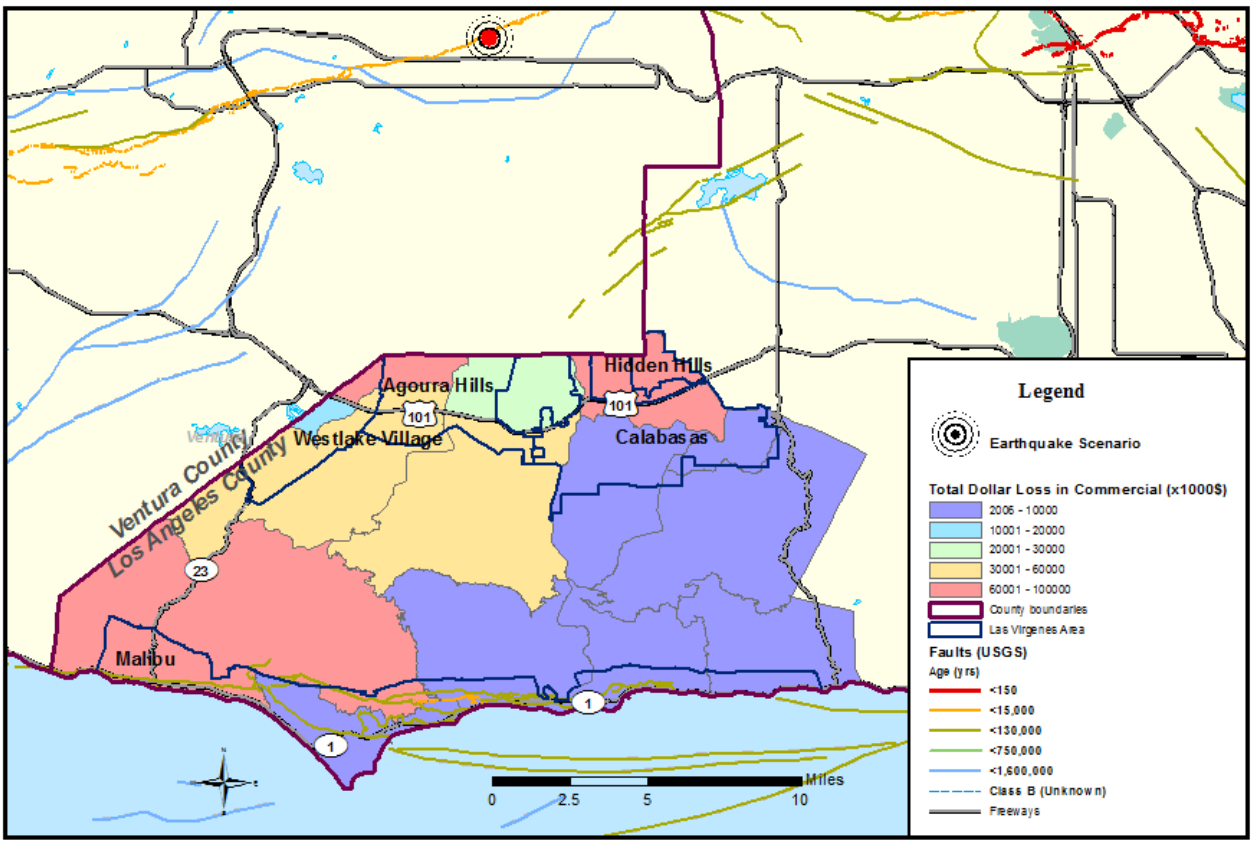
Table 93: Simi-Santa Rosa Fault M7.0 EQ Residential Loss $ Exposure



Map 25: Simi-Santa Rosa Fault M7.0 EQ Residential $ Loss Estimate

City Name	Commercial Total Loss [$M]	Commercial Structural Loss [$M]	Commercial Non-Structural Loss [$M]	Commercial Building Loss [$M]	Commercial Content Loss [$M]
Agoura Hills (including Agoura)	88.43	10.50	32.04	42.54	15.37
Calabasas/Hidden Hills	91.68	10.07	34.53	44.59	16.24
Malibu	131.62	15.37	53.90	69.27	25.44
Westlake Village	156.84	19.37	59.75	79.12	28.36
Totals	**468.57**	**55.31**	**180.22**	**235.53**	**85.40**

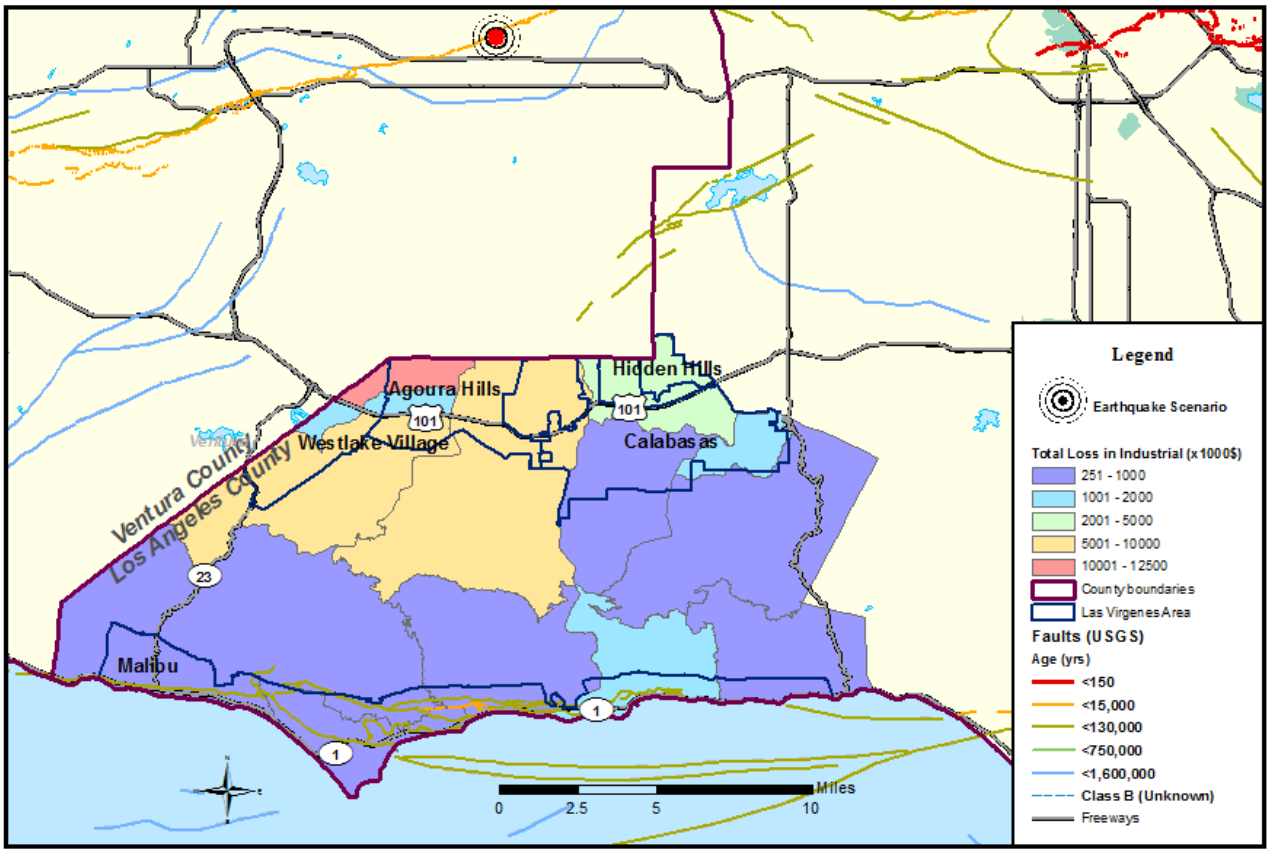
Table 94: Simi-Santa Rosa Fault M7.0 EQ Commercial $ Loss



Map 26: Simi-Santa Rosa Fault M7.0 EQ Commercial $ Loss Estimate

City Name	Industrial Total Loss [$M]	Industrial Structural Loss [$M]	Industrial Non-Structural Loss [$M]	Industrial Building Loss [$M]	Industrial Content Loss [$M]
Agoura Hills (including Agoura)	14.07	1.73	6.28	8.01	4.11
Calabasas/Hidden Hills	6.71	0.87	3.14	4.00	1.84
Malibu	4.00	0.54	1.73	2.27	1.19
Westlake Village	21.97	2.71	9.85	12.56	6.60
Totals	**46.76**	**5.84**	**21.00**	**26.84**	**13.75**

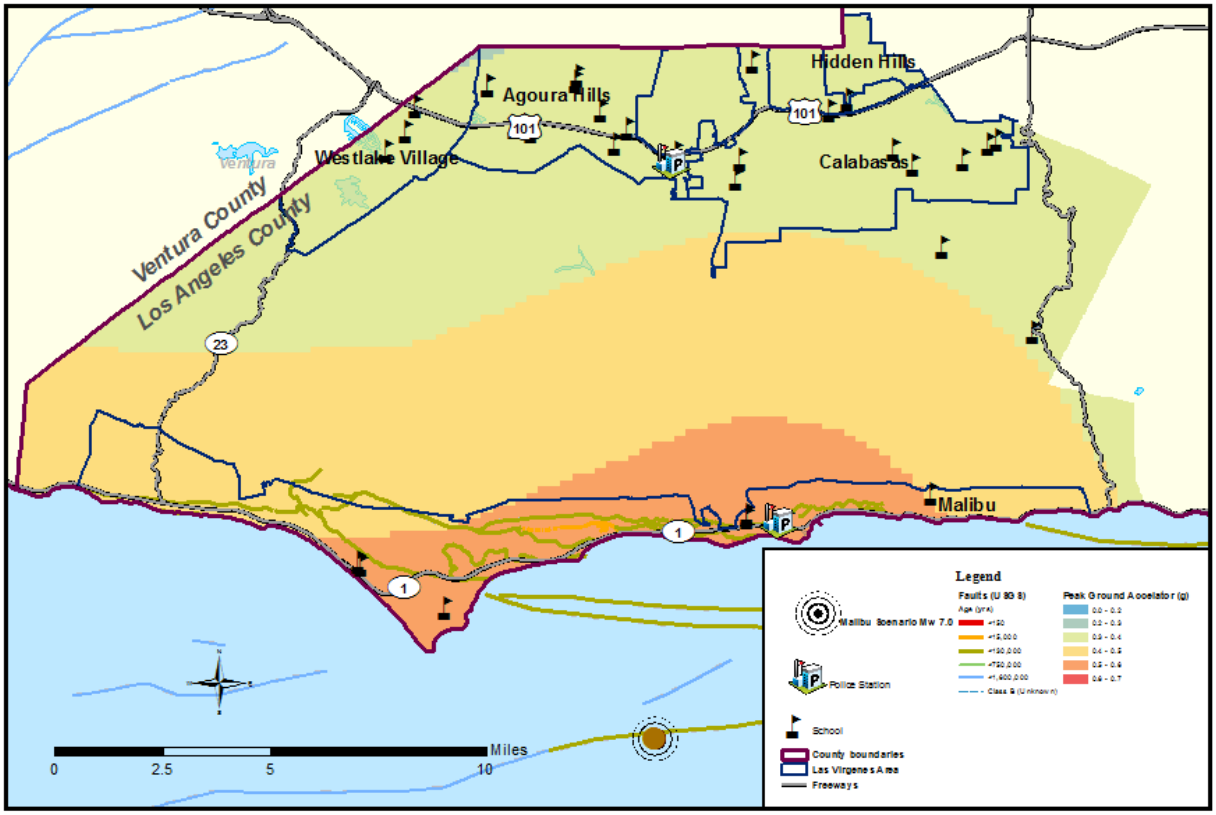
Table 95: Simi-Santa Rosa Fault M7.0 EQ Industrial Loss $ Exposure



Map 27: Simi-Santa Rosa Fault M7.0 EQ Industrial $ Loss Estimate

Magnitude 7.0 Malibu Coast Fault Earthquake Scenario

HAZUS-MH was used to estimate the impact of a magnitude 7.0 earthquake on the Malibu Coast Fault (epicenter "orange circle" at Latitude 33.9684 Longitude -118.729 and a depth of 1 Km). The map below provides a project of peak ground acceleration for the area.



Map 28: Malibu Coast M7.0 EQ Peak Ground Acceleration Estimate

Based on projected Peak Ground Acceleration, the greatest impact (and damage) will be along the coast in the central and eastern portions of Malibu (PGA 0.5 to 0.6). This corresponds to severe shaking and moderate to heavy damage. Though somewhat less intense, the northern sections of Malibu and the extreme southern tip of Calabasas (PGA 0.4 to 0.5) would also experience severe shaking and moderate to heavy damage. The cities of Agoura Hills, Hidden Hills, Westlake Village, and the majority of Calabasas, (PGA 0.3 to 0.4) would experience very strong shaking with moderate damage to severe shaking with moderate to heavy damage.

Additional projected impacts on the Las Virgenes-Malibu Council of Governments area are included in the following sections for:

- Casualties
- Shelter Requirements
- Fire
- Debris Generation
- Financial Impact to Infrastructure and Buildings
- Damage by Building and Facility Type
- Economic Loss

Casualties

HAZUS-MH estimates the number of people that will be injured and killed by the earthquake. The casualties are broken down into four (4) severity levels that describe the extent of the injuries. The levels are described as follows:

Severity Level 1	Injuries will require medical attention, but hospitalization is not needed.
Severity Level 2	Injuries will require hospitalization but are not considered life-threatening.
Severity Level 3	Injuries will require hospitalization and can become life threatening if not promptly treated.
Severity Level 4	Victims are killed by the earthquake.

Casualty estimates are provided for three (3) times of day: 2:00 AM, 2:00 PM and 5:00 PM. These times represent the periods of the day that different sectors of the community are at their peak occupancy loads. The 2:00 AM estimate considers that the residential occupancy load is at maximum, the 2:00 PM estimate considers that the educational, commercial and industrial sector loads are at maximum and 5:00 PM represents peak commute time. The table below provides a summary of the casualties estimated for this earthquake scenario.

Time	Sector	Level 1	Level 2	Level 3	Level 4
2 AM	Commercial	4	1	0	0
	Commuting	0	0	0	0
	Educational	0	0	0	0
	Hotels	2	1	0	0
	Industrial	6	1	0	0
	Other-Residential	62	14	1	2
	Single Family	56	7	0	1
	Total	**130**	**24**	**2**	**4**
2 PM	Commercial	235	62	10	19
	Commuting	0	1	1	0
	Educational	47	12	2	4
	Hotels	0	0	0	0
	Industrial	41	11	2	3
	Other-Residential	9	2	0	0
	Single Family	9	1	0	0
	Total	**341**	**89**	**14**	**26**
5 PM	Commercial	192	50	8	14
	Commuting	41	57	93	18
	Educational	8	2	0	1
	Hotels	1	0	0	0
	Industrial	26	7	1	2
	Other-Residential	23	5	1	1
	Single Family	21	3	0	0
	Total	**310**	**123**	**102**	**36**

Table 96: Malibu Coast Fault M7.0 EQ Casualty Estimates

Shelter Requirement

HAZUS-MH estimates the number of households that are expected to be displaced from their homes due to the earthquake and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 282 households to be displaced due to the earthquake. Of these, 151 people will seek temporary shelter in public shelters.

Fires

Fires often occur after an earthquake. Because of the number of fires and the lack of water to fight the fires, they can often burn out of control. HAZUS-MH uses a Monte Carlo simulation model to estimate the number of ignitions and the amount of burnt area. For this scenario, the model estimated that there would be little or no impact of fires to the area.

Debris Generation

HAZUS-MH estimates the amount of debris that will be generated by the earthquake. The model classifies debris into two general categories: a) Brick/Wood and b) Reinforced Concrete/Steel. This distinction is made because of the different types of material handling equipment required to handle the debris.

The model estimates that a total of 0.31 million tons of debris will be generated. Of the total amount, Brick/Wood comprises 31.00% of the total, with the remainder being Reinforced Concrete/Steel. If the debris tonnage is converted to an estimated number of truckloads, it will require 12,280 truckloads (@25 tons/truck) to remove the debris generated by the earthquake.

Financial Impact to Infrastructure and Buildings

The following estimates were generated using HAZUS-MH.

System	Component	# Locations/ # Segments	Replacement Value (millions of dollars)
Highway	Bridges	67	80.10
	Segments	28	901.10
	Tunnels	7	17.86
		Total	**999.06**

Table 97: Malibu Coast Fault M7.0 EQ Transportation System Lifeline Inventory Replacement Values

System	Component	# Locations / Segments	Replacement Value (millions of dollars)
Potable Water	Distribution Lines	NA	28.58
	Facilities	NA	-
		Subtotal	28.58
Waste Water	Distribution Lines	NA	17.21
	Facilities	2	170.15
		Total	**244.51**

Table 98: Malibu Coast Fault M7.0 EQ Water Utility Lifeline Inventory Replacement Values

Note: Natural Gas, Electric Power, Communication, and Oil System data was not available (NA).

Occupancy Type	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	34	0.25	29	0.25	24	0.48	11	0.85	5	0.9
Commercial	637	4.60	500	4.37	549	10.86	272	20.98	107	18.5
Education	24	0.17	17	0.15	13	0.26	5	0.42	2	0.3
Government	10	0.07	8	0.07	8	0.16	5	0.36	2	0.3
Industrial	150	1.08	126	1.10	154	3.05	82	6.33	35	6.1
Other Residential	1,004	7.25	982	8.58	855	16.92	660	50.85	356	61.7
Religion	40	0.29	30	0.26	27	0.54	14	1.06	6	0.9
Single Family	11,944	86.28	9,749	85.21	3,422	67.72	249	19.15	63	10.9
Total	**13,844**		**11,441**		**5,053**		**1,298**		**577**	

Table 99: Malibu Coast Fault M7.0 EQ Expected Building Damage by Occupancy

Damage by Building and Facility Type

Building Type	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Wood	12,866	92.94	10648	93.06	3,788	74.98	289	22.29	82	14.28
Steel	145	1.05	130	1.14	218	4.31	137	10.55	55	9.61
Concrete	195	1.40	164	1.44	150	2.96	85	6.56	39	6.78
Precast	147	1.06	120	1.05	161	3.19	78	6.03	27	4.75
RM	416	3.01	207	1.81	234	4.64	116	8.96	32	5.54
URM	45	0.32	46	0.40	57	1.13	31	2.41	20	3.55
MH	30	0.21	127	1.11	444	8.79	561	43.21	320	55.48
Total	**13,844**		**11,441**		**5,053**		**1,298**		**577**	

Table 100: Malibu Coast Fault M7.0 EQ Expected Building Damage by Building Type

RM Reinforced Masonry
URM Unreinforced Masonry
MH Manufactured Housing

Classification	Total	Number of Facilities		
		At Least Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Schools	32	0	0	17

Table 101: Malibu Coast Fault M7.0 EQ Expected Damage to Essential Facilities - Schools

System	Component	Locations/ Segments	Number of Locations			
			With at Least Mod. Damage	With Complete Damage	With Functionality > 50%	
					After Day 1	After Day 7
Highway	Bridges	67	6	0	59	63
	Segments	28	0	0	28	28
	Tunnels	7	0	0	7	7

Table 102: Malibu Coast Fault M7.0 EQ Expected Damage to Transportation Systems

System	Total #	Number of Locations			
		With at Least Mod. Damage	With Complete Damage	With Functionality > 50%	
				After Day 1	After Day 7
Waste Water	2	2	0	0	1

Table 103: Malibu Coast Fault M7.0 EQ Expected Damage to Waste Water Utility Systems

System	Total Pipelines Length (kms)	Number of Leaks	Number of Breaks
Potable Water	1,322	562	141
Waste Water	793	282	71
Natural Gas	529	97	24

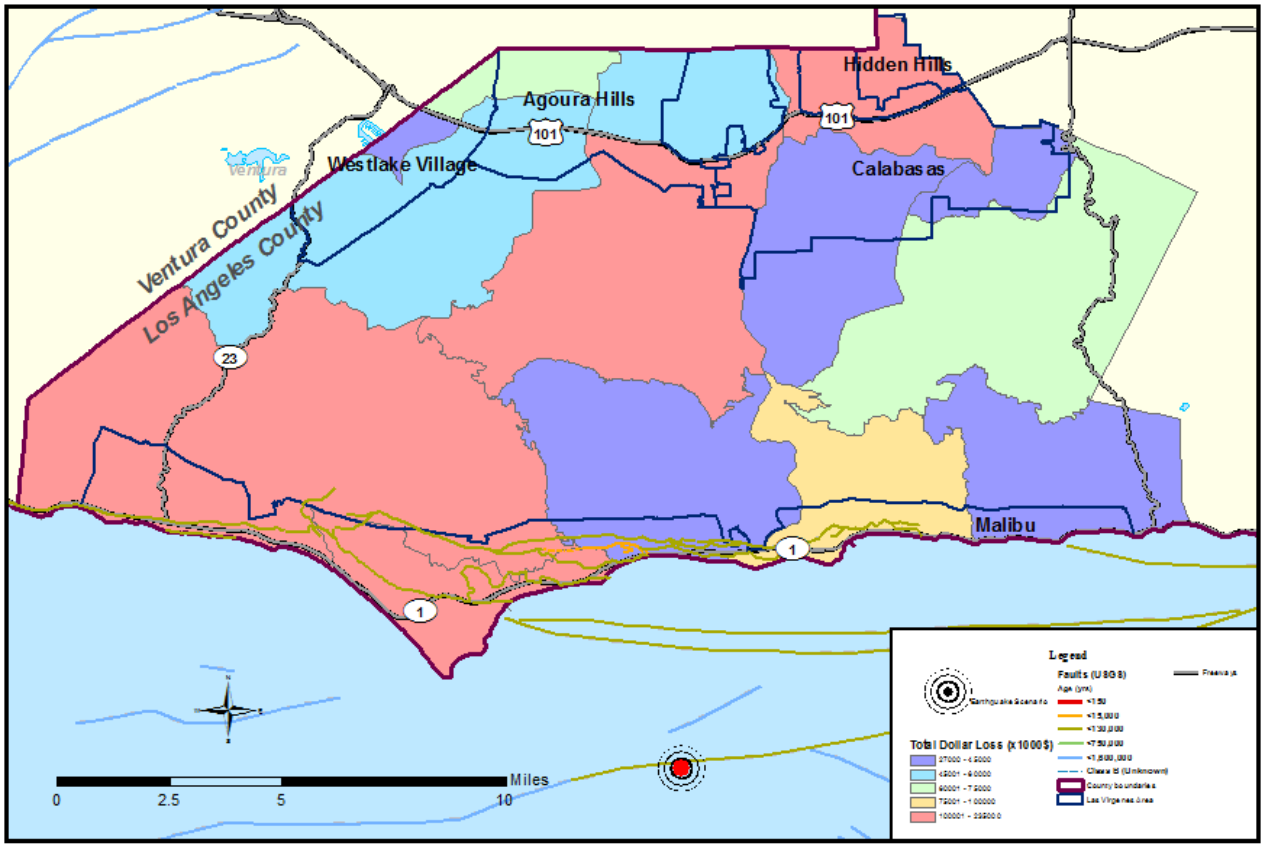
Table 104: Malibu Coast Fault M7.0 EQ Expected Utility System Pipeline Damage

System	Total # of Households	Number of Households without Service				
		At Day 1	At Day 3	At Day 7	At Day 30	At Day 90
Potable Water	29,844	13,044	6,109	0	0	0
Electric		5,778	3,417	1,318	240	8

Table 105: Malibu Coast Fault M7.0 EQ Expected Potable Water and Electric Power System Performance

Economic Loss

The total economic loss estimated for the earthquake is $1,284,000,000 which includes building and lifeline related losses based on the region's available inventory.



Map 29: Malibu Coast M7.0 EQ Total $ Loss Estimate

Losses are anticipated to be greatest in the western portion of Malibu as well as Hidden Hills and the southeastern area of Agoura Hills, and north and west portions of Calabasas. Additional details are provided in the following sections.

Building - Related Losses

Building losses are segmented into two categories: direct building losses and business interruption losses. Direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. Business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the earthquake. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the earthquake. The total estimated building-related losses are $1,215.64 million (19% of the estimated losses were related to the business interruption of the region). By far, the largest loss was sustained by the residential occupancies which made up over 45 % of the total loss.

The table below provides a summary of the losses associated with income and capital stock.

Category	Area	Single Family $M	Other Residential $M	Commercial $M	Industrial $M	Others $M	Total $M
Income Losses	Wage	0	1.67	45.87	0.95	1.66	50.15
	Capital-Related	0	0.73	55.42	0.56	0.40	57.11
	Rental	6.30	5.76	37.38	0.44	0.73	50.60
	Relocation	23.83	6.80	52.56	2.47	5.96	91.63
	Subtotal	**30.13**	**14.95**	**191.23**	**4.43**	**8.75**	**249.48**
Capital Stock	Losses						
	Structural	52.75	13.69	72.89	6.62	6.69	152.64
	Non-Structural	296.00	65.93	242.57	23.76	20.93	649.19
	Content	106.27	15.79	112.15	15.42	10.74	260.37
	Inventory	0.00	0.00	1.56	2.37	0.19	4.12
	Subtotal	**455.02**	**95.41**	**429.16**	**48.18**	**38.56**	1066.33
	Total	**485.15**	**110.36**	**620.39**	**52.60**	**47.30**	**1315.81**

Table 106: Malibu Coast Fault M7.0 EQ Building-Related Economic Loss Estimates

Transportation and Utility Lifeline Losses

For the transportation and utility lifeline systems, HAZUS-MH computes the direct repair cost for each component only. There are no losses computed by HAZUS-MH for business interruption due to lifeline outages. The following table provides a detailed breakdown in the expected lifeline losses for selected categories.

System	Component	Inventory Value $M	Economic Loss $M	Loss Ratio (%)
Highway	Bridges	80.10	7.71	9.62
	Segments	901.08	0.00	0.00
	Tunnels	17.89	0.95	5.32
	Total	**999.07**	**8.66**	

Table 107: Malibu Coast Fault M7.0 EQ Transportation System Economic Losses

System	Component	Inventory Value $M	Economic Loss $M	Loss Ratio (%)
Potable Water	Distribution Lines	28.6	2.7	10.4
	Facilities			
	Subtotal	**28.6**	**2.7**	**10.4**
Waste Water	Distribution Lines	17.2	1.4	8.7
	Facilities	170.2	60.8	38.7
	Subtotal	**187.4**	**62.1**	**47.3**
Natural Gas	Distribution Lines	11.5	0.5	4.5
	Facilities			
	Subtotal	**11.5**	**0.5**	**4.5**
	Total	**227.4**	**65.3**	**62.1**

Table 108: Malibu Coast Fault M7.0 EQ Utility System Economic Losses

Note: Electric Power, Communication, and Oil System data was not available (NA).

15 Year Projected Impact

HAZUS-MH estimates the long-term economic impacts to the region for 15 years after the earthquake. The model quantifies this information in terms of income and employment changes within the region.

Year	Loss	Total	Percent
First Year	Employment Impact (# of people)	0	0.00%
	Income Impact ($M)	<9>	-0.81%
Second Year	Employment Impact (# of people)	0	0.00%
	Income Impact ($M)	<27>	-2.46%
Third Year	Employment Impact (# of people)	0	0.00%
	Income Impact ($M)	<35>	-3.17%
Fourth Year	Employment Impact (# of people)	0	0.00%
	Income Impact ($M)	<35>	-3.17%
Fifth Year	Employment Impact (# of people)	0	0.00%
	Income Impact ($M)	<35>	-3.17%
Years 6 to 15	Employment Impact (# of people)	0	0.00%
	Income Impact ($M)	<35>	-3.17%

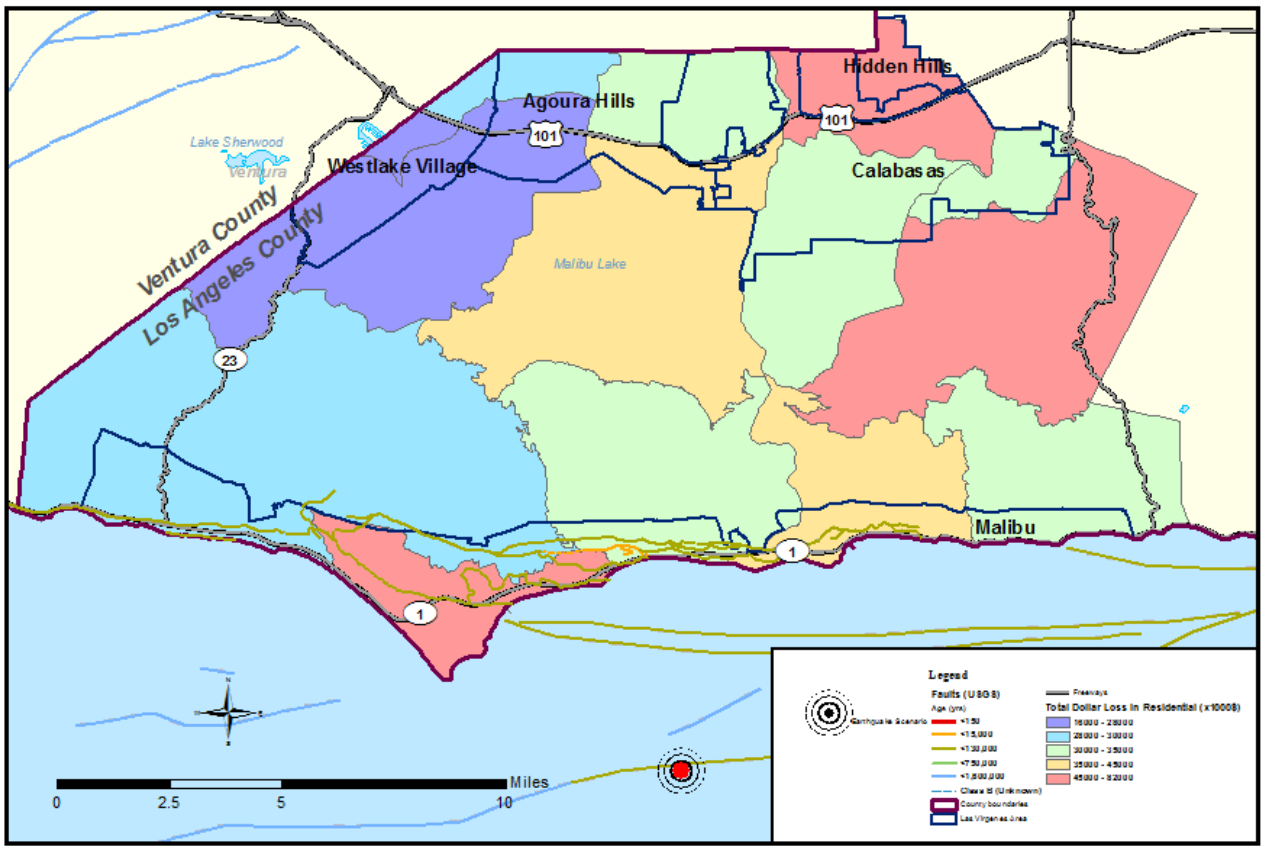
Table 109: Malibu Coast Fault M7.0 EQ Indirect Economic Impact

Estimated Losses by City

The following dollar loss estimates for residential, commercial, and industrial facilities were generated utilizing HAZUS-MH. Note: The total loss is not equal to the sum due to overlaps in structural and building losses.

City Name	Residential Total Loss [$M]	Residential Structural Loss [$M]	Residential Non-Structural Loss [$M]	Residential Building Loss [$M]	Residential Content Loss [$M]
Agoura Hills (including Agoura)	81.40	8.33	49.68	58.02	16.78
Calabasas/Hidden Hills	169.61	18.83	103.15	121.99	35.94
Malibu	235.96	27.49	142.99	170.48	46.54
Westlake Village	108.56	11.80	66.13	77.93	22.84
Totals	**595.54**	**66.46**	**361.95**	**428.41**	**122.09**

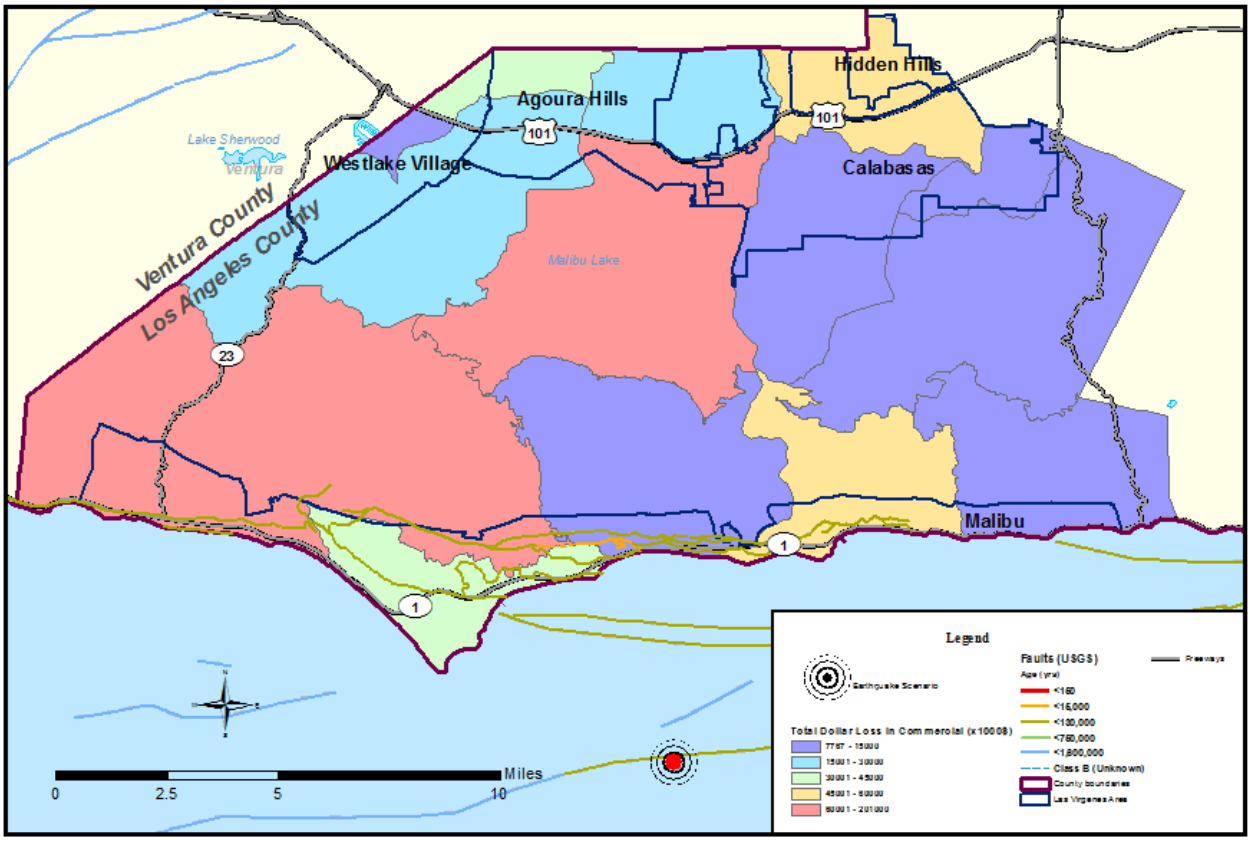
Table 110: Malibu Coast Fault M7.0 EQ Residential Loss $ Exposure



Map 30: Malibu Coast Fault M7.0 EQ Residential $ Loss Estimate

City Name	Commercial Total Loss [$M]	Commercial Structural Loss [$M]	Commercial Non-Structural Loss [$M]	Commercial Building Loss [$M]	Commercial Content Loss [$M]
Agoura Hills (including Agoura)	106.62	12.66	38.97	51.63	18.40
Calabasas/Hidden Hills	94.60	10.28	35.39	45.68	16.56
Malibu	321.69	38.10	131.73	169.83	59.42
Westlake Village	97.42	11.80	36.48	48.38	17.75
Totals	**620.32**	**72.85**	**242.57**	**315.52**	**112.14**

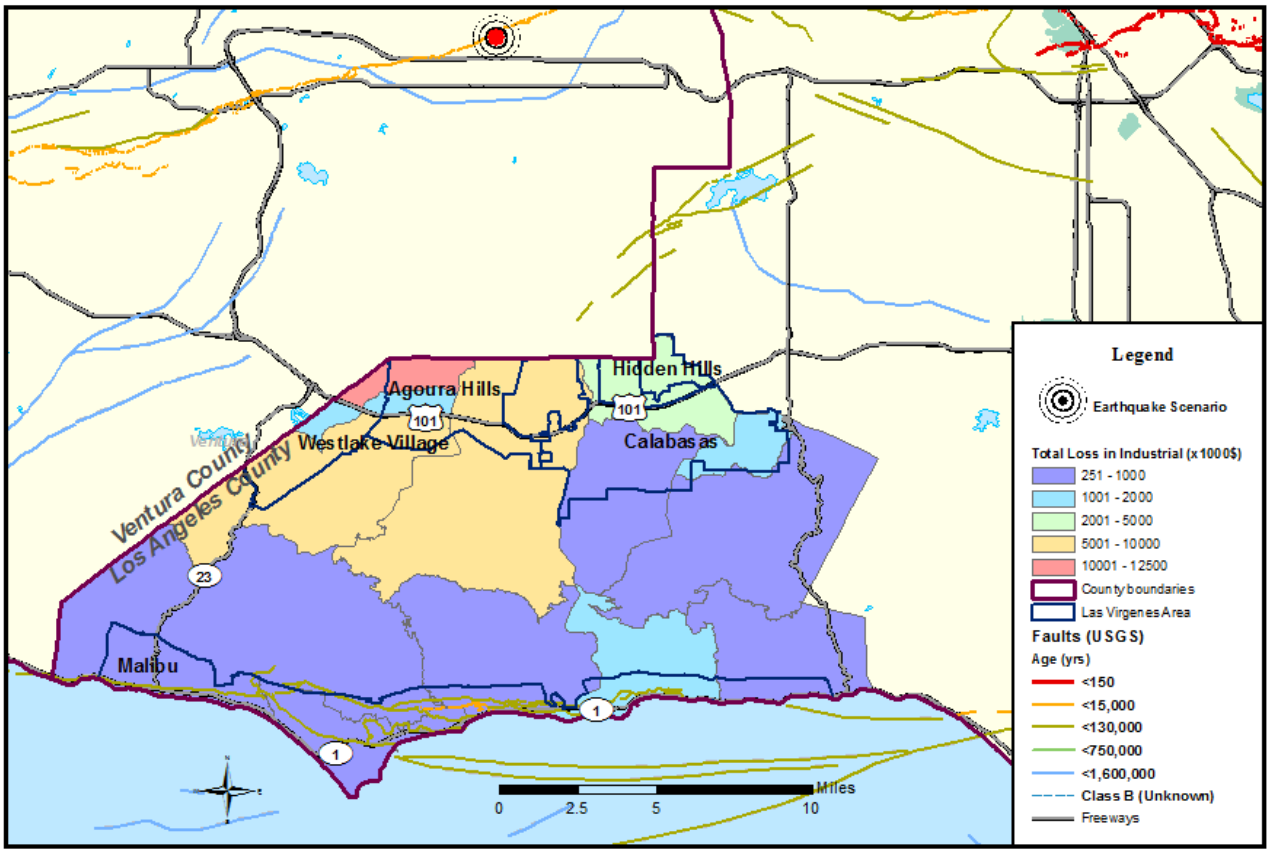
Table 111: Malibu Coast Fault M7.0 EQ Commercial $ Loss



Map 31: Malibu Coast Fault M7.0 EQ Commercial $ Loss Estimate

City Name	Industrial Total Loss [$M]	Industrial Structural Loss [$M]	Industrial Non-Structural Loss [$M]	Industrial Building Loss [$M]	Industrial Content Loss [$M]
Agoura Hills (including Agoura)	16.02	2.06	7.14	9.20	4.76
Calabasas/Hidden Hills	7.69	0.97	3.57	4.55	2.16
Malibu	20.24	1.95	7.04	8.98	4.44
Westlake Village	8.66	1.73	5.95	7.69	4.00
Totals	**52.60**	**6.71**	**23.70**	**30.42**	**15.37**

Table 112: Malibu Coast Fault M7.0 EQ Industrial Loss $ Exposure



Map 32: Malibu Coast Fault M7.0 EQ Industrial $ Loss Estimate

50-year Flood Scenario

It is estimated that a 50-year Flood (riverine flooding) will result in damage to residential, commercial, and industrial properties. The table below depicts the estimated number of structures impacted.

City Name	Building Count Residential	Building Count Commercial	Building Count Industrial
Agoura Hills	152	3	0
Calabasas /Hidden Hills	89	0	0
Malibu	90	0	0
Westlake Village	510	0	0
Totals	**841**	**3**	**0**

Table 113: 50-year Flood General Building Stock Damage Count

HAZUS-MH provides estimates of dollar losses to residential, commercial, and industrial facilities. Note: The total of building loss and content loss is not equal to total loss due to other costs such as inventory loss, relocation expense, and income loss. The tables below show the economic losses for the general building stock by census block (full replacement value and depreciated replacement value).

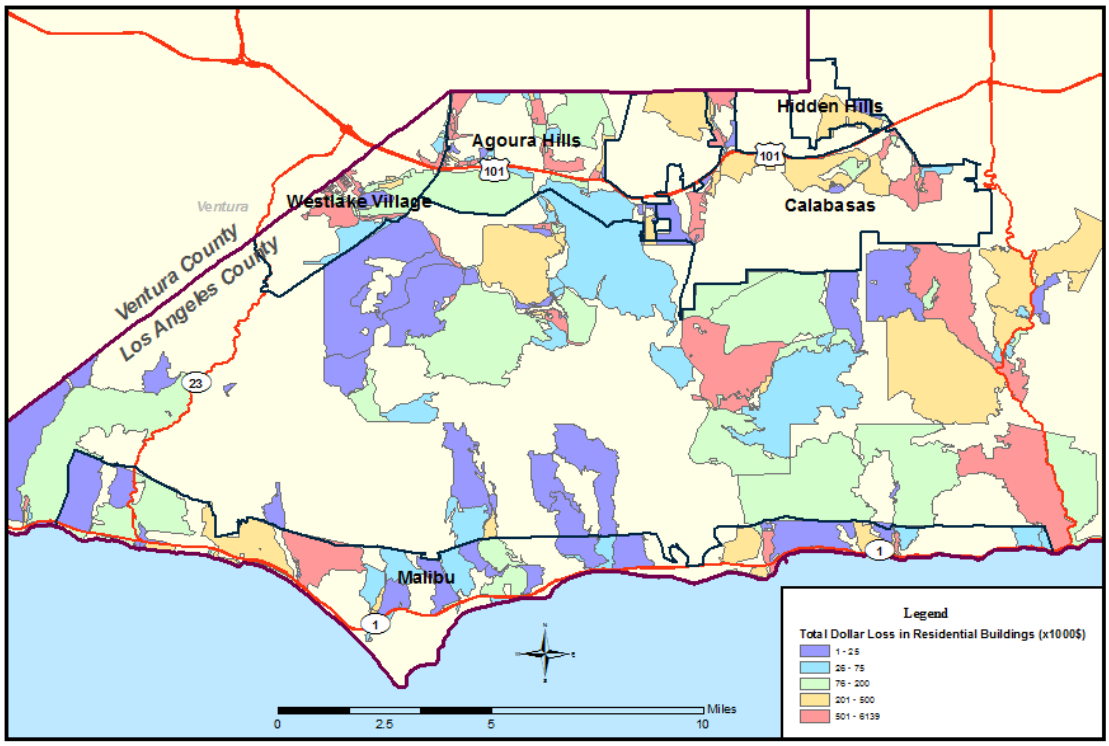
City Name	Residential Total Loss [$M]	Residential Building Loss [$M]	Residential Content Loss [$M]	Commercial Total Loss [$M]	Commercial Building Loss [$M]	Commercial Content Loss [$M]	Industrial Total Loss [$M]	Industrial Building Loss [$M]	Industrial Content Loss [$M]
Agoura Hills	31.39	19.27	12.12	29.98	8.55	20.89	2.81	0.76	1.84
Calabasas/ Hidden Hills	17.10	10.50	6.60	4.11	1.30	2.81	0.43	0.11	0.22
Malibu	17.53	10.82	6.82	8.01	2.81	5.20	1.95	0.65	1.19
Westlake Village	46.11	28.14	17.86	34.31	8.98	24.25	2.71	0.87	1.62
Totals	**112.14**	**68.73**	**43.40**	**76.42**	**21.65**	**53.15**	**7.90**	**2.38**	**4.87**

Table 114: 50-year Flood Direct Economic Loss for Full Replacement of Buildings and Contents

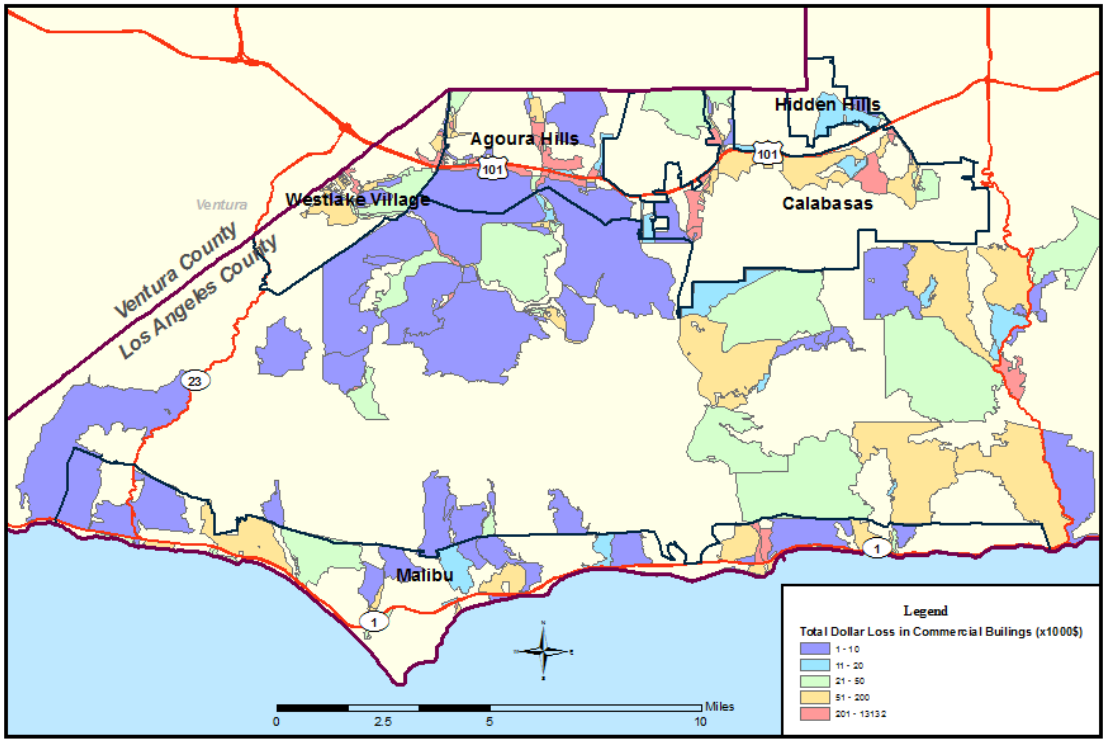
City Name	Residential Total Loss [$M]	Residential Building Loss [$M]	Residential Content Loss [$M]	Commercial Total Loss [$M]	Commercial Building Loss [$M]	Commercial Content Loss [$M]	Industrial Total Loss [$M]	Industrial Building Loss [$M]	Industrial Content Loss [$M]
Agoura Hills	22.41	13.75	8.66	18.62	5.41	13.21	1.62	0.43	1.19
Calabasas/ Hidden Hills	11.47	7.04	4.44	2.27	0.76	1.62	0.22	0.11	0.11
Malibu	11.58	7.14	4.44	4.44	1.52	2.92	1.08	0.32	0.76
Westlake Village	30.20	18.40	11.80	20.78	5.63	15.05	1.52	0.54	0.97
Totals	**75.66**	**46.33**	**29.33**	**46.11**	**13.31**	**32.80**	**4.44**	**1.41**	**3.03**

Table 115: 50-year Flood Direct Economic Loss for Depreciation Replacement Value of Bdgs and Contents

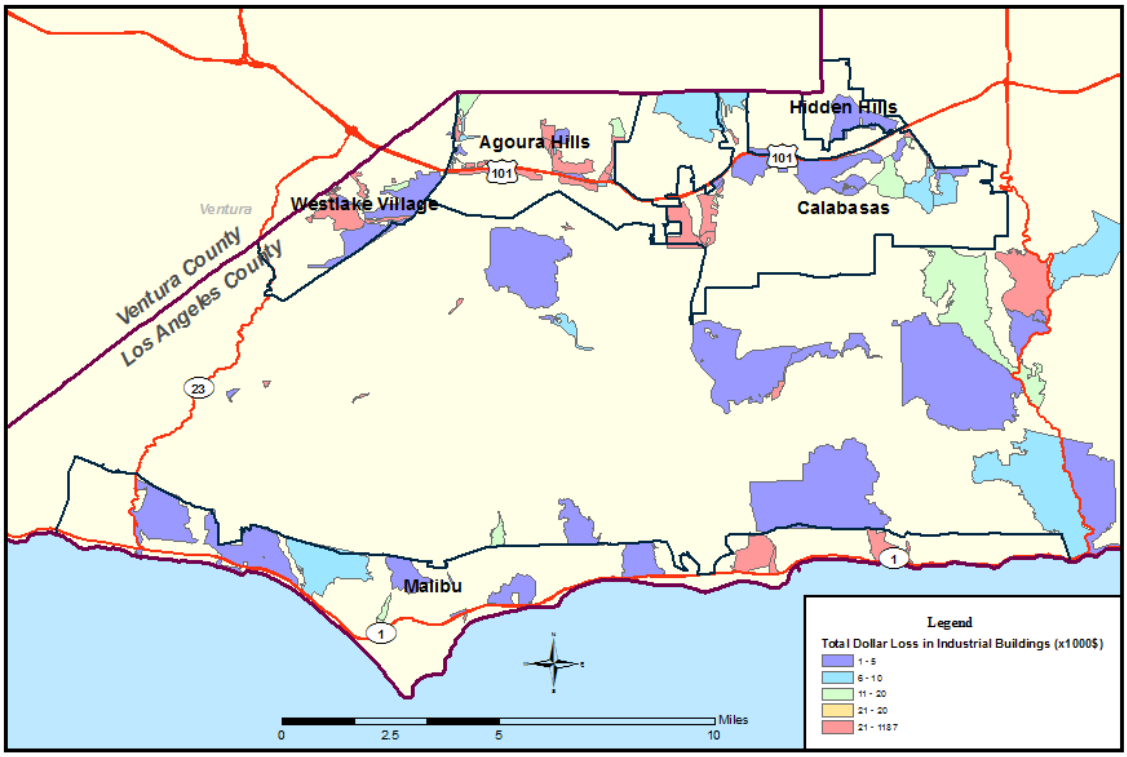
The maps below depict the 50-year Flood geographic distribution of losses for residential, commercial, and industrial facilities within the region.



Map 33: 50-year Flood Residential Building Dollar Loss Estimate



Map 34: 50-year Flood Commercial Building Dollar Loss Estimate



Map 35: 50-year Flood Industrial Building Dollar Loss Estimate

100-year Flood

It is estimated that a 100-year Flood (riverine flooding) will result in damage to residential, commercial, and industrial properties. The table below depicts the estimated number of structures impacted.

City Name	Building Count Residential	Building Count Commercial	Building Count Industrial
Agoura Hills	171	3	0
Calabasas /Hidden Hills	107	0	0
Malibu	96	0	0
Westlake Village	542	0	0
Totals	**916**	**3**	**0**

Table 116: 100-year Flood General Building Stock Damage Count

HAZUS-MH provides estimates of dollar losses to residential, commercial, and industrial facilities. Note: The total of building loss and content loss is not equal to total loss due to other costs such as inventory loss, relocation expense, and income loss.

The tables below show the economic losses for the general building stock by census block (full replacement value and depreciated replacement value).

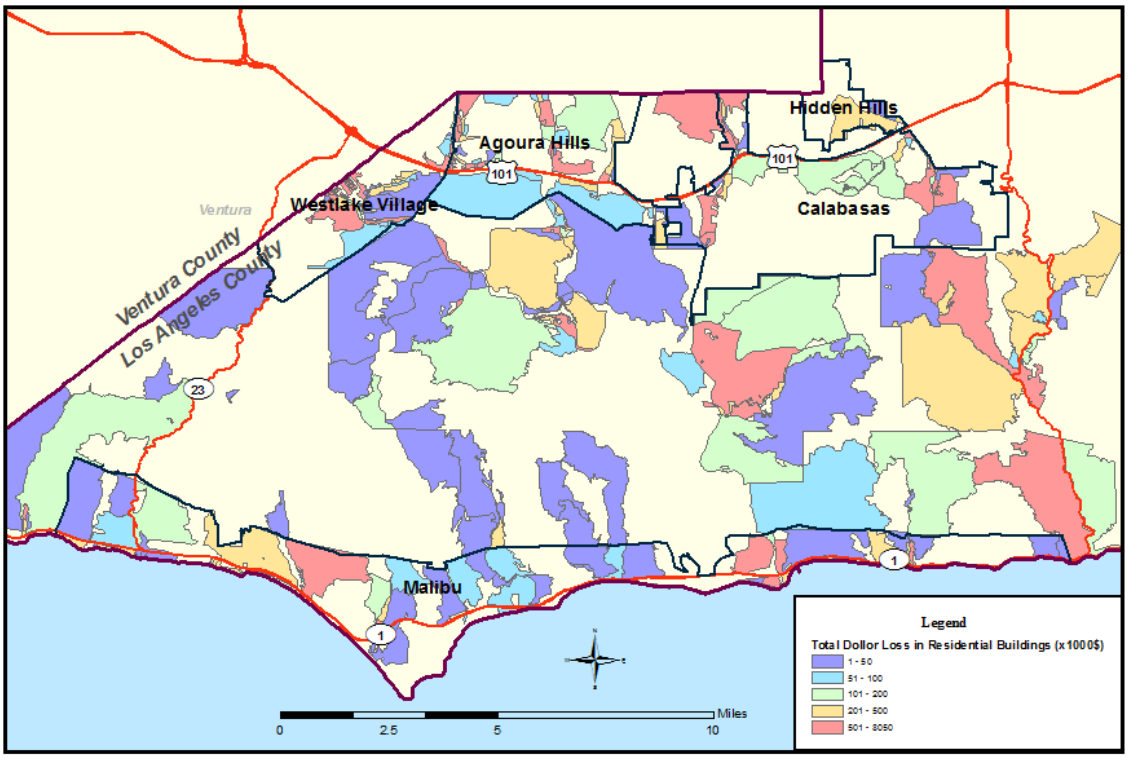
City Name	Residential Total Loss [$M]	Residential Building Loss [$M]	Residential Content Loss [$M]	Commercial Total Loss [$M]	Commercial Building Loss [$M]	Commercial Content Loss [$M]	Industrial Total Loss [$M]	Industrial Building Loss [$M]	Industrial Content Loss [$M]
Agoura Hills	37.34	22.95	14.40	42.43	12.66	29.01	4.00	1.19	2.60
Calabasas/ Hidden Hills	22.30	13.85	8.44	4.22	1.30	2.92	0.43	0.11	0.22
Malibu	21.43	13.21	8.33	10.17	3.25	6.71	2.27	0.76	1.41
Westlake Village	50.33	30.85	19.48	37.23	10.28	26.09	3.03	0.87	1.84
Totals	**131.40**	**80.86**	**50.66**	**94.06**	**27.49**	**64.73**	**9.74**	**2.92**	**6.06**

Table 117: 100-year Flood Direct Economic Loss for Full Replacement of Buildings and Contents

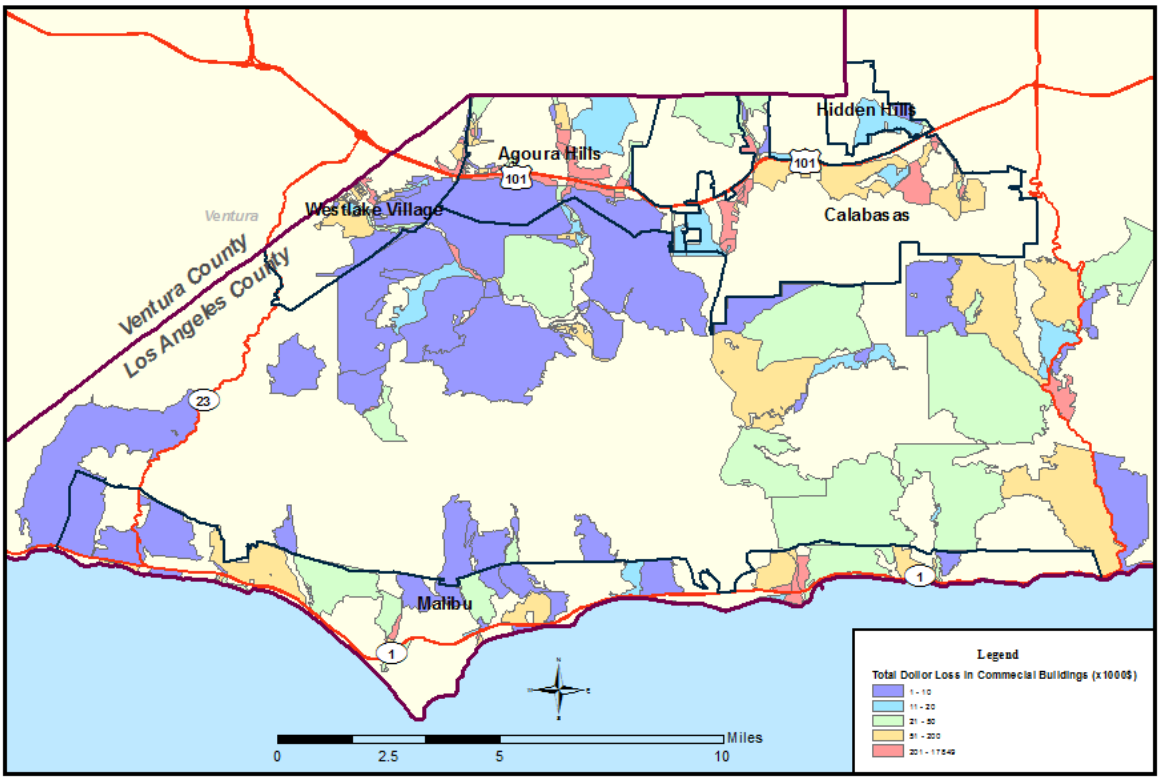
City Name	Residential Total Loss [$M]	Residential Building Loss [$M]	Residential Content Loss [$M]	Commercial Total Loss [$M]	Commercial Building Loss [$M]	Commercial Content Loss [$M]	Industrial Total Loss [$M]	Industrial Building Loss [$M]	Industrial Content Loss [$M]
Agoura Hills	18.51	11.37	7.14	26.52	8.01	18.51	2.38	0.76	1.62
Calabasas/ Hidden Hills	12.77	7.90	4.87	2.38	0.76	1.62	0.22	0.11	0.11
Malibu	12.45	7.69	4.76	5.63	1.84	3.79	1.19	0.43	0.76
Westlake Village	26.84	16.45	10.39	22.62	6.39	16.24	1.73	0.54	1.19
Totals	**70.57**	**43.40**	**27.17**	**57.15**	**16.99**	**40.16**	**5.52**	**1.84**	**3.68**

Table 118: 100-year Flood Direct Economic Loss for Depreciation Replacement Value of Bdgs and Contents

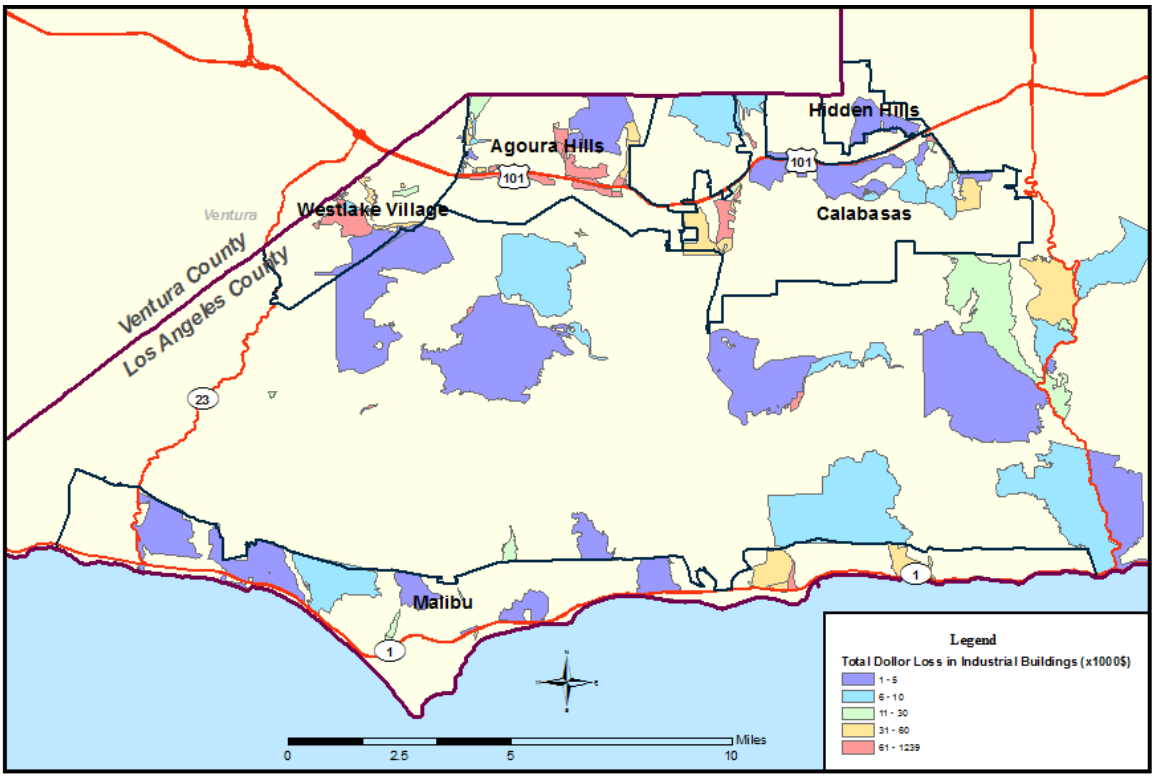
The maps below depict the 100-year Flood geographic distribution of losses for residential, commercial, and industrial facilities within the region.



Map 36: 100-year Flood Residential Building Dollar Loss Estimate



Map 37: 100-year Flood Commercial Building Dollar Loss Estimate



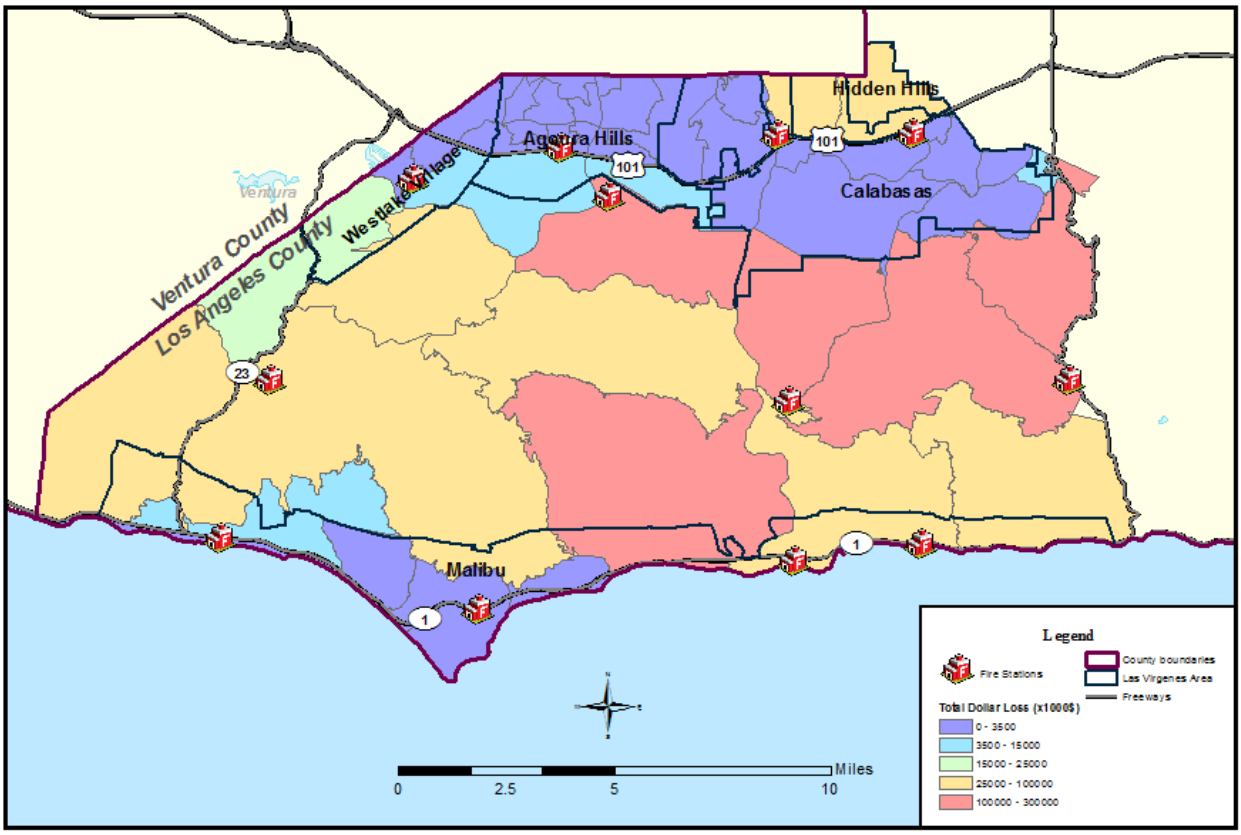
Map 38: 100-year Flood Industrial Building Dollar Loss Estimate

Wildfire Loss Estimates

If widespread wildfires were to occur, the total potential land improvement loss in urban interface areas (buildings, parking structures, infrastructure, etc.) for all cities in the Las Virgenes-Malibu Council of Governments area has been estimated at $1,519,400,000. Note: HAZUS-MH data for wildfires is not available at this time.

City Name	Total Land Improvement Loss [$M]
Agoura Hills	305.24
Calabasas /Hidden Hills	645.54
Malibu	603.11
Westlake Village	90.71
Totals	**1,644.60**

Table 119: 50-year Flood General Building Stock Damage Count



Map 39: Wildfire $ Loss Estimate

Areas of highest potential loss from wildfire (Red=$100,000,000 to $3,000,000,000) include the southern border of Calabasas and north/central Malibu. At high risk of loss (Orange=$25,000,000 to $1,000,000,000) are Hidden Hills and portions of Malibu. The southwest portion of Westlake Village is at moderate risk of loss (Green=$15,000,000 to $25,000,000). Potential losses for all other areas remain a concern but are reduced (Light Blue=$3,500,000 to $15,000,000 and Purple=$0 to $3,500,000).

Future Development Trends

The summaries below provide brief descriptions of development trends in the Las Virgenes-Malibu Council of Governments area. While all cities within the LVMCOG enforce building code requirements and restrictions in hazard zones, development trends provide an indication of future risk – either from urban area growth in previously undeveloped land (resulting in increased risk from wildfire, landslide, flood, etc.), changes in the building inventory, or increased population densities. Additional information is provided in **Section 2: Community Profile** for each city under Land Use and Housing Characteristics.

Agoura Hills Development Trends

Residential neighborhoods are fully developed and there are limited opportunities for infill development. From 2012 to 2016, the total number of residential housing units increased slightly by approximately 0.6% however there was a significant increase in the number of large units (3 or more units) and mobile homes.

Agoura Hills also contains multiple commercial zones and established business centers. The table below provides a summary of Commercial and Mixed-Use development and Residential projects in Agoura Hills (Source: City of Agoura Hills Development Summary, Department of Planning and Community Development, June 2018 2nd Quarter Report).

Commercial and Mixed-Use Projects

Status	Category	Acres	Use Square Feet	No. of Units / Lots / Projects
In Review	Commercial - New	64.85	360,103	6
	Commercial - Additions	9.72	15,740	2
	Commercial – Rebuild	17.57	3,600	213
	Commercial – Remodel	3.7	2,800	2
	Residential - New	N/A	162,681	N/A
	Subdivision	N/A	N/A	N/A
	Outdoor Use	N/A	5,800	1
Approved	Commercial - New	30.54	549,926	7
	Commercial - Additions	1.33	744	1
	Commercial – Rebuild	0	0	N/A
	Commercial – Remodel	12.75	134,098	3
	Residential	N/A	118,878	110
	Subdivision	4.22	N/A	3
	Outdoor Use	6.79	19,995	1
Completed	Commercial - New	1.93	21,782	1
	Commercial - Additions	0	0	N/A
	Commercial – Rebuild	0	0	N/A
	Commercial – Remodel	1.86	3,400	1
	Residential - New	0	0	N/A
	Subdivision	0	0	N/A
	Outdoor Use	0	0	N/A

Table 120: Agoura Hills Commercial Development Trends

Residential Projects

Status	Category	Acres	Square Feet	No. of Units / Lots
In Review	New Construction	10.12	16,563	3
	Room Additions	3.08	5,324	3
	Subdivision	0	0	0
	Other	0	0	0
Approved	New Construction	62.34	53,096	9
	Room Additions	1.52	27,295	4
	Subdivision	0	N/A	0
	Other	0	0	0
Completed	New Construction	1.52	8,805	2
	Room Additions	0.48	938	1
	Subdivision	0	0	0
	Other	0	0	0

Table 121: Agoura Hills Residential Development Trends

Calabasas Development Trends

Most developable areas within the City are already built out and the majority of undeveloped land will remain undeveloped due to environmental constraints and terrain limitations. From 2012 to 2016, the total number of residential housing units increased by approximately 4% with the greatest growth in structures in 1-unit attached and multi-unit structures.

Although the City is mainly residential, there are a number of established commercial business parks and shopping centers. The table below provides a summary of pending and current development projects in Calabasas (Source: City of Calabasas Projects, Plans & Reports in the City of Calabasas as of 9/25/2018 http://www.cityofcalabasas.com/projects.html).

Name	Location	Description	Number of Units	Size
Audi Calabasas	24650 Calabasas Road	Remodel and Addition to an Existing Audi Calabasas auto dealership	Auto Dealership Expansion	Approximately 111,608 square feet to the existing 35,058 square foot site
Avanti	23500 Park Sorrento	Mixed use development including 80 condominium units (two-and three-bedroom units) and 8 one- and two-bedroom affordable rent units On-site amenities including: pool, club house, outdoor recreation, etc.	88 Residential Units	212,400 square-feet 10,700 square-feet of commercial use space with 294 parking spaces

Name	Location	Description	Number of Units	Size
Calabasas Hilton Garden Inn Expansion	4150 Park Sorrento	Proposed expansion to be built behind an existing three-story, 141-room hotel (Calabasas Hilton Garden Inn	Detached three-story, 51-room structure	28,787 square feet
Las Virgenes Road / Thousand Oaks Blvd. Commercial Center	5741 Las Virgenes Road	Commercial Center	Two-One Story Buildings	45,040 square-feet
The Paxton Calabasas Project	4240 Las Virgenes Road	Residential development on 5 acres of a 21-acre site (16 acres will remain open space)	78-unit townhome	21-acre site
Raznick Mixed Use	23480 Park Sorrento	Commercial Mixed Use (CMU), Age Restricted (55 years old or over) Apartment Complex and Retail	42 Residential Units 1,620 Retail square feet	0.92 acres
Rondell Oasis Site	26300 Rondell Street	3-story self-storage facility and associated office	Storage Facility	67,177 square-feet
West Village Calabasas	4790 Las Virgenes Road at the eastern terminus of Agoura Road (APNs: 2069078009; and 011)	The proposed project involves the development of residential, commercial, and public open space/trail uses on an undeveloped site. The residential component includes 15 three-story multifamily housing buildings. Each building would provide 12 dwelling units for a total of 180 units. The commercial component consists of a 5,867 square-foot retail center.	180 Residential Units 5,867 Retail square feet	77.22 acres 66.1 acres preserved as open space

Table 122: Calabasas Development Trends

Hidden Hills Development Trends

Hidden Hills is a fully developed master planned residential community with a small restricted commercial zone (a single real estate office). Any further development or home modifications must be approved by the Hidden Hills Community Association Architectural Committee. As a result, minimal or no new development is anticipated.

Malibu Development Trends

Malibu is a beachfront community with the majority of residents living along Pacific Coast Highway (PCH) or in small residential communities. A number of existing residences are interspersed throughout the Santa Monica Mountains along canyons and hillsides (one mile or more inland). Malibu has experienced a great deal of 'in-fill' development, increasing population density. From 2012 to 2016, the number of 1-unit, mobile home, and some multi-unit structures increased while the number of large multi-unit structures (20+ units) decreased since 2012.

There are also numerous established retail locations along Pacific Coast Highway including the Malibu Civic Center area. There are approximately 755 business establishments in the City of Malibu (Source: U.S. Census Bureau 2012 Economic Census of the U.S.). The table below provides a summary of significant commercial projects in the City of Malibu (Source: City of Malibu Planning Department, Active Commercial Projects as of 9/25/2018). https://malibupermits.ci.malibu.ca.us/activecommercialprojects?returnId=373. Note: the report does not include: 1) wireless telecommunication facilities; 2) capital improvement projects; 3) educational, religious, or public facilities; and 4) temporary use event/permits.

Active Commercial Projects Submitted from 2015 to 2018

Street Address	Date Received	Approval Status	Zone	Description
22959 Pacific Coast Hwy, Vacant	11/4/2009	Pending	CV-1	New Commercial Building (office/retail), Grading, Retaining Walls, 31 Parking Spaces, NAOWTS & Surfrider Plaza
22959 Pacific Coast Hwy	6/11/2018	Pending	CV-1	New Motel, Grading, Retaining Walls, NAOWTS. Previously proposed as a new commercial building.
23401 Civic Center Way, Parcel, Vacant	5/5/2010	6/11/2015	CV-1	New Shopping Center - Whole Foods & the Park Shopping Center
23575 Civic Center Way, Vacant	5/15/2012	Pending	CC	.20 Malibu Sycamore Village - New Commercial Building Floor Area Ratio of .20
23575 Civic Center Way, Vacant	5/15/2012	Pending	CC	.15 Malibu Sycamore Village - New Commercial Building Floor Area Ratio of .15
23525 Civic Center Way, Parcel A, Vacant	11/14/2013	2/29/2016	I	Santa Monica Community College-Malibu Campus Project (SMC-Malibu Campus)
24855 Pacific Coast Hwy, Malibu Jewish Center & Synagogue	11/6/2014	Pending	I	Malibu Jewish Center - New 22,902 square foot structure, OWTS, landscape
4000 Malibu Canyon Rd, Parcel, Vacant	4/28/2015	6/5/2017	CV-2	Malibu Memorial Park
23839 Stuart Ranch Rd	7/5/2016	Pending	CC	Malibu Racquet Club - Application to demolish an existing single-family residence and all associated development, and construct a new 4,271 square foot two-story building to include tennis courts, deck, pool and additional parking
22729 Pacific Coast Hwy	9/5/2017	Pending	CC	New 36-Room Boutique Hotel
22549 Pacific Coast Hwy, Vacant	9/5/2018	Pending	CN	New Senior living facility and Zoning Map Amendment
23465 Civic Center Way, Parcel, Vacant Lot	9/26/2017	Pending	TCO	La Paz Commercial - Amendment to CDP 05-107, modifications to building footprint, additional pedestrian access and seating, parking improvement

Table 123: City of Malibu Active Commercial Projects

Westlake Village

Westlake Village is a master-planned community with an array of housing types including: townhomes, condominiums, mobile homes, single-family and lakefront residences, and view-oriented estates. From 2012 to 2016, the total number of residential housing units increased by approximately 5.5% with 5 to 9 unit structures exhibiting the greatest increase followed by 20 or more unit structures while mobile home, 3 to 4 unit, and 10 to 19 unit structures decreased.

Within Westlake Village, there are approximately 866 commercial and light industrial businesses (Source: U.S. Census Bureau 2012 Economic Census of the U.S.). Future growth is controlled by the City Planning Department and City Council who work with active and organized homeowner's associations to maintain the high quality of development within the City.

Currently there are three current or proposed significant development projects in Westlake Village (Source: Westlake Village Planning Department, List of Current Projects as of 9/25/2018 https://www.wlv.org/212/Current-Projects).

Street Address	Occupant	Zone	Description
Westlake Village Inn 31943 Agoura Road, Westlake Village, CA 91361	Westlake Village Inn	CPD	Westlake Village Inn Spa Addition The City has approved an expansion to the Westlake Village Inn to include 16 new hotel rooms and a spa complex. As part of the project, the Planning Department conducted an Initial Study and determined that the appropriate document to comply with the California Environmental Quality Act is a Mitigated Negative Declaration. The original document has been revised and is being recirculated. It can be viewed by accessing the link below, in addition to plans for the approved project.
Thousand Oaks Blvd. and Lindero Canyon Road	TBD	CPD BP PI	Westlake Village Business Park Approximately 183 net acres (54 parcels) In May of 2011, the Ad-hoc Committee recommended a preferred development alternative to the City Council, at which time the City Council directed staff and The Arroyo Group to proceed with preparation of a Specific Plan utilizing the preferred development concept.
Calvary Community Church 5495 Via Rocas Westlake Village, CA 91362	Calvary Community Church	PI	Calvary Community Church Addition Calvary Community Church has submitted an application to construct 13,000 square feet of multipurpose space, 1,140 square feet of storage space, and a variety of landscaping and hardscape improvements to provide age specific playgrounds and recreational space.

Table 124: Westlake Village Development Trends - Active

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SECTION 4. HAZARD MITIGATION GOALS AND STRATEGIES

This section describes the framework that focuses the plan on developing successful mitigation strategies. The framework is made up of three parts: Mission, Goals, and Strategies.

MISSION

The mission of the Las Virgenes-Malibu Council of Governments Hazard Mitigation Plan is to promote sound public policy and programs designed to protect the public, critical facilities, infrastructure, private and public property and the environment from natural and manmade hazards. The mission is achieved by developing and implementing the Hazard Mitigation Plan to guide the Region towards creating and maintaining a safer and more sustainable community.

HAZARD MITIGATION PLAN GOALS

The Hazard Mitigation Plan goals describe the overall direction that Las Virgenes-Malibu Council of Governments agencies, organizations, and citizens can take to minimize the impacts of hazards. The plan goals help to guide the direction of future activities aimed at reducing risk and preventing loss from hazards. The goals are stepping-stones between the broad direction of the mission and the specific recommendations that are outlined in the strategies.

To Protect Life, Property, Environment

- Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to hazards.
- Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.
- Encourage preventative measures for existing and new development in areas vulnerable to hazards.

Public Awareness

- Develop and implement education and outreach programs to increase public awareness of the risks associated with hazards.
- Develop and implement education and outreach programs to increase public awareness of the mitigation measures associated with hazards.
- Provide information on tools, partnership opportunities, and funding resources to assist in implementing mitigation activities.

Partnerships and Implementation

- Strengthen communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry to gain a vested interest in implementation.
- Encourage leadership within public and private sector organizations to prioritize and implement local and Regional hazard mitigation activities.

Emergency Management

- Establish policies to ensure implementation of mitigation projects for critical facilities, services, and infrastructure.
- Make recommendations for updating local ordinances, city guidelines, codes, and permitting processes and establish new ordinances that support mitigation.
- Strengthen emergency operations by increasing collaboration and coordination among departments, public agencies, non-profit organizations, business, and industry.
- Coordinate and integrate hazard mitigation activities (when appropriate) with emergency operations plans and procedures.

Floodplain Management

To support the Mission of the Hazard Mitigation Plan, the floodplain management program of each city consists of a combination of:

- Permitting Process and Inspections
- NFIP Participation, Monitoring, and Compliance
- General Plans

Permitting Process and Inspections

Each city's Building & Safety Department is responsible for issuing permits and inspecting construction and development areas to ensure compliance to local codes including restrictions to reduce the threat of flood.

Participation in the National Flood Insurance Program

All the cities within the Las Virgenes-Malibu Council of Governments participates in the National Flood Insurance Program and conforms to the ongoing eligibility requirements as specified under 44 CFR §59.21. Copies of current FIRMs are provided in **Annex F: Flood Insurance Rate Maps**.

CID	Community Name	County	Init FHBM Identified	Init FIRM Identified	Curr Eff Map Date	Reg-Emer Date	Tribal
065072C	AGOURA HILLS	LOS ANGELES		03/04/86	04/04/18	03/04/86	No
060749#	CALABASAS	LOS ANGELES		12/2/80	02/06/16	03/10/93	No
060125#	HIDDEN HILLS	LOS ANGELES	04/23/76	09/07/84	(NSFHA)	09/07/84	No
060745#	MALIBU	LOS ANGELES		09/26/08	09/26/08	10/1/92	No
060744C	WESTLAKE VILLAGE	LOS ANGELES		09/26/08	04/04/18	10/1/92	No

Table 125: FEMA Community Status Book Report: California

Source: http://www.fema.gov/cis/CA.html

Note: A Non-Special Flood Hazard Area (NSFHA) is an area that is in a moderate-to-low risk flood zone (Zones B, C, X Pre- and Post-FIRM). An NSFHA is not in any immediate danger from flooding caused by overflowing rivers or hard rains. However, it's important to note that structures within a NSFHA are still at risk.

NFIP Monitoring and Compliance

Each city within the LVMCOG has a designated staff position responsible for ongoing monitoring and compliance to the requirements specified by under the NFIP. In addition, this person is responsible for managing NFIP and flood mitigation efforts within each jurisdiction and requesting flood map updates ((e.g., working with the city's Emergency Manager/Coordinator and other stakeholders) and requesting flood map updates (as required).

NFIP City Contacts

The following contacts are responsible for NFIP monitoring and compliance:

City	Contact for NFIP Monitoring and Compliance
Agoura Hills	Public Works Director/City Engineer Ramiro Adeva 818-597-7353 radeva@ci.agoura-hills.ca.us
Calabasas	Director of Public Works Robert Yalda 818-224-1670 ryalda@cityofcalabasas.com
Hidden Hills	City Engineer Dirk Lovett 818-888-9281 Staff@hiddenhillscity.org
Malibu	Director of Public Works and City Engineer Bob Brager 310-456-2489 x247 bbrager@malibucity.org
Westlake Village	City Engineer Jessica Arden 818-706-1613 jessica@wlv.org

General Plans – Flood Mitigation and Planning

The Planning Department within each city is responsible for maintaining and updating the General Plan. Floodplain management requirements and incorporation of flood mitigation as well as NFIP requirements are included in the Safety Element sections of the General Plan (Note: the City of Westlake Village utilizes a separate Hazards section for flood hazard goals and policies). The following snapshots of each city's General Plan provide examples of policies that relate directly to flood mitigation (outlined in blue).

Agoura Hills General Plan Safety Element (partial) – Flood Hazards

Chapter 5 COMMUNITY SAFETY

The urban and natural environments of Agoura Hills contain a number of hazards that require special consideration and treatment in the land use **planning process to protect the public's safety. These hazards include flooding,** unstable earth conditions, wildland and urban fires, crime, and hazardous materials. Protection from the risks of natural and man-made hazards, crime, and disease are essential in establishing a sense of well-being for residents and important considerations in attracting new businesses to the City that will provide quality jobs. Goals and policies in this chapter strive to reduce hazards, mitigate noise impacts, provide for emergency response strategies, anc coordinate emergency response agencies.

A. Flood Hazards (S)

In Agoura Hills, potential flood hazards may result from overflow of natural watercourses and man-made drainage systems due to excessive and unusual storm runoff. Agoura Hills does not have a significant flooding problem, as the **City's flood control facilities and storm drainage system general**ly have sufficient capacity to adequately protect developed areas from excessive storm runoff. However, heavy rains can result in flooding on City roadways Figure S-1 (Hazards) displays FEMA-recognized zones subject to flooding and other hazards within the community. The following goal and policies provide the City with guidance in reducing present and future flood hazards.

Flood control and storm water facilities

Goal S-1

Protection from Flood Hazards. Residents, workers, and visitors that are protected from flood hazards.

Policies

S-1.1 **Coordination of Drainage Improvements.** Locate and improve deficiencies in the storm drain system to prevent local flooding problems in the City. *(Imp U-21)*

S-1.2 **New Development.** Require new development to upgrade storm drains to handle the increased runoff generated from the development sites. *(Imp U-20, U-22)*

S-1.3 **Facility Use or Storage of Hazardous Materials.** Require that all facilities storing, using, or otherwise involved with substantial quantities of on-site hazardous materials within flood zones comply with applicable standards of elevation, anchoring, and flood proofing, and that hazardous materials be stored in watertight containers. *(Imp S-1)*

City of Agoura Hills General Plan 5-1

S-1.4 **SEMS Plan. Ensure that the City's Standardized Emergency** Management System (SEMS) Plan is evaluated annually and revised as required, that the current mitigation strategies addressing flood hazards are implemented, and that effective public outreach and education are included. *(Imp S-2)*

S-1.5 **Preservation of Flood Plains.** Preservation of flood plains as open space shall be considered, as feasible, as an alternative to channelization. *(Imp S-3)*

S-1.6 **Floodplain Requirements.** Regulate development within floodplains in accordance with the County, state and federal requirements, and **maintain the City's eligibility** under the National Flood Insurance Program. *(Imp S-1)*

S-1.7 **Flood Mitigation Design.** Require that new development incorporates sufficient measures to mitigate flood hazards, including the design of on-site drainage systems linking with citywide storm drainage, grading of the site so that runoff does not impact adjacent properties or structures on the site, and elevation of any structures above any flooding elevation. *(Imp U-19, U-20, U-21, U-22, S-1)*

Calabasas General Plan Safety Element (partial) – Flood Hazards

VII.B Stormwater Management and Flooding

Objective

Minimize the potential for loss of life, physical injury, property damage, and social disruption resulting from flooding.

General Plan Approach

Flooding is the inundation of normally dry land as a result of a rise in the level of surface waters or the rapid accumulation of storm-water runoff; it becomes a hazard when the flow of water has the potential to damage property and threaten human life or health. Flood risks are greatest, and flood hazards most severe, in winter, when water bodies are usually full and soils saturated. Flooding is primarily a natural process and, therefore, difficult to prevent.

However, land use and development decisions have a significant effect on the frequency and severity of floods; in general, urbanization increases the risk of flooding by increasing stormwater runoff and, to a lesser extent, erosion. Flooding is often a regional problem that crosses multiple jurisdictional boundaries.

A 100-year flood is calculated to be the level of flood water equaled or exceeded at least once in a 100-year period. The 100-year flood is more accurately referred to as the 1% flood, since it is the event that has a 1% chance of being equaled of exceeded in any single year.

Figure VII-3 depicts the Federal Emergency Management Agency (FEMA) flood zones in Calabasas. A small portion of western Calabasas is within the 100-year floodplain; however, the majority of the City is not located within any designated flood zones.

Calabasas will facilitate efforts with local, state, and federal agencies, including special districts, to address flooding issues. Development will generally be discouraged in flood-prone areas and individual developers in the City will be required to mitigate their potential contributions to downstream flooding problems.

Policies

VII-7 Incorporate adequate mitigation measures into proposed development projects to achieve an acceptable level of risk from potential flooding hazards.

CITY OF CALABASAS
2030 GENERAL PLAN

VII. SAFETY ELEMENT

VII-8 Discourage development within flood hazard areas and encourage retention of natural drainage as the City's preferred management strategy, and as a higher priority than attempting to implement engineering solutions.

VII-9 Ensure that new flood control and drainage facilities as well as improvements to existing facilities are consistent with the General Plan's environmental protection standards.

VII-10 For discretionary development projects, limit new impervious surfaces to those that will not individually or cumulatively increase harmful runoff into natural stream channels downstream.

VII-11 Setbacks from stream beds should be sufficient to avoid possible adverse effects associated with future stream bank erosion.

VII.C Fire Hazards

Objective

Minimize the potential for loss of life, physical injury, property damage, and social disruption resulting from urban and wildland fires.

General Plan Approach

Fire is a unique hazard in that it can result both from natural processes and from the intentional or accidental actions of people. There are three main types of fire hazards: (1) wildfires, which affect open space and development on the urban fringe; (2) structural fires, which occur in buildings; and (3) industrial fires, which generally result from the ignition of flammable materials. While fires are not entirely preventable, it is possible to create conditions that reduce the chances of fire and that facilitate efficient response in case fire breaks out. When a fire does ignite, quick response from firefighters and an adequate supply of water are essential in minimizing damage. General factors that affect an area's risk from fire hazards include its location, land uses, distance from fire stations, ease of accessibility by fire-fighting equipment, and adequacy of water supply. More specifically, the extent and severity of damage by fires are determined by several key factors affecting vulnerability. All of Calabasas is designated as a very high fire hazard zone.

CITY of CALABASAS

VII-10

Hidden Hills General Plan Safety Element (partial) – Flood Hazards

Code requires that property owners maintain right-of-way improvements and public works in a clean, hazard-free condition to ensure safety.

Flood Hazards

The Malibu Hydrographic Unit, located in the northwestern portion of the Los Angeles River Basin contains the City of Hidden Hills. The Malibu Hydrographic Unit occupies approximately 242 square miles in the western portion of Los Angeles County and the southeastern portion of Ventura County. The City is part of the Arroyo Calabasas Drainage Basin.

There are no year round streams or ponds within the City. Surface water runoff only occurs during and after periods of intense rainfall. The City's topography and soil conditions subject the City to flood hazards from storm drain overflow, as well as from erosions, mudflows, and debris deposits.

Flood Control Facilities

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps indicate that the City of Hidden Hills is located in Zone C, meaning it has a low potential for flooding.

The Master Plan of Storm Drains map illustrates the existing flood control facilities. The Los Angeles County Flood Control District maintains these facilities.

Police Protection

Under the City-County Law Enforcement Services Agreement, the City contracts with the Los Angeles County Sheriff's Department for general law and traffic enforcement services. The Lost Hills Sheriff's Station, located approximately 4 miles away at 27050 Agoura Road in Calabasas, serves the City.

In addition, the Public Safety Commission plans for the general safety of the City's residents. The Commission's responsibilities include law enforcement liaison, and public safety education. The City Council appoints the Commissioners, who meet on the last Tuesday of each month. In August, 1994, the City Council amended former Public Safety Commission Ordinances and expanded the Commission.

Emergency Response Preparedness and Recovery

The Safety Element is essentially a long-range emergency response

Hidden Hills General Plan *SA-12* *Safety Element*

Malibu General Plan Safety Element (partial) – Flood Hazards

S OBJECTIVE 1.2: RISKS TO RESIDENTS AND BUSINESSES FROM DEVELOPMENT IN HAZARDOUS AREAS ARE MINIMIZED.

S Policy 1.2.1: The City shall require development to provide for analyses of site safety related to potential hazards of fault rupture, earthquake ground shaking, liquefaction, and rockfalls.

S Policy 1.2.2: The City shall require development to provide site safety analyses related to landsliding, debris flows, expansive soils, collapsible soils, erosion/sedimentation, and groundwater effects.

S Policy 1.2.3: The City shall require development to provide for safety from coastal storm flooding, coastal erosion, surfacing septic effluent, and tsunami.

S Policy 1.2.4: The City shall require development to be consistent with minimum Federal Emergency Management Agency (FEMA) guidelines for flood plain management.

S Implementation Measure 43: Encourage area residents to participate in National Flood Insurance Program.

S Implementation Measure 44: Design coastal development, except supporting structure, to be above the wave uprush level for storms within the past 100 years, and above the 100-year flood plain.

Westlake Village General Plan Hazards Chapter (partial) – Flood Hazard

maps have been prepared for Westlake Reservoir and Westlake Lake, but because of the extremely low probability of failure of either dam, the hazard involved is not a significant consideration in planning of the affected areas.

j. FLOOD HAZARD

Flood hazard areas within the City are limited to the Triunfo Canyon drainage below Westlake Lake and the banks of the lake itself. A storm drain system has been constructed in the vicinity of the canyon to moderate the effects of storm runoff. The Los Angeles County Flood Control District has prepared a Triunfo Creek Floodway Map (LACFCD 154-ML2, Ord.81-0021), which defines the physical limits of the flood hazard and the minimum floor elevations required for structures outside of the hazard area (see **Figure 12**, Chapter One). Any development within the canyon will be subject to the review and approval of the District.

Development on the shores of Westlake Lake has been set back several feet from the highest water level which could be expected to occur. This setback is recognized as a flood hazard area and is maintained as open space. The "spillover" design of the Westlake Lake dam ensures that flooding beyond the lake's banks cannot occur.

k. SUMMARY

In summary, there are no geologic, seismic or flooding hazards which are expected to negatively affect or be affected by development within the City if the standard codes and procedures are adhered to.

3. GOALS, POLICIES, AND PROGRAMS

The following presents the goals, objectives, and policies for Geologic, Seismic and Flooding Hazards in the City of Westlake Village. At the end of each policy is a listed "I" and number in parentheses which refers to a corresponding implementation program.

Goal	*It shall be the goal of the City of Westlake Village to:*
	Minimize hazards to public health, safety and welfare which may result from geologic conditions, seismic activity and flooding.
Objective	*It shall be the objective of the City of Westlake Village to:*
1	Provide for an efficient and safe evacuation of the community in the event of a major disaster.
Policies	*It shall be the policy of the City of Westlake Village to:*
1.1	Maintain an effective Citywide Emergency Preparedness Plan (I-1 and I-2).

1.2 Encourage community volunteers to assist police, fire and civil defense personnel during and after a major earthquake, fire or flood (I-3).

Objective *It shall be the objective of the City of Westlake Village to:*

2 Ensure that construction and development activities within the community does not expose residents to avoidable natural hazards.

Policies *It shall be the policy of the City of Westlake Village to:*

2.1 Require the preparation of a detailed geologic and soils report to accompany each grading permit application in all hillside management areas (I-4).

2.2 Prohibit the placement of structures for human habitation within flood prone areas unless the flood hazard is eliminated by measures that do not impair the carrying capacity of the watercourse (I-5).

2.3 Enforce the provisions of the Uniform Building Code, specifically Chapters 23 and 70 as they relate to earthquake-resistant design and excavation and grading (I-6).

Implementation Programs

I-1 Continue to update the Citywide Emergency Preparedness Plan as new information becomes available.

I-2 Periodically distribute an updated pamphlet which informs individual residents of their responsibilities for emergency preparedness.

I-3 Support training programs to train volunteers to assist police, fire protection and civil defense personnel during and after a seismic, fire or flooding event.

I-4 Continue to implement the provisions of the Hillside Management ordinance and coordinate with the Los Angeles County Building and Safety Department so all applicable grading and development standards are implemented.

I-5 Coordinate with the Los Angeles County Flood Control district to ensure that potential flooding hazards associated with proposed new development are fully mitigated.

I-6 Coordinate with the Los Angeles County Building and Safety Department in the review of all development proposals, ensuring Chapters 23 and 70 of the Uniform Building Code are enforced.

HAZARD MITIGATION STRATEGIES

The Hazard Mitigation Plan identifies action items developed and submitted through data collection, research, and the public participation process. Mitigation plan activities may be considered for funding through Federal and State grant programs as well as other funds made available to the LVMCOG and each city. To help ensure activity implementation, each action item includes estimated timeframes and a list of coordinating organizations. Mitigation strategies were assigned a priority based on a combination of factors including urgency, importance, and benefit/cost. Constraints may apply to some of the action items. These constraints may be a lack of city staff, lack of funds, or vested property rights which might expose the Region to legal action as a result of adverse impacts on private property. The matrix on the following page provides a summary of the Hazard Mitigation strategies developed for the Las Virgenes-Malibu Region. See **Section 5 Plan Maintenance and Monitoring: Economic Analysis of Mitigation Projects** for further details regarding the method used to evaluate the feasibility of mitigation projects.

Hazard Mitigation Prioritization of Projects and Actions

According to the Disaster Mitigation Act (DMA) 44 CFR 201.6(c)(3)(iii)), local mitigation plans must contain a strategy (or action plan) whereby "Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs. A comprehensive cost-benefit calculation is not required as part of the Hazard Mitigation Plan (per FEMA Local Hazard Mitigation Plan Review Guide) however a detailed cost-benefit analysis may be needed later if an application for federal mitigation grant funding is made).

Each of the projects listed on the following pages were reviewed and prioritized by the HMP Planning Group and considered the expected benefit to the community versus the estimated cost. Other considerations included whether projects were already in progress or part of another effort, if funds were already budgeted or if additional budget funding was required, the availability of resources, ongoing maintenance requirements, and the timeline for completion (if known).

Benefits were evaluated based on five major categories:

1. Protection of Life / Loss of Life Reduction
2. Protection of Property / Property Loss Reduction
3. Protection of the Environment / Environmental Loss Reduction
4. Increase Public Awareness
5. Scope of Impact

The benefits of each project were evaluated and assigned a value (High, Medium, Low, or None). Project priority values were then assigned following the basic criteria as defined below:

Priority 1	High Priority: The project provides a high benefit with relatively low to moderate cost and/or requires minimal implementation effort. Funding and/or resources may already be assigned or are readily available.
Priority 2	Moderate Priority: The project provides a medium benefit. Resources, costs and/or funding may need to be allocated or obtained.
Priority 3	Low Priority: The project provides a benefit, but the estimated benefits may be limited in scope. Resources and/or funding must be allocated.

Summary of Regional Mitigation Projects and Strategies

The following matrix provides a summary of the Hazard Mitigation Projects implemented within the Las Virgenes-Malibu Region, the current status, and their impact on New Buildings, Existing Buildings, Infrastructure, and the Community. The hazards addressed focus on the high-risk hazards identified in the Risk Assessment (**Section 3: Risk Assessment**). The primary mitigation goals addressed by each project are listed (per Section 4: Hazard Mitigation Goals, p. 4-1), i.e., (1) Public Awareness; (2) Protect Life, Property, and the Environment; (3) Partnerships and Implementation; (4) Emergency Management. In addition, the issues addressed by each project are identified in terms of Mitigation, Preparedness, Response, and Recovery.

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	All Hazards	●	●	●	●	●	●	●	●	◆	◆	◆		✓	✓			Hazard Mitigation Information Campaigns Page 4-32	1	Ongoing / Modified	• Provides the public an opportunity to provide ongoing input into the Hazard Mitigation Plan, risks, and mitigation projects. • Allows the public an opportunity to obtain information on disaster preparedness and personal/family mitigation.	LVMCOG cities conduct public Hazard Mitigation and Disaster Preparedness events and/or information campaigns including efforts coinciding with National Disaster Preparedness Month in September. For example, in September 2018, the City of Malibu conducted a comprehensive public workshop that provided attendees with information and training on disaster preparedness and mitigation.
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	All Hazards	●	●	●	●	●	●	●	●	◆	◆			✓	✓			Implement a Mitigation and Preparedness Monthly Campaign Page 4-33	1	Ongoing	• Provides the public with information on disaster preparedness and mitigation in order to enhance community resiliency.	LVMCOG cities promote Disaster Mitigation and Preparedness public bulletins and awareness programs delivered via city web pages, city TV, social media, and local news.
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	All Hazards	●	●	●	●	●	●	●	●	◆	◆	◆		✓	✓			Business Outreach Disaster Mitigation and Planning Program Page 4-34	1	Ongoing / Modified	• Provides local business owners and business groups with an opportunity to obtain information on disaster preparedness and mitigation, furthering the economic sustainability of the community.	LVMCOG cities work with local business groups (Chambers of Commerce, business associations, business parks, etc.) to encourage disaster mitigation and planning for local businesses.
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	All Hazards	●	●	●	●	●	●	●	●	◆	◆	◆	◆	✓				Continue to Implement, Revise, and Maintain the Las-Virgenes-Malibu Hazard Mitigation Plan Page 4-35	1	Update Complete / Ongoing Maintenance	• Facilitates planning for future events. • Enables better response and coordination by city personnel during and after a hazardous event.	HMP update complete. Maintenance ongoing.

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	All Hazards	●	●	●	●	●	●	●	●		◆		◆	✓				Critical Infrastructure Assessment Page 4-36	1	Ongoing	• May add requirements to new construction permits for critical infrastructure. • Will enable response and coordination by city personnel during and after a hazardous event.	Each city continually assesses the state of readiness of critical facilities within their jurisdictions. For example, the City of Agoura Hills identified key infrastructure to maintain continuity of operations and purchased a drone to conduct hazard assessments; the City of Calabasas participated in the SCAG Earthquake Preparedness Initiative; the City of Hidden Hills designated several sites as critical and provided for backup power generation; the City of Malibu provided the Sheriff's Dept. with a list of its critical infrastructure; and the City of Westlake Village provisioned two key sites with emergency power and supplies.
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	All Hazards	●	●	●	●	●	●	●	●		◆		◆		✓	✓		Emergency Shelter Identification Page 4-37	1	Ongoing	• Provides for better response and coordination by city personnel during and after a hazardous event. • Improves private sector (hotels and other) participation and awareness.	Each city identified emergency shelter locations and works with the American Red Cross to establish shelters. The City of Malibu instituted Tsunami Evacuation Sites and publicized locations via the city's website.
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	All Hazards	●	●	●	●	●	●	●	●		◆	◆	◆		✓	✓	✓	Pre-Established Contracts Page 4-38	1	Ongoing	• Provides for better response and coordination by city personnel during and after a hazardous event.	Each city has identified critical vendors and contractors and maintains current contact lists. For example: the City of Agoura Hills has agreements for Emergency Services assistance, construction, and debris removal; the City of Calabasas has contacts with local vendors and accounts with emergency supply and communications providers; the City of Hidden Hills has emergency vendor contracts and the Community Association work crew is available for urgent repairs; the City of Malibu has contracts for services such as debris removal, fuel, street repair, and other emergency items, and the City of Westlake Village has contracts for fuel, road repair, and supplies.

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	All Hazards	●	●	●	●	●	●	●	●	◆	◆	◆	◆	✓	✓	✓	✓	Hazard Awareness Public / Private Partnerships Page 4-39	1	Ongoing	• Provides for better response and coordination by city personnel during and after a hazardous event. • Improves public preparedness and mitigation education and hazard awareness.	Individual cities have implemented public awareness/business partnership events, task force meetings, and CERT programs. In addition, in 2017 the City of Agoura Hills held a fire preparedness workshop for local businesses and residents; the City of Calabasas and City of Malibu are members of the Santa Monica Mountains Fire Safe Alliance; the City of Hidden Hills works with the Community Association and local school to promote awareness and preparedness; and the City of Westlake Village hosted emergency preparedness seminar, is in the process of creating local partnerships with homeowner associations and other community groups, and has conducted annual community events.
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	• Wildfire • Energy Disruption • Windstorm		●		●	●					◆		◆	✓				Tree Pruning Program and Fire Code Sections Page 4-40	1	Ongoing	• May result in additional maintenance requirements for new commercial and residential development properties.	All cities serviced by the Los Angeles County Fire Department and require tree pruning and brush clearance per LAC Fire Code and State Fire Code. Public information is distributed, e.g., "A Roadmap to Fire Safety" and annual brush clearance mailers.
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	All Hazards	●	●	●	●	●	●	●	●		◆	◆	◆		✓	✓		Communications Hardening Page 4-41	2	Ongoing	• Provides for better response and coordination by city personnel during and after a hazardous event.	All cities implemented Blackboard Connect Inc.'s Connect-CTY system, the Operational Area Response and Recovery System (OARRS), County-wide Integrated Radio System (CWIRS), and Sheriff's Department NIXLE system. Individual cities also implemented social media, public Wi-Fi, Amateur Radio groups, satellite telephones, radio repeaters, and back-up power generation.
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	All Hazards (except Climate Change)	●	●		●	●	●	●	●	◆	◆	◆	◆		✓	✓		US 101 Freeway Corridor Improvement Study Page 4-43	2	Complete / Monitoring and Mitigation Projects Scheduled	• May add infrastructure upgrades to local land use planning and zoning requirements for new commercial development. • Will enable better response times for local emergency services personnel by improving local access routes.	The US 101 Freeway Corridor Study, Kanan Road Interchange project, and Reyes Adobe Interchange project previously completed. The City of Agoura Hills has completed all design work necessary to begin the Chesebro Interchange improvement project. The Chesebro Interchange project construction scheduled to start in Fiscal Year 2017/2018 and will be completed by FY 2018/2019. The Lindero Canyon Interchange project construction scheduled to start September 2018.

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	All Hazards	●	●	●	●	●	●	●	●	◆	◆	◆	◆	✓	✓	✓		Emergency Preparedness Public Awareness Campaign Page 4-44	2	Ongoing	• Improves public preparedness, mitigation education and hazard awareness.	All cities implemented the Ready Set Go Wildfire Action Plan, are part of the CA Fire Alliance, and participate in the annual LA County Shake Out Earthquake Exercise. Individual city programs include local television programming, web site educational information, ongoing training and education events. The City of Calabasas has also implemented a "Map Your Neighborhood Program".
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	All Hazards	●	●	●	●	●	●	●	●		◆		◆	✓				Risk Assessment Project Page 4-46	2	Ongoing	• Enables better land use planning, building code, and zoning requirements.	All cities continuously monitor their risk exposure, update information as needed, add to their disaster mitigation goals, policies, and strategies in General Plans (as applicable) and continue to improve their GIS capabilities. In addition, the City of Agoura Hills completed a comprehensive Risk Assessment in 2015 and upgraded its GIS capabilities; the City of Calabasas developed a listing of local hazards including electrical and natural gas utility, water tanks, and flood risks; the City of Hidden Hills is working with SCE to implement underground utility lines; the City of Malibu has conducted a risk assessment on aging power and communications infrastructure in the city; and the City of Westlake Village has mapped their fire hazard areas as well as updated their GIS flood maps.
Regional Calabasas Hidden Hills Westlake Village	• Earthquake • Wildfire • Windstorm	●	●			●					◆		◆	✓				Rehabilitation of Residential Properties Page 4-48	2	Ongoing	• Mitigates private residential property loss.	Cities implemented home renovation projects or programs (as applicable) to mitigate home property risk. For example, the City of Calabasas and City of Westlake Village have Community Development Block Grant programs for low and moderate income residents for improvements and retrofitting their properties; the City of Hidden Hills has implemented a wood shake shingle roof replacement program and is exploring funding sources. Note: the City of Agoura Hills home rehabilitation outreach program was discontinued due to lack of funding and the City of Malibu does not have a home rehabilitation program.

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Regional Agoura Hills Calabasas Hidden Hills Malibu Westlake Village	All Hazards	●	●	●	●	●	●	●	●	◆	◆		◆		✓	✓		Advanced Community Training Page 4-49	3	Ongoing	• Improves public preparedness and mitigation education and hazard awareness.	Each city offers CERT classes on an ongoing basis throughout the year. In addition, city staff are provided ongoing training on disaster response.

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Summary of City Specific Mitigation Projects and Strategies

Agoura Hills

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Agoura Hills	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●	●	●	●	●	●	●	◆	◆		◆		✓	✓	✓	Advanced Emergency Training Page 4-51	1	New / Ongoing	• Improves Public and Staff preparedness by implementing advanced Emergency Training through existing and/or new programs.	The City of Agoura Hills is utilizing its CERT program to provide advanced emergency training to volunteers and is promoting advanced emergency management training including FEMA courses to staff.
Agoura Hills	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●	●	●	●	●	●	●	◆	◆	◆	◆	✓		✓	✓	Agoura Road Widening Page 4-51	1	New / Ongoing	• Improves multi-modal access, an emergency bi-pass, and improves operational capacity.	Roadway Complete, Environmental Mitigation ongoing until Fall 2018
Agoura Hills	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●	●	●	●	●	●	●	◆	◆	◆		✓		✓	✓	Annual Street Pavement Rehabilitation Project Page 4-52	1	New / Under Design	• Maintains critical infrastructure - Reduces the potential for loss of life, injury, and economic damage to Agoura Hills residents and businesses by keeping the public roads in a state of good repair.	Entails the removal and reconstruction of asphalt, and base, and replacing curb ramps to current ADA Standards.
Agoura Hills	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●	●	●	●	●	●	●			◆	◆	✓		✓	✓	Fairview Road Improvement Project Page 4-52	1	New / Pending	• Maintains critical infrastructure for emergency egress on Fairview Road.	The City of Agoura Hills is in the process of obtaining road improvement funding and approvals for Fairview Road.
Agoura Hills		●	●									◆	◆	✓		✓	✓	Roadside Bridge Widening Page 4-53	2	New / Completing Design and Permitting	• Reduces the potential for loss of life, injury, and economic damage to Agoura Hills residents and businesses from earthquake, wildfire, landslides, and the impacts of these hazards. Increases the City's ability to serve the community during disaster response and recovery by mitigating risks to key infrastructure	In the design and permitting process. The project will result in the widening of the bridge to eliminate bottlenecks. Will also involve the installation of a pedestrian sidewalk. Scheduled for August 2018 to August 2019.

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Agoura Hills		●	●								◆	◆	◆	✓		✓	✓	Palo Camado Bridge Widening Page 4-53	3	New / Completing Design and Permitting	• Reduces the potential for loss of life, injury, and economic damage to Agoura Hills residents and businesses from earthquake, wildfire, landslides, and the impacts of these hazards. Increases the City's ability to serve the community during disaster response and recovery by mitigating risks to key infrastructure.	In the process of completing the design and permitting process. The project will widen the bridge to increase capacity. It will also result in the installation of traffic signals and sidewalks as well as a seismic retrofit.

Calabasas

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Calabasas	Wildfire		●								◆	◆	◆	✓				Fire Code Update Page 4-55	1	Complete	• May add requirements to new construction permits. • Will reduce risk and mitigate the impact of fire on new construction.	The revised Los Angeles County Fire Code adopted by the City. Calabasas Building and Safety Staff changes to the fire code pending the next triennial cycle of the LA County Fire Code for review.
Calabasas	Wildfire		●							◆	◆		◆	✓				Incentive Based Lot Mergers Page 4-55	2	Complete	• Will mitigate future fire losses by ensuring that adequate open space is maintained between new construction projects.	The General Plan update incentivizing small lot mergers was completed and adopted by the City Council in 2008. The 2010 Development Code updates reflect such policies. No additional incentives are required at this time.

Hidden Hills

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Hidden Hills	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●	●	●	●	●	●	●		◆		◆	✓				Update the City of Hidden Hills General Plan and Local Ordinances Page 4-57	1	Ongoing	• May add requirements to new construction permits. • Will reduce risk and mitigate the impact of disasters on new construction and remodeled properties.	The General Plan and existing codes are regularly reviewed and modified (if necessary). The General Plan continues to incorporate elements to mitigate seismic, fire, landslide and flooding events.
Hidden Hills							●				◆		◆	✓				Comprehensive Hills Slope Management Program Page 4-57	1	Ongoing	• Will prevent future development on potentially unstable hillsides. • May add requirements to new construction permits. • Will reduce risk and mitigate the impact of landslides on new construction.	Geological evaluations are required for all proposed hillside developments. Landslides are identified, mapped, and mitigated. In addition, the City has adopted a ridgeline protection ordinance to help preserve scenic corridors.
Hidden Hills			●								◆			✓				Wood Shake Shingle Roof Replacement Program Page 4-58	2	New / In Process	• Will provide incentives to replace older wood shake shingle roofs by residents.	The City is looking into a program to help offset the cost of replacing remaining wood shake roofs in the City. All new construction bans the installation of wood shake shingles.
Hidden Hills	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●	●	●	●	●	●	●		◆		◆		✓	✓	✓	Emergency Satellite Communications Page 4-58	2	Complete / Maintenance Ongoing	• Provides for better response and coordination by city personnel during and after a hazardous event.	The City has satellite phone and internet ability and two-way radio communications equipment. Two-way radio batteries were recently replaced.
Hidden Hills	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●	●	●	●	●	●	●		◆		◆		✓	✓		Advanced Emergency Training Page 4-59	2	Ongoing	• Improves public preparedness and mitigation education and hazard awareness.	CERT classes offered throughout the year. • The CERT team has continuing training in disaster response, first aid and evacuation shelter setup • The CERT first aid medical equipment trailer has been checked and updated. • City staff and CERT team members have been trained in active shooter response.

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Hidden Hills	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●			●	●	●	●		◆	◆	◆		✓	✓		Communications Improvements Page 4-59	2	Ongoing	• Will continue to improve cellular telephone reception in areas of the City that are currently underserved.	Cellular telephone and radio coverage is regularly evaluated. In addition, the City of Hidden Hills is now authorized to send out emergency messages to cell phones (IPAWS Wide Area Alerts). Additionally, a fiber optic plan is being worked on by the community to provide high speed Internet and help provide WiFi cell service.
Hidden Hills	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●			●	●	●	●		◆		◆		✓	✓		Community Evacuation Routes, Planning, and Training Page 4-60	2	Complete	• Improves public safety in the event that a mass evacuation is required.	Ingress and egress to the City has been improved with addition of contractor parking areas at the gates. In addition: • The City will allow school buses, for Round Meadow Elementary School, through the gates to bring students to reunification sites if Mureau Road is closed. • The City is actively working on a revision of traffic flow at the Long Valley gate, adding a turn lane and providing contractor parking areas to keep traffic flowing into and out of Hidden Hills. This roadway update will also aid traffic flow onto the Northbound 101 freeway onramp. • The City conducted a public workshop for Wildfire evacuation for residents and large animals. Training was offered to the residents on horse trailer loading and unloading. Also offered was a CHP sponsored horse trailer inspection day.
Hidden Hills	Flood							●			◆			✓				Storm Drain Management Page 4-61	2	Ongoing	• Will ensure that storm drains are free from debris to prevent flooding.	Continue to maintain the storm drain system to ensure that drains are free from debris to prevent flooding. While the storm drains are managed by Los Angeles County, the City does work to ensure the free flow of water to prevent street flooding.
Hidden Hills	Energy Disruption				●								◆		✓	✓	✓	Backup Power for the City's Critical Sites Page 4-61	2	Complete / Maintenance Ongoing	• Maintain backup power systems for City Hall and the Community Center.	Backup power generation systems for City and the Community Center are maintained on an annual basis.

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Hidden Hills	Wildfire Energy Disruption Windstorm		●		●	●					◆	◆	◆	✓				Underground Utility Line Implementation Page 4-62	2	Ongoing	• Reduce the risk of power failure by replacing overhead power lines with underground lines to mitigate the risk of power failure and wildfires during periods of high winds.	Continuing to work with SCE to plan, approve permits, inspect, and install underground power systems.

Malibu

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Malibu	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●			●	●	●	●		◆	◆			✓	✓		Bluffs Park Improvement Project Page 4-63	1	Ongoing	• Improves public safety in the event that a mass emergency shelter is required.	Continuing to work to upgrade critical infrastructure to improve reliability for emergency shelter.
Malibu	Flood							●			◆			✓				Catch Basin and Culvert Upgrades Page 4-64	1	Ongoing	• Will reduce risk and mitigate the impact of flood and landslides on new and existing construction.	Continuing to work to upgrade City catch basins and culverts to increase capacity.
Malibu	Flood							●			◆		◆	✓				City Hall Drainage Improvements Page 4-64	1	Ongoing	• Mitigates the risk of flooding in and around City Hall (critical infrastructure).	Continuing to work to improve drainage around City Hall to channel water flow.
Malibu	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●			●	●	●	●		◆	◆			✓	✓		Excavation and Emergency Shelter at Zuma Beach Page 4-65	1	Ongoing	• Improves public safety in the event that a mass evacuation is required.	Continue to work with LA County Beaches to develop the Zuma Beach parking lot as an emergency shelter location and secure access.
Malibu	• Landslide • Flood						●	●			◆		◆	✓	✓			Las Flores Road Canyon Improvements Page 4-66	1	Ongoing	• Will reduce risk and mitigate the impact of flood on new and existing construction in the Las Flores Creek area. • Improves public safety in the event that a mass evacuation is required.	Continue to improve pavement and drainage to reduce flooding and erosion as well as maintain evacuation route reliability.
Malibu	• Landslide • Flood						●	●			◆		◆	✓	✓			Malibu Road Improvements Page 4-66	1	Ongoing	• Will reduce risk and mitigate the impact of flood in the area. • Improves public safety in the event that a mass evacuation is required.	Continue to improve pavement to reduce flooding and erosion as well as maintain evacuation route reliability.

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Malibu	• Landslide • Flood						●	●			◆		◆	✓	✓			Malibu Road Storm Drain System Improvements Page 4-67	1	Ongoing	• Will reduce risk and mitigate the impact of flood on new and existing construction in the area. • Improves public safety in the event that a mass evacuation is required.	Continue to improve storm drains to reduce flooding and erosion as well as maintain evacuation route reliability.
Malibu	• Landslide • Flood						●	●			◆		◆	✓	✓			Pacific Coast Highway Drainage Improvements Page 4-67	1	Ongoing	• Will reduce risk and mitigate the impact of flood on new and existing construction along Malibu Road. • Improves public safety in the event that a mass evacuation is required.	Continue to work with Caltrans to improve drainage and divert water into the Legacy Park detention basin and prevent flooding along Malibu Road as well as maintain evacuation route reliability.
Malibu	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●			●	●	●	●		◆		◆		✓	✓		Rainsford Bridge Installation Page 4-68	1	Ongoing	• Improves public safety in the event that a mass evacuation is required.	Continue to improve reliability of evacuation routes by installing a bridge at Rainsford Place.
Malibu	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●			●	●	●	●		◆		◆		✓	✓		Road Reconstruction Page 4-68	1	Ongoing	• Improves public safety in the event that a mass evacuation is required.	Continue to improve reliability of evacuation routes by reconstructing Latigo Canyon Road, Corral Canyon Road, Encinal Canyon Road and Malibu Road.
Malibu	• Wildfire • Windstorm		●			●					◆			✓				Tree Removal in City Right-of-Way Page 4-69	1	Ongoing	• Reduces the risk of wildfire. • Maintains critical infrastructure.	Continue to identify and remove trees to maintain a safe distance from power poles and reduce fire risk.
Malibu	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●			●	●	●	●		◆	◆		✓	✓			Utility Facility and Distribution Upgrades Page 4-69	1	Ongoing	• Reduces the risk of power outages. • Maintains critical infrastructure.	Continue to work with utility companies to improve utility distribution facilities and systems such as power poles, utility boxes, etc.

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Malibu	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●			●	●	●	●		◆	◆	◆		✓	✓		Water Storage Page 4-70	1	Ongoing	• Improves the reliability of key resources. • Maintains critical infrastructure.	Continue to work with LA County Water District 29 to improve water storage systems throughout the City of Malibu.
Malibu	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●			●	●	●	●		◆		◆	✓	✓			City of Malibu GIS Upgrade Page 4-70	1	Ongoing	• Will reduce risk and mitigate the impact of hazards on new construction by improving local land use planning.	Further GIS upgrades and maintenance ongoing.
Malibu	Flood							●			◆	◆	◆	✓				Flood Actions Page 4-71 FEMA MAP Program Participation Letter Pages 4-72 to 4-73	1	Complete / Ongoing	• May add requirements to land use planning and new construction permits. • Will reduce risk and mitigate the impact of flood on new construction.	Included mitigation goals in the City of Malibu General Plan (see Mitigation Plan strategy). In addition, Flood Warning and Preparedness information is made available via the City of Malibu web site (Emergency Preparedness Library). Finally, the City of Malibu is a participant in the 2012 FEMA California Coastal Analysis and Mapping Project/Open Pacific Coast Study (CCAMP). These efforts will address gaps in required engineering and mapping for high flood risk areas impacted by coastal flooding, levee systems, and other flood hazards (e.g., lakes, rivers, and ponds).
Malibu	Flood							●			◆			✓				Malibu Flood Mitigation Plan Page 4-74	1	Complete / Ongoing	• May add requirements to land use planning and new construction permits. • Will reduce risk and mitigate the impact of flood on new construction.	Flood specific goals included in the City of Malibu General Plan. Ongoing updates to mitigation goals and the General Plan are performed (as required).
Malibu	Flood							●			◆				✓	✓		Annual Street Pavement Project Page 4-75	2	Ongoing	• Maintains critical transportation infrastructure.	Rehabilitation work is performed annually. Projects have included Broad Beach Road, Malibu Canyon Road, Civic Center Way, and Cross Creek Road. The City continues to perform annual road rehabilitation projects as necessary.

Westlake Village

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Westlake Village	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●			●	●	●	●		◆	◆	◆		✓	✓		Communications Improvements Page 4-77	1	Ongoing	• May add requirements to new construction permits for communications infrastructure. • Will provide for better response and coordination by city personnel during and after a hazardous event.	Westlake Village continues to work with wireless phone carriers to improve mobile phone reception in the areas of the city that are not adequately covered by wireless networks. The County-wide Integrated Radio System (CWIRS) was deployed. Furthermore, the City installed a satellite-based computer network that allows the EOC to connect to the Internet in the event of a disruption to the landline computer network. The system is regularly tested during power outages and the EOC is able to remain connected to the Internet.
Westlake Village	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●			●	●	●	●		◆		◆	✓	✓			City of Westlake Village GIS Upgrade Page 4-78	1	Complete / Ongoing	• Will reduce risk and mitigate the impact of hazards on new construction by improving local land use planning.	The Geographic Information System was updated and higher resolution maps were created of the Westlake Reservoir, the FEMA floodplain, and the fire hazard areas. A fire hazard severity map was created. Training of personnel on the GIS was conducted and will continue to be performed on an ongoing basis.
Westlake Village	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●			●	●	●	●		◆		◆		✓	✓		Emergency Power Generation Page 4-78	1	Complete / Maintenance Ongoing	• Improves internal capabilities at critical City facilities.	Generators were purchased for the EOC and the Community Room. The City must conduct a study to determine the feasibility of rewiring City Hall and the Community Rooms to provide entire facility rather than only select rooms with backup power in the event of an outage. Study must also be conducted to assess the practicality of replacing the City's diesel fuel generators with battery storage units.
Westlake Village	Wildfire		●							◆	◆			✓				Smoke Detector Installation Page 4-79	1	Complete / Ongoing	• Will encourage residents with existing structures built prior to 1986 to install smoke detectors. This will mitigate the impact of fire on existing buildings.	A program to educate the public about the importance of installing smoke detectors and replacing batteries periodically was instituted. Information was disseminated to the public through articles in a series of city newsletters.

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Westlake Village	Windstorm Wildfire		●			●					◆		◆	✓				Tree Census Page 4-79	1	Complete / Ongoing	• May result in additional tree clearing or maintenance requirements for new commercial and residential development properties.	The City's Public Works personnel identified and inspected every tree on public property in the City. Trees determined to be hazardous were cut down. The City continues to assess trees annually. In addition, a GIS tree mapping program has developed. A Heritage Tree Ordinance was also adopted in 2018 to identify trees in the city with particular significance to be monitored more closely.
Westlake Village	Flood																	Annual Street Resurfacing Program Page 4-80	2	Ongoing	• Maintains critical transportation infrastructure.	Ongoing effort. In 2016/17 completed asphalt overlay work on the following streets: Three Springs Drive, Fallview Rd., Timbridge Ct., Snowpeak Dr., Torchwood Pl., Yellowwood Dr., Aspen View Ct., Woodburn Ave., Carrie Pl., South Shore Pla., Sandpiper Ct., Royal Glen Rd., Lyndbrook Ct., Trowbridge Ct., Tynebourne Ct., Langspur Ct., Beaucroft Ct., Bedforhurst Ct., Village School Rd., Shropshire Dr., Dunraven Ct., Bain Ct., Hardfirled Ct., Havington Ct., Orchard View Ct. In 2017/2018 completed asphalt overlay work on the following streets: Kristen Lee Dr., Denver Springs Dr., Wellbrook Dr., Montview Ct., Grand Oaks Dr., Village Center Rd., and Greengate Ct. Completed 2016/17 slurry seal work on the following streets: Lindero Canyon Road , Oak Crest Drive and Park Terrace Completed slurry work in 2017/18 Three Springs neighborhood, First Neighborhood, Triunfo Canyon Rd, La Tienda Rd, and Russell Ranch Rd. For the past several years, Westlake Village has partnered with the City of Agoura Hills leading to reduced overall contract costs for both cities.
			●					●			◆		◆		✓	✓						
Westlake Village	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●			●	●	●	●		◆		◆		✓	✓		Advanced Emergency Training Page 4-81	2	Ongoing	• Improves public preparedness and mitigation education and hazard awareness.	Advanced training is provided to DRT members every year. CERT classes are provided multiple times during the year. The City of Malibu hosted shelter training to which Westlake sent representatives. Westlake Village also conducted two Point of Distribution exercises in November of 2009 and 2010. The POD exercises used CERT members within an Incident Command System structure.

City	Hazard	Specific Hazards Addressed in the HMP ●								Mitigation Goal ◆				Issues Addressed ✓				Project Name / Strategy	Priority	Status	Impact on Buildings, Infrastructure, and the Community	Comments
		Earthquake	Wildfire	Climate Change - Drought	Energy Disruption	Windstorm	Landslide / Debris Flow	Flood / Severe Winter Storm	Terrorism / Mass Casualty Incident	Public Awareness	Protect Life, Property and the Environment	Partnerships and Implementation	Emergency Management	Mitigation	Preparedness	Response	Recovery					
Westlake Village	All Hazards (includes impacts related to Climate Change, i.e., increased flood, wildfire, etc.)	●	●	●	●	●	●	●	●	◆	◆	◆	◆	✓	✓	✓		Public Emergency Preparedness Page 4-82	2	Ongoing	• Improves public preparedness and mitigation education and hazard awareness.	Emergency Preparedness Plan (for residents) updated and is available through the City's website. Also, Los Angeles County established the California Fire Alliance which includes an information campaign aimed at educating the public about wildfire safety. In addition, the Los Angeles County Fire Department developed the Ready Set Go Wildfire Action Plan to inform residents of actions they can take to keep them safe from wildfires. Finally, Westlake Village and Agoura Hills hosted a joint emergency preparedness event in August 2010 aimed at educating the public. Further public preparedness efforts ongoing.
Westlake Village		●	●					●			◆	◆	◆					Solar Power for City Hall Page 4-83	2	New / Ongoing	• City Hall is the City's Emergency Operating Center. Having a reliable power to EOC during and emergency is the goal as well as a sustainable project.	Working to adopt the CIP and the design/build process.
Westlake Village								●			◆	◆	◆					Triunfo Creek Bridge Resurfacing Page 4-83	2	New / Completed	• Resurfaced bridge deck for maintenance to reduce the risk of flood.	Completed in 2017. LA County designed and executed the construction contract.

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Strategy Organization

The Mitigation Strategies presented provide a listing of activities that the Region (normally through individual city departments) and citizens can implement to reduce risk. They reflect ongoing activities and future actions to be taken in order to reduce the loss of property and life. All of the projects listed were evaluated in terms of the benefit versus cost and were found to be beneficial (see Section 5: Plan Maintenance and Monitoring, Economic Analysis of Mitigation Projects for an explanation of the evaluation process utilized).

The strategies are organized within the following matrix. Data collection, research and stakeholder participation were used to develop the hazard mitigation strategies listed. The following categories of information are provided for each strategy:

Hazard	The type of hazard that the strategy addresses. Multi-Hazard mitigation strategies provide strategies that can be applied to multiple or all hazards.
Project Name	Name of the mitigation project strategy.
Status	Project status, e.g., Complete, Partially Complete, Ongoing, Removed (Cancelled), Discontinued, etc.
Strategy	Strategy description.
Action Items	Actions that will be completed to implement (or continue) the strategy.
Coordinating Department	The department with regulatory responsibility to address the named hazard, or that is willing and able to organize resources, find appropriate funding, or oversee implementation, monitoring, and evaluation. Participating departments are listed with the main department responsible in **BOLD**.
Timeline/Completion Date/Priority	The estimated timeframe for implementation along with a general implementation priority.
Total Cost	Estimated cost of the project.
Funding Source(s)	Where the funding will be obtained.
Constraints	Constraints may apply. These constraints may include a lack of staff, lack of funds, or vested property rights which might expose the Region to legal action as a result of adverse impacts on private property.
Implementation Description	A brief description of activities associated with the project.
Plan Goals Addressed The plan goals addressed by each project are divided into four categories (see check boxes below) and are included as a method to monitor and evaluate mitigation plan progress.	
☐ Public Awareness	☐ Protect Life, Property, and the Environment
☐ Partnerships and Implementation	☐ Emergency Management

Detailed mitigation strategies for the Las Virgenes-Malibu Council of Governments are provided in the following sections. The mitigation strategies provide detailed action items that support the strategy. Common mitigation strategies that pertain to the entire Las Virgenes-Malibu Region are listed under "Regional Mitigation Strategies". Mitigation strategies that focus on one jurisdiction are contained in separate sections for each city. City specific mitigation strategies were submitted from various departments within each city. Mitigation strategies were reviewed and approved by the Steering Committee and Planning Group.

HAZARD MITIGATION STRATEGY PROJECTS

The following Hazard Mitigation Strategies were included in the original Hazard Mitigation Plan. An update on the status of each project for the 2018 Hazard Mitigation Plan is provided in the following tables for regional and city specific projects. Also, additional information related to mitigation activities since the previous HMP are included (as applicable) under specific projects or as new projects.

Regional Mitigation Projects

Hazard Mitigation Information Campaigns

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**Hazard Mitigation Information Campaigns**
Status	Ongoing / Modified
Strategy	Conduct Hazard Mitigation and Disaster Preparedness Events and/or Information Campaigns to coincide with National Disaster Preparedness Month in September
Action Items	• Schedule workshop and information campaign • Develop program • Advertise the workshop or information campaign (city web page, city TV, and local news) • Conduct the workshop or information campaign
Coordinating Department	LVMCOG, Public Safety, Emergency Management, Emergency Services
Timeline/Completion Date/Priority	Annual / Priority 1
Total Cost	None, in-house staff time
Funding Source(s)	N/A
Constraints	Time / Resources
Implementation Description	Conduct public information efforts to review the Hazard Mitigation Plan, solicit public input, provide an overview of local area risks, and a review of mitigation projects to promote public participation, mitigation, and awareness. Workshop topics: • Hazard Mitigation Plan Update • Earthquake Mitigation and Preparedness • Wildfire / Fire Mitigation and Preparedness • Climate Change Mitigation and Preparedness • Landslide Mitigation and Preparedness • Severe Wind/Wind Storm Mitigation and Preparedness • Flood and Winter Storm Mitigation and Preparedness • Terrorism Mitigation and Preparedness

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation		Emergency Management

Implement Mitigation and Preparedness Campaigns

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**Implement Mitigation and Preparedness Campaigns**
Status	Ongoing
Strategy	Implement Ongoing Information Campaign to Promote Disaster Mitigation and Preparedness
Action Items	• Develop informational pages, announcements, and supporting materials • Obtain electronic and/or hard copy mitigation and preparedness handouts (sources include Ready.gov, NOAA, USGS, and the American Red Cross) • Include information in city web pages and city broadcast announcements • Investigate other opportunities to reach the public such as radio interviews and press releases
Coordinating Department	LVMCOG, Public Safety, Emergency Management, Emergency Services
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	None, in-house staff time
Funding Source(s)	N/A
Constraints	Time / Resources
Implementation Description	Provide disaster mitigation and preparedness bulletins via city web pages, city TV, local news, and/or other media.

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

Business Outreach Disaster Mitigation and Planning Program

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**Business Outreach Disaster Mitigation and Planning Program**
Status	Ongoing / Modified
Strategy	Work with local business groups (Chambers of Commerce, business associations, business parks, etc.) to encourage disaster mitigation and planning for local businesses.
Action Items	• Meet with local business groups and/or make information available to increase awareness of the Hazard Mitigation Plan, mitigation programs, and planning information. • Make available and distribute disaster mitigation and preparedness information (information sources include Ready.gov and the American Red Cross). • Communicate to local businesses via city provided information resources (i.e., web pages, notification and alert resources, publications, etc.).
Coordinating Department	Public Safety, Emergency Management, Emergency Services
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	None, in-house staff time
Funding Source(s)	N/A
Constraints	Time / Resources

Implementation Description	• Identify local business groups
	• Make information available to local business groups. Topics may include:
	  ○ Business Hazard Mitigation Programs
	  ○ Earthquake Mitigation and Preparedness for the workplace
	  ○ Wildfire / Fire Mitigation and Preparedness for the workplace
	  ○ Climate Change / Severe Heat / Drought Mitigation and Preparedness for the workplace
	  ○ Landslide and Debris Flow Mitigation and Preparedness for the workplace
	  ○ Severe Wind/Wind Storm Mitigation and Preparedness for the workplace
	  ○ Flood and Severe Winter Storm Mitigation and Preparedness for the workplace
	  ○ Terrorism and Mass Casualty Event Mitigation and Preparedness for the workplace
	• Work with the Los Angeles County Sheriff to establish programs increase community involvement and vigilance. For example, the City of Westlake Village has established a Business Watch Program to disseminate information and encourage participation.

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation		Emergency Management

Continue to Implement, Revise and Maintain the Las-Virgenes-Malibu Multi-Jurisdiction Hazard Mitigation Plan

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**Continue to Implement, Revise and Maintain the Las-Virgenes-Malibu Multi-Jurisdiction Hazard Mitigation Plan**
Status	Complete for 2018 / Maintenance Ongoing
Strategy	The LVMCOG will continue to coordinate with the cities of Agoura Hills, Calabasas, Hidden Hills, Malibu and Westlake Village to update as needed the Multi-Jurisdictional Hazard Mitigation Plan.
Action Items (recurring)	• Conduct an annual review of the plan. • Implement and monitor all mitigation strategies within the stated time periods. • Plan action items will continue to address at least one, if not all, plan goals: Public Awareness, Partnership and Implementation, Protect Life, Property, and the Environment, and Emergency Management.
Coordinating Department	Las Virgenes-Malibu Council of Governments (LVMCOG)
Timeline/Completion Date/Priority	Ongoing / Review Annually Priority 1
Total Cost	Plan Maintenance at $10K to $15K per Year
Funding Source(s)	Hazard Mitigation Grant and COG
Constraints	Time and Resources
Implementation Description	The Multi-Jurisdiction Hazard Mitigation Plan was updated in 2011, 2013, and 2018 as part of the strategy.

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

Critical Infrastructure Assessment

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**Critical Infrastructure Assessment**
Status	Ongoing
Strategy	Conduct assessments of long term support for critical infrastructure.
Action Items	1. Continue to monitor the infrastructure that is most crucial to the city during an emergency event 2. Develop and implement strategies to ensure that the key infrastructure required by the city are available during a disaster
Coordinating Department	Building and Safety
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	None, in-house staff time
Funding Source(s)	N/A
Constraints	Time
Implementation Description	**All Cities** • Each city continually assesses the state of emergency readiness of its critical facilities. **Agoura Hills** • The following sites have been identified as critical: City Hall, EOC, Recreation & Event Center, City Yard as critical facilities. Two facilities have functional emergency power generators. • City Hall is stocked with emergency food for 32 staff and 25 volunteers for 3 days. • The City currently has cameras installed at major intersections that can be used for road assessments. • Additionally, the City has purchased a drone that can be used for hazard structure assessments. **Calabasas** • The City of Calabasas participated in the SCAG Earthquake Preparedness Initiative as a member of the Ventura County Cohort. Rapid assessment forms to be used post-seismic event were pre-prepared for individual structures selected using the following criteria: high occupancy, community lifeline, history of damage, geotechnical conditions, critical infrastructure, major transportation routes and vulnerable populations. Staff continues to refine the draft assessment and will conduct future training for field inspectors. **Hidden Hills** • The Hidden Hills City Hall and Community Center have been designated as critical. • Back-up generator power is available at City Hall and the Community Center. **Malibu** • Back-up generator power is available at City Hall • Emergency food, water and shelter supplies are available at City Hall • Community volunteers are being trained to assist with initial damage assessment **Westlake Village** • The Westlake Village Civic Center (City Hall, Community Rooms, and Library) have been identified as critical infrastructure. Additional backup critical facilities include Berniece Bennett Park storage room. • The City maintains contract staff for regular assessment of critical infrastructure and on-call availability during emergencies. • Bridges spanning the 101 freeway, waterways, and wash basins are also identified and inspected.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Emergency Shelter Identification

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**Emergency Shelter Identification**
Status	Ongoing
Strategy	Identify buildings, areas, locations, etc. within the community that can be used as Emergency Shelters in case of a hazard event.
Action Items	1. Build relationships with local hotels 2. Educate the hotels on hazards and procedures 3. Identify emergency shelters and provide detailed instructions on how to set up when activated as an emergency shelter 4. Conduct at minimum, yearly drills at the emergency shelters
Coordinating Department	Building and Safety
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	In-house staff time / Other Costs TBD
Funding Source(s)	General Funds / In-house staff time
Constraints	Time
Implementation Description	**All Cities** • All cities work with the American Red Cross to establish shelter sites and follow the ARC schedule of locations. • All cities continuously evaluate potential shelter sites. **Agoura Hills** • Designated Agoura High School and Willow School as emergency shelters. **Calabasas** • Working with the Red Cross, the City has identified three locations for possible use as emergency shelters: las Virgenes Unified School Gymnasiums at AE Wright Middle School, AE Stelle Middle School and Calabasas High School. **Hidden Hills** • The City will be purchasing a portable generator and emergency blankets for the emergency evacuation supply cache. • Three 55 gallon water storage containers have been filled and stored. **Malibu** • All the schools in the Santa Monica/Malibu School district are available to be used as shelters. In addition, Malibu Bluffs Park may also be used. • The City has a Right-of Entry permit with Los Angeles County Department of Beaches and Harbors for the use of Zuma Beach parking lot #12, located near Trancas Canyon Road, for use as an emergency temporary shelter location for the public. This area is also permitted for the temporary evacuation of large animals. • Tsunami evacuation sites have been identified and locations publicized via the City's website. **Westlake Village** • Calvary Community Church in Westlake Village and Civic Center Community rooms are designated as emergency shelter locations. • Berniece Bennett Park has been identified as an outdoor location to be used as a staging area, distribution point, or triage center in the event of an emergency. • The City is currently in discussions with the school district regarding the school district's role in providing temporary shelter in the event of an emergency. • The City has identified additional locations including local hotels and the local YMCA facility to engage in discussions for future sheltering needs.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Pre-Established Contracts

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**Pre-Established Contracts**
Status	Ongoing
Strategy	Create pre-established contracts with local merchants to provide emergency items/materials in an emergency situation.
Action Items	Continue to assess needs and opportunities to create relationships with local merchants for potential contracts for key supplies, i.e. water, candles, canned food, etc.
Coordinating Department	Community Services
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	None, in-house staff time
Funding Source(s)	N/A
Constraints	Time
Implementation Description	**Agoura Hills** • Agreements with contractors for Emergency Services assistance established. Additionally, the city's residential franchise agreement includes language mandating emergency assistance for debris removal. • The city currently has contracts with the following companies to assist with emergency services: XCELL Paving and Burns Construction (Public Works). • Additionally, the city's residential franchise agreement includes language mandating emergency assistance for debris removal. • The city is currently in discussions with the City of Thousand Oaks over Mutual Aid Agreements. **Calabasas** • Calabasas maintains contacts with local vendors and a list of contractors for emergencies. • Calabasas maintains an account with SOS Survival Products for emergency supplies. • Calabasas maintains a contract with KR Nida Communications for radio service. **Hidden Hills** • Hidden Hills contracts with local vendors and maintains a list of contractors for emergencies. • Community Association work crews and equipment are available to the City **Malibu** • The city maintains a list of contractors that could be called upon to provide services and necessary items in the event of an emergency. For example, Burns Pacific provides street repair services as well as debris removal, fuel for the city's emergency generator and other services as required. **Westlake Village** • The city maintains agreements with private vendors of services in the event that City resources are overwhelmed in an emergency situation. • Contracts are maintained for items such as generator fuel, road repair, and supplies. • City is working to establish further contracts for "First rights" of food and other supplies from local wholesale and big box retailers.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

Hazard Awareness Public/Private Partnerships

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**Hazard Awareness Public/Private Partnerships**
Status	Ongoing
Strategy	Continue to create public/private partnerships to educate and involve surrounding community regarding hazard events.
Action Items	Continue to monitor opportunities to promote hazard awareness and create public/private partnerships to promote disaster preparedness and mitigation.
Coordinating Department	Public Works, Community Services, Emergency Services
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	None, in house staff time
Funding Source(s)	N/A
Constraints	Time
Implementation Description	**All Cities** • Continue community outreach efforts. • Continue to provide information through each city's web site, media platforms, and CERT Program. • Continue to promote awareness programs through public forums, local schools, and other institutions. **Agoura Hills** • The City held a fire preparedness workshop in 2017 to educate businesses and residents about preparing for fire and possible evacuations. Mitigation efforts to protect their homes and businesses were also discussed. Multiple public safety agencies participated. **Calabasas** • Provides business continuity information and guidance via the city website. • Calabasas is a member of the Santa Monica Mountains Fire Safe Alliance. **Hidden Hills** • There is no substantial business within Hidden Hills but City does work with the Community Association and Round Meadow Elementary School for hazard education and disaster preparedness. **Malibu** • Malibu is a member of the Santa Monica Mountains Fire Safe Alliance. • Malibu continues to work with the business community to establish partnerships in emergency response. **Westlake Village** • Hosted an emergency preparation seminar in which several vendors with emergency preparedness products were represented. • City established a Public Safety Advisory Board comprised of appointed community members and Councilmembers to meet regularly and consider public safety issues. • City has begun facilitating community events during "National Night Out" for residents to engage with different public safety and disaster response assets on an annual basis. • Partnerships are being created with local homeowners' associations and community groups to form Neighborhood Watch groups to encourage awareness and participation.

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

Tree Pruning Program and Fire Code Sections

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	Windstorm / Wildfire
Project Name	**Tree Pruning Program and Fire Code Sections**
Status	Ongoing
Strategy	Create local City and utility awareness of tree pruning and Fire Code sections relevant to wind-resistant utility operations
Action Items	1. Continue to review and update current codes on tree pruning 2. Continue to conduct assessments of trees within each city that can pose a safety hazard 3. Implement (as needed) new codes regarding tree maintenance in each city's general plan
Coordinating Department	Public Works
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	None, in-house staff time
Funding Source(s)	N/A
Constraints	Time
Implementation Description	**All Cities** • All cities within the region are serviced by the Los Angeles County Fire Department. Requirements related to tree pruning and brush clearances are contained in the Los Angeles County Fire Code, Section 1117, "Clearance of Brush and Vegetation Growth". • All cities have tree pruning/maintenance programs and distribute information related to tree pruning and brush clearance via hardcopy and city websites. Examples include "A Roadmap to Fire Safety" and annual brush clearance mailers distributed by Los Angeles County. • Additional fire prevention requirements are contained in the California Fire Code and Los Angeles County Fire Code.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Communications Hardening

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**Communications Hardening**
Status	Ongoing
Strategy	Continue to monitor and act to update, revise, upgrade communications networks, facilities, equipment, etc. in the Region to avoid communications problems during a hazard event.
Action Items	Continue to monitor and implement actions to harden each city's communications, including: 1. Antenna lease programs to avoid "black spots" in the Region 2. Additional repeaters to existing radio systems 3. Backup generators 4. MOU's with communications companies 5. Additional or upgraded wireless communication, (such as handheld radios) equipment for EOC's 6. Engage telecom providers in the development of a fiber broadband network.
Coordinating Department	Public Works, Building and Safety
Timeline/Completion Date/Priority	Ongoing / Priority 2
Total Cost	$100,000
Funding Source(s)	FEMA HMGP funds or internal funding
Constraints	Funding
Implementation Description	**All Cities** • Established Blackboard Connect Inc.'s Connect-CTY system which allows each city to send out emergency messages to residents' telephones. • Deployed the County-wide Integrated Radio System (CWIRS). • Implementing the Operational Area Response and Recovery System (OARRS). • The LA County Sheriff's Department implemented NIXLE which is a system to send geographically specific text messages and E-mails. **Agoura Hills** • The City of Agoura Hills purchased a BGAN Mobile Satellite Communication System to ensure reliable communications backup. • The city recently enhanced the CERT Volunteer repeater • The city has a Twitter Account which can be used for disseminating information. • In 2016 the city replaced outdated handheld radios with new models. • The city currently uses an APP "See Click FIix" which is can be used to help identify hazards during severe weather events. • In 2018 the city purchased a mobile satellite system (BGAN) to provide communication backup if EOC communication system is not available. • The city has 23 CERT Volunteers licensed HAM operators. • At its Kimberly Peak site, a new communication tower will be constructed by LA RICS. **Calabasas** • Acquired a portable repeater for the Calabasas radio system. • Implemented portable satellite Internet and phone capabilities (Portable Global Satellite Internet & Phone BGAN) • Implemented portable and stationary battery backup for AM radio, city radio and amateur (Ham) radio. Stationary backup batteries in city repeater. • Conducts a Calabasas Emergency Response Program (CERP) radio check on a weekly basis. (continued on the next page)

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Project Name	**Communications Hardening**
Implementation Description (continued)	**Hidden Hills** • Maintains a satellite phone two-way radios. • Continuously evaluates deficiencies and improvement options. The City continues to monitor improvements in cellular reception. • Maintains an emergency generator at City Hall with a 2-week back-up fuel supply that will sustain the city's communication capabilities. • The City has several licensed amateur radio operators. • The City has installed antennas, repeaters and base stations throughout the City. • A fiber optic plan is being worked on by the community to provide high speed Internet and help provide WiFi cell service. **Malibu** • Maintains a generator with the capability to operate all critical communications, I.T. and Emergency Operations Center (EOC) functions. • Participates in monthly radio drills with Disaster Management Area B partners. • Maintains Emergency Public Information (EPI) outlets via TWITTER, FACEBOOK and NIXLE, and has a Media Information Officer to run the EPI systems. • Maintains WiFi zones for public use at major City parks. • The City has installed antennas, repeaters and base stations throughout the City to establish radio communications with Fire, Sheriff, Amateur (Ham) radio operators and volunteer responders via radios installed in the VOPs office, which is located immediately adjacent to the City's EOC. **Westlake Village** • Maintains a satellite computer network that will allow the EOC to access the Internet even if the landline-based network is disrupted. • Maintains a disaster response radio room with radio equipment capable of communicating with multiple counties and agencies. • Maintains radio network with disaster response team members and regular testing. • Purchased a mobile satellite system (BGAN) to provide WiFi communication backup if EOC communication system is not available. • Established a social media presence as an additional source of information dissemination. • Installed roof mounted radio antenna switch for handheld radio access.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

US 101 Freeway Corridor Improvement Study

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**US 101 Freeway Corridor Improvement Study**
Status	Complete / Monitoring and Mitigation Projects Scheduled
Strategy	Documented potential solutions to the transportation deficiencies of the 40-mile transportation corridor including, and surrounding (city streets and public transportation), the US 101 Freeway from State Route 23 in Thousand Oaks to State Route 110 in Downtown Los Angeles.
Action Items	Implement (if feasible) action items from the study and continue to monitor the corridor for opportunities for improvement.
Coordinating Department	Las Virgenes-Malibu Council of Governments, Los Angeles Department of Transportation, Caltrans, Los Angeles County Metropolitan Transit Authority (METRO), Southern California Association of Governments (SCAG)
Timeline/Completion Date/Priority	Complete / Monitoring Ongoing / Priority 2
Total Cost	$4.5 million
Funding Source(s)	Grants from Metro and SCAG
Constraints	Funding, Community Support
Implementation Description	• The US 101 Freeway Corridor Study, Kanan Road Interchange project, and Reyes Adobe Interchange project previously completed. • The City of Agoura Hills has completed all design work necessary to begin the Chesebro Interchange improvement project. The Chesebro Interchange project construction scheduled to start in Fiscal Year 2017/2018 and will be completed by FY 2018/2019. • The Lindero Canyon Interchange project construction scheduled to start September 2018.

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

Emergency Preparedness Public Awareness Campaigns

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	Multi-Hazard
Project Name	**Emergency Preparedness Public Awareness Campaigns**
Status	Ongoing
Strategy	A comprehensive program that would educate citizens about local hazards and what to do in case of hazard events.
Action Items	1. Continue to provide the public with information regarding hazards 2. Create public service TV shows on local cable channels 3. Obtain matched funding through partnerships with local business community
Coordinating Department	Community Services
Timeline/Completion Date/Priority	Ongoing / Priority 2
Total Cost	$30,000
Funding Source(s)	FEMA grants and/or internal funds
Constraints	Funding
Implementation Description	**All Cities** • Los Angeles County, State, and Federal government established the California Fire Alliance which includes an information campaign aimed at educating the public about wildfire safety. • The Los Angeles County Fire Department developed the Ready Set Go Wildfire Action Plan to promote wildfire mitigation and preparedness. • LA County Shake Out Exercise is conducted annually. • Distribute information campaigns and educational materials via city-owned TV, web sites, newsletters, handouts, CERT programs, and social media. **Agoura Hills** • The City of Agoura Hills continues to air programming aimed at educating the public about emergency preparedness and mitigation on its local TV channel. • Hosted a fire preparedness webinar in August 2017 including a Q&A session with Police and Fire. • The City hosts personal emergency training twice per year for the general public. (CERT). • The City's local disaster response team hosts informational training sessions once per month. Meetings are open to the general public. **Calabasas** • C TV – The Calabasas Channel airs public safety meetings and other emergency preparedness programs on local cable. • Calabasas website has educational information about disaster preparedness. • Map Your Neighborhood (MYN) Program serves to organize and educate residents in preparation for responding to a disaster. • AM radio – Calabasas radio 1630 AM for emergency broadcast information. (continued on the next page)

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	Multi-Hazard
Project Name	**Emergency Preparedness Public Awareness Campaigns**
Implementation Description	**Hidden Hills** • Preparedness information is made available via the City's web page, handouts, TV Channel, and City and Community Association newsletters. • Hidden Hills conducted a public workshop and training for Wildfire evacuation for residents and large animals. **Malibu** • Malibu airs multi-hazard public safety announcements on local television. • Malibu's Media Team regularly posts preparedness information on all social media outlets. • Preparedness Public Service Announcements are regularly aired on Malibu's local radio station KBUU. • CERT classes are offered to the public three times each year. • Public Safety Town Halls are held four times a year. **Westlake Village** • Westlake Village continues to provide TV, web site, and media information campaigns aimed at emergency preparedness and disaster mitigation. • Social media page established to increase awareness and participation. • "How To" video being developed to encourage residents to sign up to emergency notification systems.

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

Risk Assessment Project

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**Risk Assessment Project**
Status	Ongoing
Strategy	Conduct a comprehensive city by city risk assessment of life and property in direct earthquake, fire, landslide and flood zones.
Action Items	• Monitor existing hazard zones and identify new hazard zones within each city of the Las Virgenes-Malibu COG Region (including new parcels and units). • Continue to update existing information as data becomes available and identify valuations of new buildings. • Continue to improve and/or add GIS technologies to better map hazard areas. • Conduct GIS training for internal staff (as applicable).
Coordinating Department	Planning, Public Works, Information Technology, Building and Safety
Timeline/Completion Date/Priority	Ongoing / Priority 2
Total Cost	$50,000
Funding Source(s)	FEMA HMGP funds
Constraints	Funding and resources
Implementation Description	**All Cities** • Continuously monitoring risk exposure updating information as circumstances change and as new data becomes available. • Continue to add disaster mitigation goals, policies, and strategies in General Plans (as needed). • Continue to improve GIS capabilities (as needed) to better map community hazards and enable better planning decisions. **Agoura Hills** • The City of Agoura Hills conducted a comprehensive risk assessment of the city in 2015 (LossCAP Program Risk Management Evaluation, December 2015). • The City of Agoura Hills updated its Geographic Information System (Archmap v.10.5). In addition, the City budgets $10,000 annually for GIS consultant services. • The City of Agoura Hills General Plan 2035 was adopted on March 24, 2010 and provides Community Safety hazard mitigation policies for flood, geological and seismic hazards, fire, hazardous materials, and emergency preparedness. **Calabasas** • As part of the SCAG Post Earthquake Preparedness Initiative and as Ventura Cohort, the City developed a draft comprehensive listing of hazards, including high power So. California Edison transmission lines, water tanks, high pressure So. Ca Gas Company lines, vulnerable structures, unstable geotechnical conditions, Las Virgenes Water District treatment facilities and flood maps. The information was compiled for use in post-event rapid assessment inspections. (continued on the next page)

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**Risk Assessment Project**
Implementation Description	**Hidden Hills** • The City of Hidden Hills General Plan continually monitored and updated (as needed) to identify elements requiring updates. Seismic, fire, landslide, flooding, and other hazardous risk programs are assessed. • The City of Hidden Hills continues to work with SCE to replace overhead power lines and poles with underground electrical systems. **Malibu** • The City of Malibu upgrades its GIS every year, including staffing, education, and equipment improvements. • A tree removal program was carried out to remove dead trees in the public right-of-way power line space to mitigate potential fire risks. • An assessment was conducted to evaluate overloaded/aging power and communication poles in the City. • The City of Malibu General Plan was adopted in July 2009 and is updated regularly as needed. The General Plan and includes a Safety and Health Element that provides guidelines for reducing the potential for loss of life, injuries, damage to property, and social and economic dislocation resulting from major hazards throughout the community. **Westlake Village** • Fire hazard zones were identified and a GIS fire hazard map was developed. • Individual maps are being created of every homeowners' association in the City to aid in individualized emergency alerts. • Flood hazard zones related to Triunfo Creek and Three Springs Dam were identified and mapped using GIS. • Training was conducted and will continue to be conducted on an ongoing basis. • City staff met with Cal Fire officials to review and approve safety elements of the General Plan update.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Rehabilitation of Residential Properties

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	• Earthquake • Wildfire • Windstorm
Project Name	**Rehabilitation of Residential Properties**
Status	Ongoing
Strategy	Provide funds for low/moderate income residents to improve health and safety conditions.
Action Items	Continue to investigate opportunities and funding to mitigate hazards by providing funds, equipment and/or materials to residents that cannot afford to repair households that might pose safety hazards
Coordinating Department	Building and Safety
Timeline/Completion Date/Priority	Ongoing / Priority 2
Total Cost	Up to $35,000 per household
Funding Source(s)	FEMA and/or CDBG Funds
Constraints	Funding
Implementation Description	**Agoura Hills** • The City's home rehabilitation outreach program was discontinued due to lack of funding. **Calabasas** • Calabasas maintains a Community Development Block Grant (CDBG) housing rehabilitation program that provides loans and grants to low and moderate income residents for emergency repairs, improvements to sub-standard properties, corrections for code violations, seismic retrofits and removal of lead-based paint and asbestos hazards. Up to a maximum of $7,500 and deferred zero percent loans of up to $15,000 are available to eligible homeowners who qualify as low or moderate income under U.S. Housing and Urban Development guidelines. **Hidden Hills** • Hidden Hills has implemented a wood shake shingle roof replacement program to identify and obtain funding sources to mitigate the cost of wood shake shingle roof replacement by residents with fire resistant materials. **Malibu** • The City does not currently have a home rehabilitation program. **Westlake Village** • Home renovation projects to address safety hazards for low and moderate income residents are considered on an individual basis as a part of the Housing Rehab Program funded through the federal Community Development Block Grant program.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Advanced Community Training

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**Advanced Community Training**
Status	Ongoing
Strategy	Provide advanced emergency training for community members.
Action Items	1. Provide CPR training for residents 2. Provide EMT training for residents 3. Provide more Automatic External Defibrillators (AED) 4. Provide training for residents and staff to be certified to operate AED's already present at some public buildings within the Region 5. Provide Advanced Emergency Training for residents
Coordinating Department	Community Services, Los Angeles County Fire Department
Timeline/Completion Date/Priority	Ongoing / Priority 3
Total Cost	$25,000
Funding Source(s)	FEMA HMGP funds
Constraints	Funding, time
Implementation Description	**Agoura Hills** • The City of Agoura offers 2 CERT classes annually and continues to offer these classes. These classes are open to anyone who wishes to attend - residents and non-residents. • CERT members participated in community events in order to give residents an opportunity to learn more about emergency preparedness and to promote the CERT class. • The City of Agoura Hills conducted advanced medical training for CERT volunteers. Additionally, in 2018 the city hosted American Red Cross Shelter Training for City Staff and CERT Volunteers to educate on requirements for shelter management. • The city currently has 35 active and trained members of the public on its CERT Disaster Response Team. • Bi-annual CPR/AED 1st Aid Training Classes are offered to active DRT Members. • Five Active Members of the City's DRT have received advanced medical training. The city continues to offer this training to its DRT members. • In 2018 the City conducted American Red Cross Shelter Training to City Staff and DRT Members. • The City of Agoura Hills plans to offer Shelter Manager training in FY2018-2019 for its staff and selected volunteers. **Calabasas** • Community Emergency Response Team classes offered to residents annually. • CPR/AED/First Aid training for volunteers of the city continues to be offered. • Implemented a basic training component for residents in the MYN campaign. • Promotes amateur radio licensing classes on a quarterly basis to become a HAM radio operator. Over 100 ham radio licenses earned per year. (continued on the next page)

Category	Description
City	All LVMCOG Cities: Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village
Hazard	All Hazards
Project Name	**Advanced Community Training**
Implementation Description	**Hidden Hills** • The CERT team has continuing training in disaster response, first aid and evacuation shelter setup. • The CERT first aid medical equipment trailer has been checked and updated. • City staff and CERT team members have been trained in active shooter response. **Malibu** • 3 CERT classes are offered in Malibu every year. The City currently has trained over 300 members of the public in CERT. • Approximately 30 CERT graduates have completed additional training, registered as disaster services workers and are part of the official Malibu CERT Team. CPR/AED and First Aid classes are offered once a year at City Hall. **Westlake Village** • Provided GIS training for city personnel. • Sent representatives to shelter training hosted by the American Red Cross. • Provide staff and Disaster Response Team members with access to CPR/AED/First Aid training. • 2-3 CERT classes available to residents of Westlake Village annually in conjunction with the LA County Fire Department

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Other Regional Hazard Mitigation Efforts

In addition to the regional mitigation projects listed, the following ongoing efforts are applicable for each city:

- New construction developments must meet all Los Angeles County Codes to mitigate the risk of earthquake, fire, and other disasters.
- There is a fuel modification program to mitigate the threat of wildfire that impacts structures that are within 200 feet of a state or national park.

Agoura Hills Mitigation Projects

Advanced Emergency Training

Category	Description
City	Agoura Hills
Hazard	All Hazards
Project Name	**Advanced Emergency Training**
Status	New / Ongoing
Strategy	Provide advanced emergency management training to city personnel and the public.
Action Items	• Utilize existing programs such as CERT to provide advanced emergency training to volunteers. • Promote advanced emergency management training to city personnel including FEMA emergency management courses. .
Coordinating Department	Emergency Management
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	$2,275 and $4,263
Funding Source(s)	Area B EMPG Grants
Constraints	Time
Implementation Description	Improve Public and Staff preparedness by implementing advanced Emergency Training through existing and/or new programs. For example, the City of Agoura Hills conducted advanced medical training for CERT volunteers. Additionally, in 2018 the City hosted American Red Cross Shelter Training for City Staff and CERT Volunteers to educate on requirements for shelter management. Further, the City of Agoura Hills hosted the Fire Preparedness Workshop in 2017 to educate the community on personal Fire Preparedness.

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Agoura Road Widening

Category	Description
City	Agoura Hills
Hazard	All Hazards
Project Name	**Agoura Road Widening**
Status	New / Roadway Complete, Environmental Mitigation Ongoing
Strategy	Improve Multi-Modal Access, Emergency Bi-Pass, Improve Operational Capacity
Action Items	• Secure Funding, Design Process ,Right of Way, Construction, Environmental Mitigation
Coordinating Department	Start Sept. 2010 / Completion Fall of 2018 / Priority 1
Timeline/Completion Date/Priority	Complete / Priority 1
Total Cost	$36,000,000
Funding Source(s)	Measure R
Constraints	Funding
Implementation Description	Roadway Complete, Environmental Mitigation ongoing until Fall 2018

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

Annual Street Pavement Rehabilitation Project

Category	Description
City	Agoura Hills
Hazard	All Hazards
Project Name	**Annual Street Pavement Rehabilitation Project**
Status	New / Under Design
Strategy	Maintain critical infrastructure - Reduce the potential for loss of life, injury, and economic damage to Agoura Hills residents and businesses by keeping the public roads in a state of good repair.
Action Items	• Repair and maintain local streets to ensure ingress/egress routes are clear and improve environmental safety. • Advertise for bids. Award contract. • Complete construction.
Coordinating Department	Public Works
Timeline/Completion Date/Priority	Out to bid June 4, 2018 / End of September 2018 / Priority 1
Total Cost	FY 2018/19 $461,000
Funding Source(s)	Measure R (Local, Road Rehab Fund), STP-L
Constraints	Funding
Implementation Description	Remove & Reconstruct asphalt, and base. Replace curb ramps to current ADA Standards.

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation		Emergency Management

Fairview Road Improvement Project

Category	Description
City	Agoura Hills
Hazard	All Hazards
Project Name	**Fairview Road Improvement Project**
Status	New / Not Started
Strategy	Maintain critical infrastructure for emergency egress on Fairview Road.
Action Items	• Obtain approvals and funding to improve access on Fairview Road.
Coordinating Department	Public Works
Timeline/Completion Date/Priority	Complete / Priority 1
Total Cost	TBD
Funding Source(s)	General Fund / State Funding
Constraints	Resources and Funding
Implementation Description	Obtain road improvement funding and approvals for Fairview Road.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Roadside Bridge Widening

Category	Description
City	Agoura Hills
Hazard	Earthquake/Wildfire
Project Name	**Roadside Bridge Widening**
Status	Completing Design and Permitting
Strategy	Reduce the potential for loss of life, injury, and economic damage to Agoura Hills residents and businesses from earthquake, wildfire, landslides, and the impacts of these hazards. Increase City's ability to serve the community during disaster response and recovery by mitigating risks to key infrastructure.
Action Items	• Begin and complete construction
Coordinating Department	Public Works
Timeline/Completion Date/Priority	August 2018 - August 2019/ Priority 2
Total Cost	$2,000,000
Funding Source(s)	HBP and Toll Credits
Constraints	Limited right of way
Implementation Description	Widen bridge to eliminate bottleneck. Install sidewalk.
Plan Goals Addressed	

	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Palo Camado Bridge Widening

Category	Description
City	Agoura Hills
Hazard	Earthquake/Wildfire
Project Name	**Palo Camado Bridge Widening**
Status	New / Completing Design and Permitting
Strategy	Reduce the potential for loss of life, injury, and economic damage to Agoura Hills residents and businesses from earthquake, wildfire, landslides, and the impacts of these hazards. Increase City's ability to serve the community during disaster response and recovery by mitigating risks to key infrastructure.
Action Items	• Begin and complete construction
Coordinating Department	Public Works
Timeline/Completion Date/Priority	July 2018 - July 2020/ Priority 3
Total Cost	$21 Million
Funding Source(s)	Measure R and Measure M
Constraints	Limited bridge height
Implementation Description	Widen bridge to increase capacity. Install traffic signals and sidewalks. Seismic retrofit.
Plan Goals Addressed	

	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

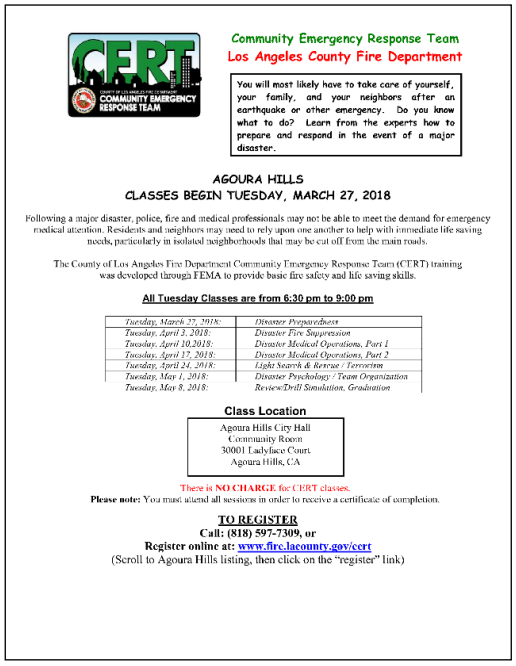
Other City of Agoura Hills Mitigation Efforts

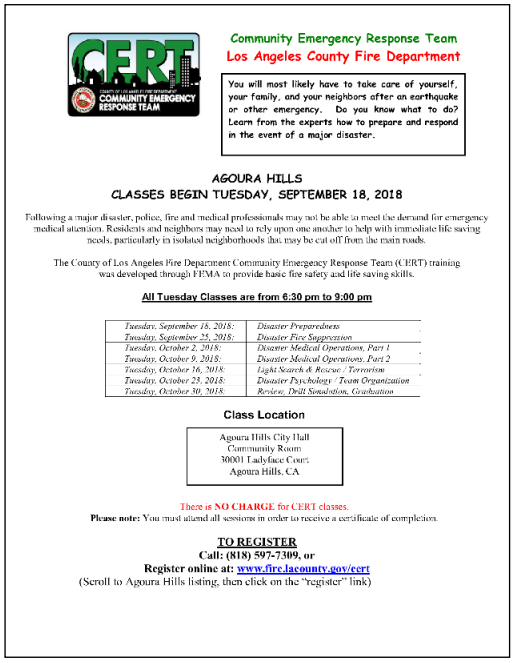
Emergency Power Generation

The City of Agoura Hills has completed implementation of emergency power generation capabilities for selected critical City locations. This furthers the City's ability to maintain continuity of operations during a power disruption.

Public Awareness

The City airs public service announcements via the City television channel and provides information through its web site, newsletters, and community events to promote emergency preparedness within the community. Examples are provided below:





The City of Agoura Hills utilizes the Connect-CTY (Blackboard Inc.) system to provide residents with critical information such as emergency notifications and targeted community outreach bulletins (such as road closures). Residents are encouraged to sign-up for the program via the City TV channel and newsletters. Currently the City has more than 7,100 residents signed-up for Connect-CTY.

Calabasas Mitigation Projects

Fire Code Update

City	Calabasas
Hazard	Wildfire
Project Name	**Fire Code Update**[10]
Status	Complete
Strategy	Review and update existing city codes
Action Items	• Review existing codes relevant to fire protection and prevention in the wildland interface • Work with Los Angeles County Fire Department to enforce new codes
Coordinating Department	Los Angeles County Fire Department and Community Development
Timeline/Completion Date/Priority	Complete / Priority 1
Total Cost	None, in-house staff time
Funding Source(s)	N/A
Constraints	Time
Implementation Description	Calabasas Building and Safety Staff changes to the fire code pending the next triennial cycle of the LA County Fire Code for review.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

Incentive Based Lot Mergers

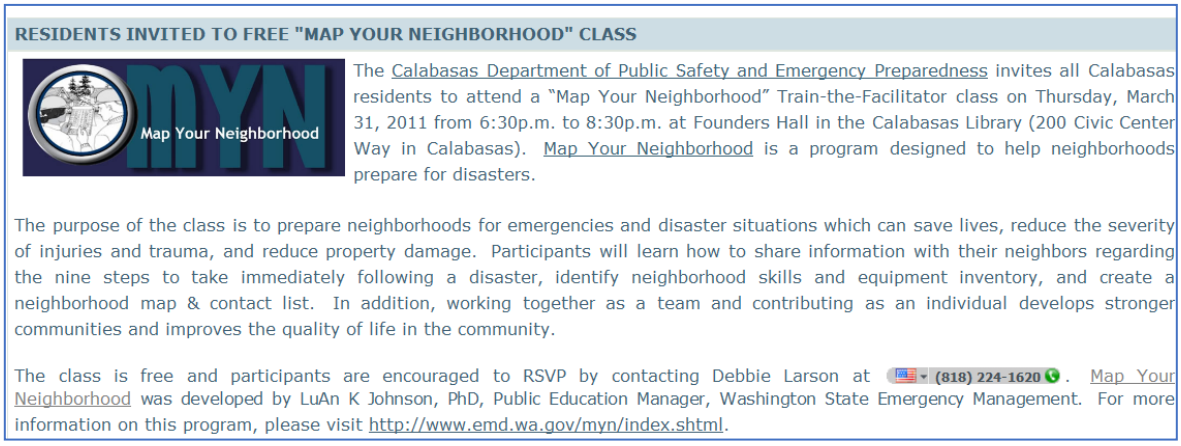
City	Calabasas
Hazard	Wildfire
Project Name	**Incentive Based Lot Mergers**
Status	Complete
Strategy	Initiate process to provide incentive for residents to merge smaller lots
Action Items	• Begin process to educate and provide incentive for residents to consolidate small lots into one larger lot • Encourage homes to be developed with enough distance from one another in order to prevent the spread of fires
Coordinating Department	Community Development
Timeline/Completion Date/Priority	Complete / Priority 2
Total Cost	$1,000,000
Funding Source(s)	FEMA HMGP funds
Constraints	Funding, community participation
Implementation Description	The General Plan update incentivizing small lot mergers was completed and adopted by the City Council in 2008. The 2010 Development Code updates reflect such policies. No additional incentives are required at this time.

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

[10] http://www.cityofcalabasas.com/departments/fire.html - All fire services are provided to residents through contract with the Consolidated Fire Protection District of Los Angeles County. The City receives fire protection and paramedic services as well as wildland fire protection and forestry tree service

Other City of Calabasas Hazard Mitigation Efforts

- Continue the Map Your Neighborhood Program - This was a program encourages local homeowners to conduct neighborhood emergency planning.



RESIDENTS INVITED TO FREE "MAP YOUR NEIGHBORHOOD" CLASS

The Calabasas Department of Public Safety and Emergency Preparedness invites all Calabasas residents to attend a "Map Your Neighborhood" Train-the-Facilitator class on Thursday, March 31, 2011 from 6:30p.m. to 8:30p.m. at Founders Hall in the Calabasas Library (200 Civic Center Way in Calabasas). Map Your Neighborhood is a program designed to help neighborhoods prepare for disasters.

The purpose of the class is to prepare neighborhoods for emergencies and disaster situations which can save lives, reduce the severity of injuries and trauma, and reduce property damage. Participants will learn how to share information with their neighbors regarding the nine steps to take immediately following a disaster, identify neighborhood skills and equipment inventory, and create a neighborhood map & contact list. In addition, working together as a team and contributing as an individual develops stronger communities and improves the quality of life in the community.

The class is free and participants are encouraged to RSVP by contacting Debbie Larson at (818) 224-1620. Map Your Neighborhood was developed by LuAn K Johnson, PhD, Public Education Manager, Washington State Emergency Management. For more information on this program, please visit http://www.emd.wa.gov/myn/index.shtml.

- Facebook and Twitter – Social media resources are used to issue public notices. Residents can sign-up voluntarily through the City's website.

Hidden Hills Mitigation Projects

Update the City of Hidden Hills General Plan and Local Ordinances

City	Hidden Hills
Hazard	All Hazards
Project Name	**Update the City of Hidden Hills General Plan and Local Ordinances**
Status	Ongoing
Strategy	Continue to review and update the General Plan and local ordinances for the City of Hidden Hills to reflect current conditions
Action Items	• Continue to review make adjustments to reflect changes in city conditions, most notably the Safety Element of the plan • Continue to review existing codes for possible changes or amendments
Coordinating Department	Engineering/Public Works
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	None, in-house staff time
Funding Source(s)	N/A
Constraints	Time
Implementation Description	• The City General Plan continues to incorporate elements to mitigate seismic, fire, landslide and flooding events.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Comprehensive Hill Slope Management Program

City	Hidden Hills
Hazard	Landslide
Project Name	**Comprehensive Hill Slope Management Program**
Status	Ongoing
Strategy	To recognize the concern for future property damages incurred by residents
Action Items	• Continue the ongoing program that manages hill slope activity where development is already present • Continue to suggest appropriate proactive measures that govern the long-term stability of potentially active landslide areas • Prevent future development on potentially unstable hillsides and conduct geology reviews on a case by case basis
Coordinating Department	Engineering/Public Works
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	None, in-house staff time
Funding Source(s)	N/A
Constraints	Time
Implementation Description	Geological evaluations are required for all proposed hillside developments. Landslides are identified, mapped, and mitigated. In addition, the City has adopted a ridgeline protection ordinance to help preserve scenic corridors.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Wood Shake Shingle Roof Replacement Program

City	Hidden Hills
Hazard	Wildfire
Project Name	**Wood Shake Shingle Roof Replacement Program**
Status	New
Strategy	To providing incentives to replace older wood shake shingle roofs by residents.
Action Items	• Identify and obtain funding sources to mitigate the cost of wood shake shingle roof replacement by residents with fire resistant materials.
Coordinating Department	City of Hidden Hills Emergency Management
Timeline/Completion Date/Priority	In Process / Priority 2
Total Cost	TBD
Funding Source(s)	General Funds / FEMA HMGP funds / Internal time
Constraints	Funding / Time
Implementation Description	The City is looking into a program to help offset the cost of replacing remaining wood shake roofs in the City. All new construction bans the installation of wood shake shingles.
Plan Goals Addressed	

	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

Emergency Satellite Communications

City	Hidden Hills
Hazard	All Hazards
Project Name	**Emergency Satellite Communications**
Status	Maintenance Ongoing
Strategy	Purchased satellite telephones to avoid communications problems during an emergency
Action Items	• Monitor the Service Level Agreement with the satellite communications provider • Continue ongoing maintenance and management of the satellite telephones
Coordinating Department	Public Works, Building and Safety
Timeline/Completion Date/Priority	Complete / Maintenance Ongoing Priority 2
Total Cost	$2,000
Funding Source(s)	General Fund
Constraints	Funding
Implementation Description	• The City has satellite phone and internet ability and two-way radio communications equipment. Two-way radio batteries were recently replaced.
Plan Goals Addressed	

	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

Advanced Emergency Training

City	Hidden Hills
Hazard	All Hazards
Project Name	**Advanced Emergency Training**
Status	Ongoing
Strategy	Provide increased advanced emergency training for the City's Community Emergency Response Team (CERT).
Action Items	• Provide additional Advanced Emergency Training for CERT members
Coordinating Department	City of Hidden Hills Emergency Management
Timeline/Completion Date/Priority	Ongoing / Priority 2
Total Cost	$25,000
Funding Source(s)	General Fund, FEMA HMGP funds when applicable and available
Constraints	Funding and time
Implementation Description	CERT training is offered on an ongoing basis: • The CERT team has continuing training in disaster response, first aid and evacuation shelter setup • The CERT first aid medical equipment trailer has been checked and updated. • City staff and CERT team members have been trained in active shooter response.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Communications Improvements

City	Hidden Hills
Hazard	All Hazards
Project Name	**City of Hidden Hills Communications Improvements**
Status	Ongoing
Strategy	Continue to improve cellular telephone reception in areas of the City that are currently underserved.
Action Items	• Continue to work with local carriers to improve cellular telephone reception in areas of the City that are currently underserved. • Add repeaters and update existing radio systems, when necessary. • Improve community emergency notification capabilities (IPAWS).
Coordinating Department	Public Works, Building and Safety
Timeline/Completion Date/Priority	Ongoing / Priority 2
Total Cost	$50,000
Funding Source(s)	General Funds, FEMA HMGP funds / Internal time
Constraints	Funding
Implementation Description	• Cellular telephone and radio coverage is regularly evaluated. • Hidden Hills is now authorized to send out emergency messages to cell phones (IPAWS Wide Area Alerts). • A fiber optic plan is being worked on by the community to provide high speed Internet and help provide WiFi cell service.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

Community Evacuation Routes, Planning, and Training

City	Hidden Hills
Hazard	All Hazards
Project Name	**Community Evacuation Routes, Planning, and Training**
Status	Workshop and Training Complete / Monitoring Ongoing
Strategy	Ensure alternate evacuation routes in case of an emergency event
Action Items	• Continue to manage alternative routes as a means of city evacuation
Coordinating Department	Engineering/Public Works
Timeline/Completion Date/Priority	Complete – Monitoring Ongoing / Priority 2
Total Cost	In-house Time Only
Funding Source(s)	N/A
Constraints	Geographic limitations of egress routes
Implementation Description	There are only 3 points of ingress/egress (security gates) to the City of Hidden Hills: • When one of the gates is closed for any reason, signage is used to direct all persons to either or both of the open gates. • Similar signage is used for evacuation routes in the case of emergency. Plus, there is a pedestrian and equestrian exit to the Upper Las Virgenes Canyon Open Space Preserve. • Ingress and egress to the City has been improved with addition of contractor parking areas at the gates. • The City will allow school buses, for Round Meadow Elementary School, through the gates to bring students to reunification sites if Mureau Road is closed. • The City is actively working on a revision of traffic flow at the Long Valley gate, adding a turn lane and providing contractor parking areas to keep traffic flowing into and out of Hidden Hills. This roadway update will also aid traffic flow onto the Northbound 101 freeway onramp. • The City conducted a public workshop for Wildfire evacuation for residents and large animals. Training was offered to the residents on horse trailer loading and unloading. Also offered was a CHP sponsored horse trailer inspection day.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Storm Drain Management

City	Hidden Hills
Hazard	Flood
Project Name	**City of Hidden Hills Storm Drain Management**
Status	Ongoing
Strategy	Continue to maintain the storm drain system to ensure that drains are free from debris to prevent flooding.
Action Items	• Continue ensure that city-owned storm drains are clear of debris.
Coordinating Department	Public Works
Timeline/Completion Date/Priority	Ongoing / Priority 2
Total Cost	$500/year
Funding Source(s)	General Funds
Constraints	None
Implementation Description	• LA County Public Works maintains the sewer system and storm drains. In the event of power failure Public Works has stand by generators to maintain 2 sewer pump stations in the City. • While the storm drains are managed by Los Angeles County, the City does work to ensure the free flow of water to prevent street flooding.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

Backup Power for the City's Critical Sites

City	Hidden Hills
Hazard	Power Outage, Wind, Wildfire
Project Name	**Backup Power for the City's Critical Sites**
Status	Complete / Maintenance Ongoing
Strategy	Maintain backup power systems for City Hall and the Community Center.
Action Items	• Maintain backup power generation for City Hall and the Community Center.
Coordinating Department	Public Works
Timeline/Completion Date/Priority	Ongoing / Priority 2
Total Cost	$2,500/year
Funding Source(s)	General Funds
Constraints	None
Implementation Description	• Backup power generation systems for City and the Community Center are maintained on an annual basis.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Underground Utility Line Implementation

City	Hidden Hills		
Hazard	Power Outage, Wind, Wildfire		
Project Name	**Underground Utility Line Implementation**		
Status	Ongoing		
Strategy	Replace overhead power lines with underground lines to mitigate the risk of power failure and wildfires during periods of high winds.		
Action Items	• Continue to monitor and work with SCE to replace overhead power lines and poles with underground electrical systems.		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	Ongoing / Priority 2		
Total Cost	None		
Funding Source(s)	SCE Funds		
Constraints	None		
Implementation Description	Work with SCE to plan, approve permits, inspect, and install underground power systems.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Malibu Mitigation Projects

Bluffs Park Improvement Project

City	Malibu
Hazard	All-Hazards
Project Name	**Bluffs Park Improvement Project**
Status	In Progress/Ongoing
Strategy	Upgrade critical infrastructure to improve reliability for emergency shelter
Action Items	1. Assess building and identify needs 2. Design improvements 3. Secure funding to implement the improvement project 4. Construction of improvement project
Coordinating Department	Public Works
Timeline/Completion Date/Priority	Timeline to be determined Priority 1
Total Cost	$2.5M
Funding Source(s)	General Fund and/or Grant Funds
Constraints	Funding
Implementation Description	In-progress, ongoing effort.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Figure 69: Michael Landon Center at Bluffs Park

Catch Basin and Culvert Upgrades

City	Malibu		
Hazard	Flood		
Project Name	**Catch Basin and Culvert Upgrades**		
Status	Ongoing		
Strategy	Upgrade City catch basins and culverts to increase capacity in order to prevent flooding and landslides		
Action Items	1. Inventory catch basins and culverts 2. Identify catch basins and culverts that need upgrades 3. Design projects to increase capacity to accommodate larger water flows 4. Secure funding for project implementation 5. Implement project		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	Timeline to be determined Priority 1		
Total Cost	$1.0M		
Funding Source(s)	General Fund and/or Grant Funding		
Constraints	Funding		
Implementation Description	In-progress, ongoing effort.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

City Hall Drainage Improvements

City	Malibu		
Hazard	Flood		
Project Name	**City Hall Drainage Improvements**		
Status	Ongoing		
Strategy	Improve drainage around the City Hall building to channel water flow		
Action Items	1. Assess current drainage 2. Design drainage improvements 3. Secure funding to implement the drainage project 4. Construct drainage improvement project		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	Timeline to be determined Priority 1		
Total Cost	$200K		
Funding Source(s)	General Fund and/or Grant Funding		
Constraints	Funding		
Implementation Description	In-progress, ongoing effort.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Excavation and Emergency Shelter at Zuma Beach

City	Malibu
Hazard	All Hazards
Project Name	**Excavation and Emergency Shelter at Zuma Beach**
Status	In-Progress/Ongoing
Strategy	Work with LA County Beaches to develop the Zuma Beach parking lot as an emergency shelter location and secure access.
Action Items	1. Work with LA County Beaches to establish the Zuma Beach parking lot as an emergency shelter 2. Perform clearing of LA County owned underpass to provide reliable access to the Zuma Beach parking lot
Coordinating Department	Public Works and Emergency Preparedness
Timeline/Completion Date/Priority	Timeline to be determined Priority 1
Total Cost	$300K
Funding Source(s)	General Fund and/or Grant Funding
Constraints	Funding, Time, and Permitting
Implementation Description	In-progress, ongoing effort.
Plan Goals Addressed	

	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation		Emergency Management

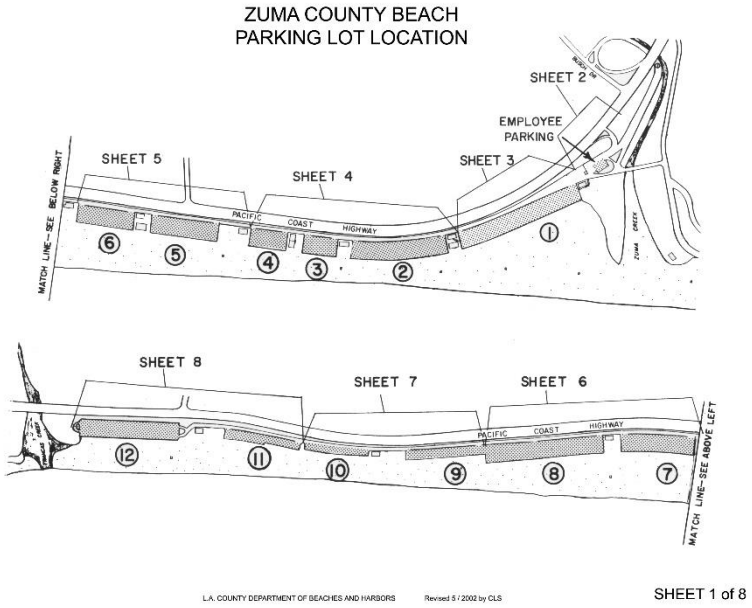


Figure 70: Zuma Beach Parking Lot

Las Flores Road Canyon Improvements

City	Malibu		
Hazard	All Hazards		
Project Name	**Las Flores Road Canyon Improvements**		
Status	Ongoing		
Strategy	Improve pavement and draining to reduce flooding and erosion		
Action Items	1. Design road and drainage improvements to accommodate surface run-off 2. Secure funding to implement improvements 3. Construct road and draining improvements		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	Timeline to be determined Priority 1		
Total Cost	$250K		
Funding Source(s)	General Fund and/or Grant Funding		
Constraints	Funding		
Implementation Description	In-progress, ongoing effort.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Malibu Road Improvements

City	Malibu		
Hazard	All Hazards		
Project Name	**Malibu Road Improvements**		
Status	Ongoing		
Strategy	Improve pavement and draining to reduce flooding and erosion		
Action Items	1. Design road and drainage improvements to accommodate surface run-off 2. Secure funding to implement improvements 3. Construct road and draining improvements		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	Timeline to be determined Priority 1		
Total Cost	$300K		
Funding Source(s)	General Fund and/or Grant Funding		
Constraints	Funding		
Implementation Description	In-progress, ongoing effort.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Malibu Road Storm Drain System Improvements

City	Malibu		
Hazard	All Hazards		
Project Name	**Malibu Road Storm Drain System Improvements**		
Status	Ongoing		
Strategy	Improve storm drains to reduce flooding and erosion as well as maintain evacuation route reliability.		
Action Items	1. Assess storm drain system 2. Design storm drain system improvements 3. Secure funding to implement storm drain system improvements 4. Improvement project construction		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	Timeline to be determined Priority 1		
Total Cost	$600K		
Funding Source(s)	General Fund and/or Grant Funding		
Constraints	Funding		
Implementation Description	In-progress, ongoing effort.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Pacific Coast Highway Drainage Improvements

City	Malibu		
Hazard	All Hazards		
Project Name	**Pacific Coast Highway Drainage Improvements**		
Status	Ongoing		
Strategy	Work with Caltrans to improve drainage and divert water into the Legacy Park detention basin and prevent flooding along Malibu Road as well as maintain evacuation route reliability.		
Action Items	1. Work with Caltrans to assess current drainage 2. Design drainage improvements 3. Secure funding to implement the drainage improvement project 4. Drainage improvement project construction		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	Timeline to be determined Priority 1		
Total Cost	$500K		
Funding Source(s)	General Fund and/or Grant Funding		
Constraints	Funding		
Implementation Description	In-progress, ongoing effort.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Rainsford Bridge Installation

City	Malibu		
Hazard	All Hazards		
Project Name	**Rainsford Bridge Installation**		
Status	Ongoing		
Strategy	Improve reliability of evacuation routes by installing a bridge at Rainsford Place.		
Action Items	1. Design bridge project 2. Secure funding for project implementation 3. Construct project		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	Timeline to be determined Priority 1		
Total Cost	$750K		
Funding Source(s)	General Fund and/or Grant Funding		
Constraints	Funding		
Implementation Description	In-progress, ongoing effort.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Road Reconstruction

City	Malibu		
Hazard	All Hazards		
Project Name	**Road Reconstruction**		
Status	Ongoing		
Strategy	Improve reliability of evacuation routes by reconstructing Latigo Canyon Road, Corral Canyon Road, Encinal Canyon Road and Malibu Road.		
Action Items	1. Design road reconstruction projects 2. Secure funding for project implementation 3. Construct project(s)		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	To be Determined Priority 1		
Total Cost	$8.0M		
Funding Source(s)	General Fund and/or Grant Funding		
Constraints	Funding		
Implementation Description	In-progress, ongoing effort.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Tree Removal in City Right-of-Way

City	Malibu		
Hazard	All Hazards		
Project Name	**Tree Removal in City Right-of-Way**		
Status	Ongoing		
Strategy	Identify and remove trees in the City Right-of-Way to maintain a safe distance from power poles and reduce fire risk.		
Action Items	1. Develop tree inventory (complete) 2. Systematically remove tress from the Right-of-Way		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	Timeline to be determined Priority 1		
Total Cost	$100K		
Funding Source(s)	General Fund		
Constraints	Funding and Time		
Implementation Description	Tree inventory complete. Tree removal in-progress.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

Utility Facility and Distribution Upgrades

City	Malibu		
Hazard	All Hazards		
Project Name	**Utility Facility and Distribution Upgrades**		
Status	Ongoing		
Strategy	Upgrade utility distribution facilities and systems to increase reliability and reduce fire hazards posed by heavily loaded utility poles.		
Action Items	1. Work with utility companies to improve utility distribution facilities and systems such as power poles, utility boxes, etc.		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	Timeline to be determined Priority 1		
Total Cost	$100K		
Funding Source(s)	General Fund		
Constraints	Funding and Time		
Implementation Description	In-progress, ongoing effort.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation		Emergency Management

Water Storage

City	Malibu		
Hazard	All Hazards		
Project Name	**Water Storage**		
Status	In-Progress/Ongoing		
Strategy	Work with LA County Water District 29 to improve water storage systems throughout the City of Malibu.		
Action Items	1. Work with LA County Water District 29 to complete a critical needs assessment and create a Master Plan for water system improvements 2. Design improvements to the water system including additional storage tanks 3. Secure funding to implement the Master Plan 4. Implement the Master Plan		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	Timeline to be determined Priority 1		
Total Cost	$10.0M		
Funding Source(s)	General Fund and/or Grant Funding		
Constraints	Funding		
Implementation Description	Currently working with LA County Water District 29 to improve the water distribution network.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

City of Malibu GIS Upgrade

City	Malibu		
Hazard	All Hazards		
Project Name	**City of Malibu GIS Upgrade**		
Status	Maintenance Ongoing		
Strategy	Upgrade the Geographic Information Systems to incorporate more information regarding trails, geological sensitive areas, and tsunami maps etc.		
Action Items	1. In progress, developing new system to utilize new technologies to better map the City and hazard areas in particular 2. Complete training and provide ongoing training to staff on how to use GIS		
Coordinating Department	Planning Department		
Timeline/Completion Date/Priority	Maintenance Ongoing / Priority 1		
Total Cost	$40,000		
Funding Source(s)	FEMA HMGP funds		
Constraints	Funding and time		
Implementation Description	GIS currently being updated.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Flood Mitigation Action Plans

City	Malibu
Hazard	Flood
Project Name	**Flood Mitigation Action Plans**
Status	Ongoing
Strategy	Implement floodplain management activities as recommended by the Flood Mitigation Plan, City of Malibu.
Action Items	1. Floodplain Regulations 2. Flood Mapping 3. Flood Protections Assistance 4. Flood Protection Materials 5. Flood Protection Activities 6. Emergency Manager Training 7. Flood Warning and Preparedness
Coordinating Department	Public Works
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	$25,000
Funding Source(s)	FEMA (HMGP)
Constraints	Time, Funding
Implementation Description	Included mitigation goals in the City of Malibu General Plan (see Mitigation Plan strategy). In addition, Flood Warning and Preparedness information is made available via the City of Malibu web site (Emergency Preparedness Library). Finally, the City of Malibu is a participant in the 2012 FEMA California Coastal Analysis and Mapping Project/Open Pacific Coast Study (CCAMP). These efforts will address gaps in required engineering and mapping for high flood risk areas impacted by coastal flooding, levee systems, and other flood hazards (e.g., lakes, rivers, and ponds).

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

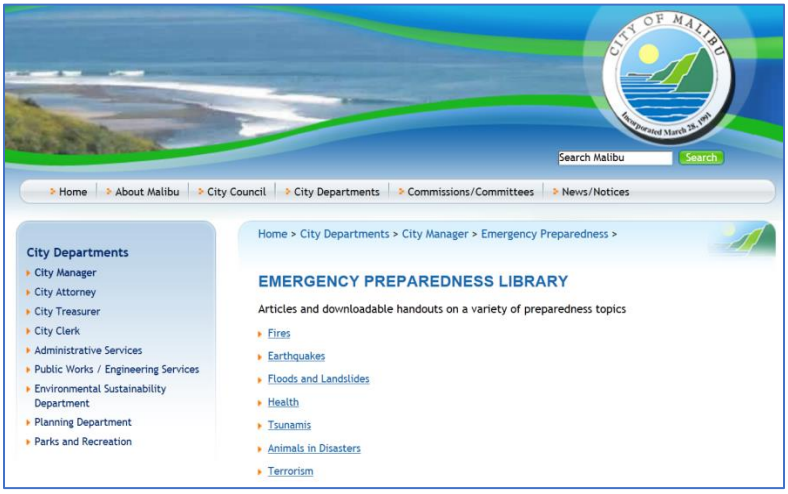


Figure 71: City of Malibu Emergency Preparedness Library

U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, CA 94607-4052
FEMA

October 7, 2011

Honorable John Sibert, Mayor
City of Malibu
23825 Stuart Ranch Road
Malibu, California 90265

RE: FEMA California Coastal Analysis and Mapping Project/Open Pacific Coast Study

Dear Mayor Sibert:

Thank you for your participation in the National Flood Insurance Program administered by the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA). Under the Risk Mapping, Assessment, and Planning (MAP) Program, Region IX has prioritized for fiscal year 2012 Flood Insurance Rate Map and Flood Insurance Study updates in support of the state of California for coastal analysis and mapping. This Program shifts focus from digital flood map production to new detailed engineering analysis, and mapping of coastal and flooding sources in many of the flood-prone communities throughout Region IX.

A feature of the Risk MAP program in Region IX is the re-study of the populated coastline for the state of California's coastal counties and communities. The California Coastal Analysis and Mapping Project (CCAMP) / Open Pacific Coast (OPC) Study will involve over 1,200 miles of new coastal flood hazard mapping and base-flood elevation determinations. Under this initiative, many coastal communities will have coastal flood data and mapping updated for the first time in over 20 years. This study effort will improve the quality of the coastal data used for both floodplain management and planning purposes.

The City of Malibu will be an important participant in the CCAMP / OPC Study. In the first phase of the re-study, coastal data from each community along the open Pacific Ocean shoreline and adjacent inland floodplains is being compiled. FEMA Region IX requests your support and assistance to identify local resources for coastal flood history, flood records, problematic flood-prone areas, topographic data, bathymetric data, beach erosion data, coastal storm or tsunami planning or mapping, and any other information that may be of importance when conducting the coastal re-study in your community. Geographic Information System (GIS) layers such as base maps, aerial photography, and land use information will be extremely useful as well. We appreciate the opportunity to partner with your community. Any data you provide will contribute significantly to an improved coastal flood mapping product which more accurately reflects your current flood risk.

Figure 72: CCAMP Letter (Page 1)

Honorable John Sibert
October 7, 2011
Page 2 of 2

FEMA will facilitate an initial kick-off meeting to discuss the following:

- Nature and intent of the re-study
- Study schedule and milestones
- Potential obstacles that might impact the study effort and potential solutions
- Available flood hazard information that could be used or incorporated into this study effort
- Key points of contact within your community, FEMA Region IX, and the Risk MAP Production and Technical Services Contractor (BakerAECOM, LLC)

In the near future, we will contact your staff to establish an available date for the initial kick-off meeting, anticipated to occur November, 2011 through January, 2012. Information will be provided at that meeting regarding how your community may benefit from the Risk MAP program and the CCAMP / OPC Study. Additionally, a new website has been developed to monitor the CCAMP / OPC Study online at www.r9coastal.org. This website allows each community to stay informed of the flood insurance re-study progress.

We look forward to working with the City of Malibu on this multi-year coastal re-study and mapping project. If you have questions about the CCAMP / OPC Study, you may contact Edward Curtis, Regional Engineer, at (510) 627-7207, or by e-mail at Edward.Curtis@dhs.gov. An alternate contact is Vince Geronimo, CCAMP / OPC Study Project Manager with BakerAECOM, at (510) 879-4533, or by email at Vince.Geronimo@aecom.com.

Sincerely,

Sally Ziolkowski

Sally Ziolkowski, Director
Mitigation Division

cc: Robert Brager, Public Works Director / Floodplain Manager, City of Malibu
Jim Thorsen, City Manager, City of Malibu
Senator Boxer, State Office
Senator Feinstein, State Office
Representative Henry Waxman, District Office

Figure 73: CCAMP Letter (Page 2)

Malibu Flood Mitigation Plan

City	Malibu
Hazard	Flood
Project Name	**Malibu Flood Mitigation Plan**
Status	Ongoing (covered in the City General Plan)
Strategy	Identify and implement recommendations presented in the Flood Mitigation Plan.
Action Items	1. Prioritize project recommendations 2. Develop projects and attempt to secure funding to implement
Coordinating Department	Public Works
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	None, in-house staff time
Funding Source(s)	General Fund
Constraints	Funding
Implementation Description	Implemented goals within the City of Malibu General Plan related to flood mitigation. Specific goals covered under 5.3.1 S Goal 1: A community that is free from all avoidable risks to safety, health and welfare from natural and man-made hazards include: • **S Policy 1.2.4:** The City shall require development to be consistent with minimum Federal Emergency Management Agency (FEMA) guidelines for flood plain management. • **S Implementation Measure 40**: Adopt and update as appropriate maps of extreme fire danger areas, 100-year flood plains, landslide and debris flow danger, active and potentially active faults, tsunami, and any other hazard areas; and inform residents of those areas of risks and possible mitigation measures. • **S Implementation Measure 43**: Encourage area residents to participate in National Flood Insurance Program. • **S Implementation Measure 44**: Design coastal development, except supporting structure, to be above the wave uprush level for storms within the past 100 years, and above the 100-year flood plain. • **S Implementation Measure 51**: Evaluate proposed development for its impact on, and from, geologic hazards, flood and mud flow hazard, and fire hazard.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

Annual Street Pavement Project

City	Malibu
Hazard	Flood
Project Name	**Annual Street Pavement Project**
Status	Ongoing
Strategy	Resurface the City's public roads by repaving damaged roadways
Action Items	1. Continue to plan and commence work to complete the Pavement Rehabilitation Project 2. Clear out damaged, worn pavement 3. Replace worn pavement with new pavement
Coordinating Department	Public Works
Timeline/Completion Date/Priority	Ongoing / Priority 2
Total Cost	$600,000
Funding Source(s)	General Fund
Constraints	Funding and Time
Implementation Description	• Rehabilitation work is performed every year on the City's public roads. • Rehabilitation projects have included Broad Beach Road, Malibu Canyon Road, Civic Center Way, and Cross Creek Road. • The City will continue to perform annual road rehabilitation projects as necessary.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

Other City of Malibu Hazard Mitigation Efforts

The City of Malibu television broadcast regularly provides public preparedness, prevention, and mitigation information. Examples are provided below:

Figure 74: City of Malibu Emergency Information TV Bulletins

Westlake Village Mitigation Projects

Communications Improvements

City	Westlake Village
Hazard	All Hazards
Project Name	**City of Westlake Village Communications Improvements**
Status	Ongoing
Strategy	Improve cellular telephone reception in areas of the City that are currently underserved
Action Items	1. Continue to work with local carriers to improve cellular telephone reception in areas of the City that are currently underserved 2. Create antenna lease programs to avoid "black spots" in the Region 3. Add repeaters to existing radio systems 4. Engage telecommunications providers in the installation of broadband fiber infrastructure.
Coordinating Department	Public Works, Building and Safety
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	$100,000
Funding Source(s)	FEMA HMGP funds
Constraints	Funding
Status Implementation	• Westlake Village continues to work with wireless phone carriers to improve mobile phone reception in the areas of the city that are not adequately covered by wireless networks. • The County-wide Integrated Radio System (CWIRS) was deployed. Furthermore, the City installed a satellite-based computer network that allows the EOC to connect to the Internet in the event of a disruption to the landline computer network. • The system is regularly tested during power outages and the EOC is able to remain connected to the Internet.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

GIS Upgrade

City	Westlake Village		
Hazard	All Hazards		
Project Name	**City of Westlake Village GIS Upgrade**		
Status	Complete/Ongoing		
Strategy	To upgrade the Geographic Information Systems in order to add a higher resolution backdrop to map trails, flood hazard areas, geologic sensitive areas and document more detailed information		
Action Items	1. Complete upgrading the system using new technologies to better map hazard areas 2. Complete training and provide ongoing training to staff on how to use GIS technologies 3. Continue to seek funding through internal grant writers		
Coordinating Department	Community Development		
Timeline/Completion Date/Priority	Complete / Maintenance Ongoing Priority 1		
Total Cost	$1000		
Funding Source(s)	FEMA HMGP funds		
Constraints	Funding		
Implementation Description	The Geographic Information System was updated and higher resolution maps were created of the Westlake Reservoir, the FEMA floodplain, and the fire hazard areas. A fire hazard severity map was created. Training of personnel on the GIS was conducted and will continue to be performed on an ongoing basis.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Emergency Power Generation

City	Westlake Village		
Hazard	All Hazards		
Project Name	**Emergency Power Generation**		
Status	Ongoing		
Strategy	Ensure backup power supplies for key City facilities		
Action Items	1. Purchase generators 2. Evaluate potential use of battery energy storage as source of backup power.		
Coordinating Department	Public Works, Building and Safety		
Timeline/Completion Date/Priority	Ongoing / Priority 1		
Total Cost	$250,000		
Funding Source(s)	FEMA HMGP funds		
Constraints	Funding /		
Implementation Description	Generators were purchased for the EOC and the Community Room. The City must conduct a study to determine the feasibility of rewiring City Hall and the Community Rooms to provide entire facility rather than only select rooms with backup power in the event of an outage. Study must also be conducted to assess the practicality of replacing the City's diesel fuel generators with battery storage units.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Smoke Detector Installation

City	Westlake Village
Hazard	Fire
Project Name	**Smoke Detector Installation**
Status	Complete / Ongoing
Strategy	Encourage residents to install smoke detectors in existing residences built prior to January 1, 1986
Action Items	1. Implement a program to educate the public about the importance of smoke detectors 2. Provide instructional services on how to install a smoke detector 3. Provide smoke detectors to the public
Coordinating Department	Engineering/Public Works
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	$15,000
Funding Source(s)	General Fund, HMGP funds
Constraints	Funding
Implementation Description	A program to educate the public about the importance of installing smoke detectors and replacing batteries periodically was instituted. Information was disseminated to the public through articles in a series of city newsletters.

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

Tree Census

City	Westlake Village
Hazard	Windstorm/Fire
Project Name	**Tree Census**
Status	Complete / Ongoing
Strategy	Conduct a thorough census of the trees in the city to keep track of aging or poorly maintained trees that may create a fire or windstorm hazard
Action Items	1. Develop a team to manage the project 2. Obtain proper means of cataloguing and displaying such information such as GIS tools 3. Prepare map(s) identifying trees and separating those that pose a potential threat in case of a fire or windstorm event 4. Develop a strategy to eliminate problematic trees
Coordinating Department	Public Works
Timeline/Completion Date/Priority	One year from planning to end Priority 1
Total Cost	No Cost – In house staff time
Funding Source(s)	N/A
Constraints	Staff time
Implementation Description	The City's Public Works personnel identified and inspected every tree on public property in the City. Trees determined to be hazardous were cut down. The City continues to assess trees annually. In addition, a GIS tree mapping program has developed. A Heritage Tree Ordinance was also adopted in 2018 to identify trees in the city with particular significance to be monitored more closely.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Annual Street Resurfacing Program

City	Westlake Village
Hazard	Flood
Project Name	**Annual Street Resurfacing Program**
Status	Ongoing
Strategy	Resurface the City's public roads by repaving damaged roadways.
Action Items	1. Continue the ongoing Street Resurfacing Program 2. Resurface and repair damaged and worn pavement
Coordinating Department	Public Works
Timeline/Completion Date/Priority	Ongoing / Priority 1
Total Cost	$1,500,000 per year
Funding Source(s)	Measure R, Measure M, and General Fund
Constraints	Funding, Time
Implementation Description	Ongoing effort. In 2016/17 completed asphalt overlay work on the following streets: Three Springs Drive, Fallview Rd., Timbridge Ct., Snowpeak Dr., Torchwood Pl., Yellowwood Dr., Aspen View Ct., Woodburn Ave., Carrie Pl., South Shore Pla., Sandpiper Ct., Royal Glen Rd., Lyndbrook Ct., Trowbridge Ct., Tynebourne Ct., Langspur Ct., Beaucroft Ct., Bedforhurst Ct., Village School Rd., Shropshire Dr., Dunraven Ct., Bain Ct., Hardfirled Ct., Havington Ct., Orchard View Ct. In 2017/2018 completed asphalt overlay work on the following streets: Kristen Lee Dr., Denver Springs Dr., Wellbrook Dr., Montview Ct., Grand Oaks Dr., Village Center Rd., and Greengate Ct. Completed 2016/17 slurry seal work on the following streets: Lindero Canyon Road , Oak Crest Drive and Park Terrace Completed slurry work in 2017/18 Three Springs neighborhood, First Neighborhood, Triunfo Canyon Rd, La Tienda Rd, and Russell Ranch Rd. For the past several years, Westlake Village has partnered with the City of Agoura Hills leading to reduced overall contract costs for both cities.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Advanced Emergency Training

City	Westlake Village
Hazard	All Hazards
Project Name	**Advanced Emergency Training**
Status	Ongoing
Strategy	Provide advanced emergency training for the City's Disaster Recovery Team (DRT)
Action Items	• Provide Advanced Emergency Training for DRT members
Coordinating Department	Westlake Village DRT Team
Timeline/Completion Date/Priority	Complete / Ongoing updates (as required) Priority 2
Total Cost	$25,000
Funding Source(s)	FEMA HMGP funds
Constraints	Funding and time
Implementation Description	Advanced training is provided to DRT members every year and will continue to be provided. The COG offers 2 to 3 CERT classes every year. The City of Malibu hosted shelter training to which Westlake sent representatives. Westlake Village also conducted two Point of Distribution exercises in November of 2009 and 2010. The POD exercises used CERT members within an Incident Command System structure.

Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

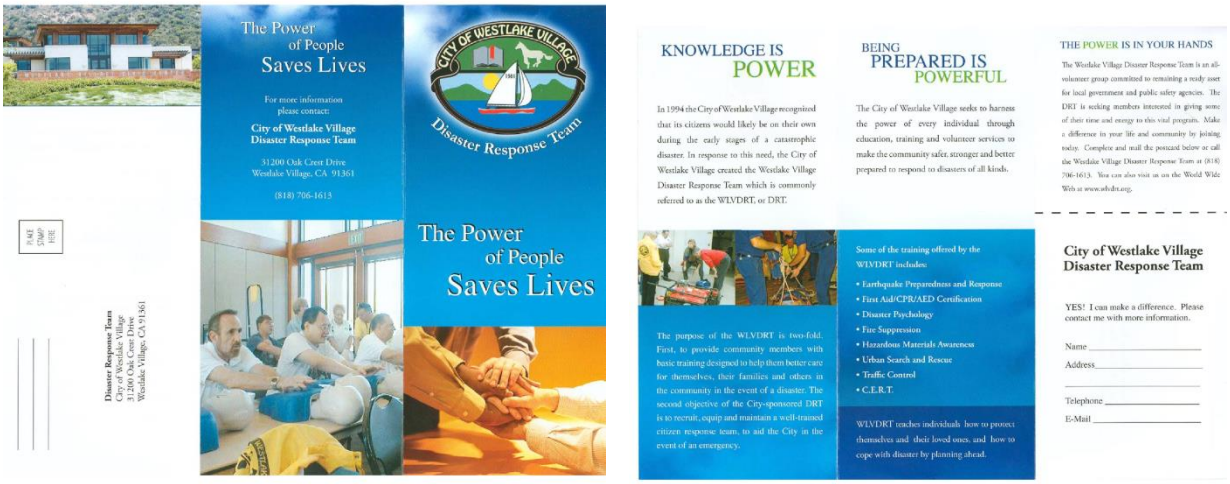
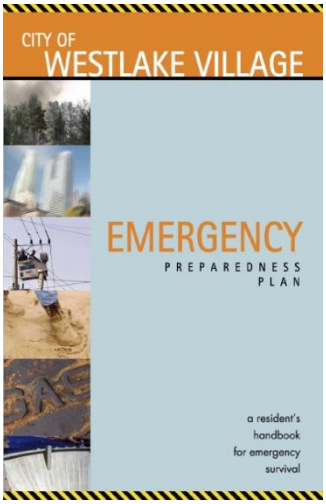


Figure 75: Westlake Village Training Brochure

Public Emergency Preparedness

City	Westlake Village
Hazard	All Hazards
Project Name	**Public Emergency Preparedness**
Status	Ongoing
Strategy	A program to educate citizens about hazards within the City, how to prepare, and what actions to take in case of a disaster
Action Items	1. Update and distribute to all residents an emergency handbook.
Coordinating Department	Community Services
Timeline/Completion Date/Priority	Ongoing / Priority 2
Total Cost	$20,000
Funding Source(s)	FEMA grants
Constraints	Funding
Implementation Description	• Westlake Village completed an update to the Emergency Preparedness Plan (for residents) in 2005. The plan is available through the City's website. The plan is reviewed and updated as needed. See example below. • Los Angeles County established the California Fire Alliance which includes an information campaign aimed at educating the public about wildfire safety. The Los Angeles County Fire Department developed the Ready Set Go Wildfire Action Plan to inform residents of actions they can take to keep them safe from wildfires. • Westlake Village and Agoura Hills hosted a joint emergency preparedness event in August 2010 aimed at educating the public and continually seek new opportunities to promote public awareness. Further public preparedness efforts ongoing.

Plan Goals Addressed			
X	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management



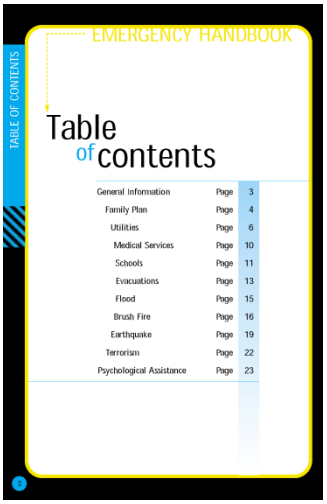


Figure 76: Westlake Village Emergency Preparedness Plan

Solar Power for City Hall

City	Westlake Village		
Hazard	Earthquake, Fire, Flood		
Project Name	**Solar Power for City Hall**		
Status	Ongoing		
Strategy	City Hall is the City's Emergency Operating Center. Having a reliable power to EOC during and emergency is the goal as well as a sustainable project.		
Action Items	1. Adopt in CIP 2. Design and build		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	Ongoing / Priority 2		
Total Cost	$1,375,000		
Funding Source(s)	50% Edison, General Fund or grant		
Constraints	Funding, Time		
Implementation Description	• Adopt in CIP • Design and build		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

Triunfo Creek Bridge Resurfacing

City	Westlake Village		
Hazard	Flood		
Project Name	**Triunfo Creek Bridge Resurfacing**		
Status	Completed		
Strategy	Resurfaced bridge deck for maintenance to reduce the risk of flood.		
Action Items	Completed		
Coordinating Department	Public Works		
Timeline/Completion Date/Priority	Complete / Priority 2		
Total Cost	$100,000		
Funding Source(s)	Highway Bridge Preventative Maintenance Program		
Constraints	None		
Implementation Description	Completed in 2017. LA County designed and executed the construction contract.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

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SECTION 5. PLAN MAINTENANCE AND MONITORING

This plan maintenance section details the formal process that will ensure that the Las Virgenes-Malibu COG Hazard Mitigation Plan is an active and relevant document. This section includes a schedule for monitoring and evaluating the plan and producing revisions every five years. Additionally, a description of how the Las Virgenes-Malibu COG will integrate public participation throughout the plan maintenance process is provided. Finally, this section includes an explanation of how the city governments in the Las Virgenes-Malibu COG intend to incorporate the mitigation strategies outlined in this plan into existing planning mechanisms such as individual city General Plans, Capital Improvement Plans, Building & Safety Codes and other programs and or plans within the cities. In addition, a brief discussion on future development trends is provided to highlight potential areas of focus when updating the HMP.

FUTURE DEVELOPMENT TRENDS

Due to development restrictions and space limitations property development trends within the Las Virgenes Council of Governments area are stable with limited residential and commercial development. Any increases in the urban/wildland interface are controlled through local land use and zoning requirements (see **Section 2: Community Profiles** for additional details).

Agoura Hills Development Trends

Basic land use patterns are well established in the City of Agoura Hills. Residential neighborhoods are fully developed and there are limited opportunities for infill development remaining. Between 2012 and 2016 the number of residential housing units rose slightly approximately 0.6%. Commercial development is concentrated in existing commercial zones which according to the *City of Agoura Hills, Commercial and Residential Projects Second Quarter 2018 Quarterly Report* are a mix of new, expansion, and remodeling projects (see **Section 2: Community Profile for Agoura Hills, Land Use** and **Housing Characteristics** sections for additional details).

Calabasas Development Trends

Due to environmental constraints and steep hillsides, most undeveloped land within the Calabasas City limits will remain undeveloped and most developable areas are already built out. Between 2012 and 2016 the number of residential housing units rose approximately 4% (increase predominately from 1-unit attached and multi-unit housing). The non-developed areas of Calabasas are mainly in open space or hillside/mountainous zones. Although the City of Calabasas is predominately residential there are a number of commercial business parks and shopping centers (see **Section 2: Community Profile for Calabasas, Land Use** and **Housing Characteristics** sections for additional details).

Hidden Hills Development Trends

Hidden Hills is a fully developed master planned residential community. Any further development or home modifications must be approved by the Hidden Hills Community Association Architectural Committee Between 2012 and 2016 the number of residential housing units decreased slightly approximately 5% (decrease predominately from 1-unit attached structures). Other than City-owned facilities, there is no commercial development in Hidden Hills.

Malibu Development Trends

Malibu is a beachfront community with the majority of residents living along Pacific Coast Highway (PCH) or in small residential communities that gain primary access from PCH. The Pacific Ocean and the Santa Monica Mountains (including designated natural preservation areas and California State Parks) serve as a natural boundary to development. A number of residences are interspersed throughout the Santa Monica Mountains along canyons and hillsides within a mile or more inland. Growth in Malibu is generally restricted to 'in-fill' development. Between 2012 and 2016 the number of residential housing units increased approximately 11% (increase predominately from 2 to 4-unit structures).

Commercial development is generally restricted to existing commercial areas (see **Section 2: Community Profile for Malibu, Land Use** and **Housing Characteristics** sections for additional details). One significant change is that in September 2018, the City of Malibu completed the purchase of 29.24 acres of commercially zoned parcels from the Malibu Bay Company (www.malibucity.org/CivicAlerts.aspx?AID=721). The parcels were comprised of:

- 9.65 acres located at 23575 Civic Center Way
- 1.11 acres located at Civic Center Way and Webb Way
- 18.48 acres located at Pacific Coast Highway and Heathercliff Road

The City will be studying the potential land uses for the properties in the future.

Westlake Village Development Trends

Westlake Village is a master-planned community including residential (townhomes, condominiums, mobile homes, single-family and lakefront residences, and view-oriented estates), commercial, and light industrial zones. Growth in Westlake is generally restricted to 'in-fill' development. Between 2012 and 2016 the number of residential housing units increased approximately 5.5% (increase predominately from multi-unit housing). Commercial development is generally restricted to existing commercial areas. (see **Section 2: Community Profile for Westlake Village, Land Use** and **Housing Characteristics** sections for additional details).

IMPLEMENTATION AND PLAN ADOPTION

The Las Virgenes-Malibu Council of Governments (LVMCOG) and individual cities within the LVMCOG were responsible for adopting the Las Virgenes-Malibu Multi-Jurisdictional Hazard Mitigation Plan. These governing bodies have the authority to promote sound public policy regarding hazards.

The prior plan and this update were adopted and submitted to the State Hazard Mitigation Officer at the California Governor's Office of Emergency Services (Cal OES). Cal OES is responsible for submitting the plan to the Federal Emergency Management Agency (FEMA) for review. The review includes the criteria outlined in FEMA Mitigation Planning Final Rule 44 CFR Part 201 (September 2009). Upon acceptance by FEMA, Las Virgenes-Malibu will maintain its eligibility for Hazard Mitigation Grant Program funds.

Continued Public Involvement

The cities within the Las Virgenes-Malibu COG are dedicated to involving the public in the Hazard Mitigation Plan process. Members of the public, businesses, and other interested parties had the opportunity to provide feedback on local area risks and the Hazard Mitigation Plan. Copies of the plan are catalogued and maintained in appropriate departments as well as on city Internet sites to be easily accessible for public viewing. In addition, an ongoing public outreach effort provides a continual feedback opportunity to the public for their input and comments (see Public Involvement, under the **Plan Monitoring, Evaluation, and Formal Review Process** section for additional details).

Coordinating Body

The Las Virgenes-Malibu Hazard Mitigation Steering Committee and Planning Group were responsible for coordinating and undertaking the formal review process. The Steering Committee and Planning Group members were responsible for ensuring that reviews and updates to the plan were performed. Further, the Steering Committee and Planning Group provide coordination between the cities, intra-city departments, and with other public agencies.

The Steering Committee and Planning Group conduct annual reviews of the Hazard Mitigation Plan and when deemed necessary by the Hazard Mitigation Steering Committee in coordination with the Planning Group, determine if a public meeting is to be held. The meetings provide the public a forum where they can express their concerns, opinions, or ideas about the plan. In addition, each City maintains an ongoing ability to receive and respond to public concerns via their City web sites.

Adoption and Implementation

The LVMCOG adopted the Las Virgenes-Malibu Multi-Jurisdictional Hazard Mitigation Plan and the Steering Committee in conjunction with the Planning Group are responsible for plan implementation. The Executive Director of the Las Virgenes-Malibu COG serves as a convener to facilitate the Hazard Mitigation Steering Committee meetings. Plan implementation and evaluation are a shared responsibility among all of the Hazard Mitigation Steering Committee Members. The Steering Committee and the Planning Group are responsible for providing information gained from committee meetings with staff and community members in their respective cities.

IMPLEMENTATION THROUGH EXISTING PROGRAMS

Integration of the Hazard Mitigation Plan into Existing Planning Mechanisms

In addition to ongoing disaster preparation and mitigation efforts such as quarterly Los Angeles County Disaster Management Area B meetings, each city in the LVMCOG integrates the HMP into existing planning mechanisms such as the General Plan, Land Use Plans, code enforcement, and the permitting activities. This Multi-Jurisdictional Hazard Mitigation Plan provides a series of recommendations - many of which are closely related to the goals and objectives of existing planning programs within the cities. A description of each city's individual process is summarized below:

City	HMP Integration Process
Agoura Hills	• The Deputy City Manager and Administrative Aide are part of the HMP Planning Group and is responsible for tracking the progress of mitigation projects included in the HMP. • Risk assessments and planning elements contained within the HMP are incorporated (as needed) into the City of Agoura Hills General Plan (primarily within the Safety Element) as part of the General Plan update process. • The Agoura Hills Deputy City Manager works with the departments within the city to review the HMP and existing projects as well as coordinate the addition of new mitigation projects into the HMP. City of Agoura Hills departments involved in the process include (as required): o Planning & Community Development o Building and Safety o Public Works/Engineering • Updates to General Plan to incorporate HMP elements involve an ongoing process by the Agoura Hills Deputy City Manager with the Planning & Community Development Department as well as approval from the City Manager, Planning Commission, and the City Council.
Calabasas	• The Director of Public Safety and Public Safety Coordinator are part of the HMP Planning Group and are responsible for tracking the progress of mitigation projects included in the HMP. • Risk assessments and planning elements contained within the HMP are incorporated (as needed) into the City of Calabasas General Plan (primarily within the Safety Element) as part of the General Plan update process. • The Calabasas Director of Public Safety and Public Safety Coordinator work with other divisions and departments within the city to review the HMP and existing projects as well as coordinate the addition of new mitigation projects into the HMP. City of Calabasas divisions and departments involved in the process include (as required): o Planning Division o Building & Safety Division o Public Works • Updates to General Plan to incorporate HMP elements involve an ongoing process by the Calabasas Director of Public Safety and Public Safety Coordinator with the Planning Division as well as approval from the City Manager, applicable Commissions, and the City Council.

City	HMP Integration Process
Hidden Hills	• The Hidden Hills Emergency Services Coordinator is part of the HMP Planning Group and is responsible for tracking the progress of mitigation projects included in the HMP. • Risk assessments and planning elements contained within the HMP are incorporated (as needed) into the City of Hidden Hills General Plan (primarily within the Safety Element) as part of the General Plan update process. • The Hidden Hills City Emergency Services Coordinator works with the City Manager, the Planning Department, and the Building & Safety Department to review the HMP and existing projects as well as coordinate the addition of new mitigation projects into the HMP. • Updates to General Plan to incorporate HMP elements involve an ongoing process by the Hidden Hills City Emergency Services Coordinator and City Manager as well as approval from the City Council.
Malibu	• The Malibu Emergency Services Coordinator is part of the HMP Planning Group and is responsible for tracking the progress of mitigation projects included in the HMP. • Risk assessments and planning elements contained within the HMP are incorporated (as needed) into the City of Malibu General Plan (primarily within the Safety Element) as part of the General Plan update process. • The Malibu Emergency Services Coordinator works with other departments within the city to review the HMP and existing projects as well as coordinate the addition of new mitigation projects into the HMP (see example Sign-In sheet on next page). City of Malibu departments involved in the process include (as required): o Planning Department o Public Works / Engineering o Building Safety o Public Safety o Wastewater Management/Environmental Health • Updates to General Plan to incorporate HMP elements involve an ongoing process by the Malibu Emergency Services Coordinator with the Planning Department as well as approval from the City Manager, applicable Boards, and the City Council.
Westlake Village	• The Westlake Village Administrative Analyst is part of the HMP Planning Group and is tasked with ongoing management of the HMP. • Risk assessments and planning elements contained within the HMP are incorporated (as needed) into the City of Westlake Village General Plan (primarily within the Safety Element) as part of the General Plan update process. • The Administrative Analyst works with other departments within the city to review the HMP and existing projects as well as coordinate the addition of new mitigation projects into the HMP. City of Westlake Village departments involved in the process include (as required): o Planning Department o Building & Safety • Updates to General Plan to incorporate HMP elements involve an ongoing process by the Westlake Village Administrative Analyst with the Planning Department as well as approval from the City Manager, applicable City Committees, and the City Council.

ECONOMIC ANALYSIS OF MITIGATION PROJECTS

FEMA's approaches to identify the costs and benefits and costs associated with hazard mitigation strategies, measures, or projects include a Benefit/Cost Review and more detailed Benefit-Cost Analyses (BCA). Conducting an economic analysis for a mitigation activity can assist the cities in determining whether a project is worth undertaking now in order to avoid disaster-related damages later.

Benefit-Cost Review

The Benefit-Cost Review process includes monetary as well as non-monetary costs and benefits associated with each action. Some projects can be extremely cost-effective but not as beneficial for the community at large. The Planning Team considered a wide variety of questions, such as:

- How many people will benefit from the action?
- How large an area is impacted?
- How critical are the facilities that benefit from the action (e.g., is it more beneficial to protect the fire station than the administrative building, even though it costs more)?
- Environmentally, does it make sense to do this project for the overall community?

Benefit-Cost Analysis

The Benefit-Cost analysis is used to determine if the cost of investing in a specific mitigation project, i.e., the "cost" will result in reduced damages in the future, i.e., the "benefits" and if the loss prevented justifies the expenditure of funds for the project. If the benefit is greater than the cost, then the project is cost effective; if the benefit is less than the cost, then the project is not cost effective.

The Benefit-Cost Analysis is essentially the same for each type of hazard mitigation project. The only differences are the types of data that are used (e.g., if the project is for earthquake, flood, wind, or fire mitigation). To determine the Benefit-Cost, the project cost is compared to the anticipated dollar loss that will be prevented by the mitigation project. For example, if the project cost is $100,000 and the expected loss averted is $1,000,000, then the benefit exceeds the cost and is therefore cost effective. The ratio of the benefit versus the cost is 10:1 ($1,000,000 divided by $100,000). Priority is given to those projects with the highest Benefit-Cost Ratio or those projects with the greatest benefit to the community.

Benefit-Cost Analysis Exemptions

The following categories of mitigation measures are exempt from the FEMA policy on Benefit-Cost analysis:

- 5% Initiative Projects: States, which receive a Presidential declaration, are eligible to use up to 5% of available HMGP funding at their discretion.
- Tornado Initiative: States, which receive a Presidential declaration, are eligible to use up to an additional 5% of available HMGP funding at their discretion.
- Substantial Damage Waivers for acquisition of substantially damaged structures in 100-year floodplain.
- Mitigation planning related grants.

Benefit-Cost Methodology Utilized

DMA 2000 does not require Hazard Mitigation Plans to include BCA's for specific projects.[11] Consequently a Benefit-Cost Review approach is used for the Hazard Mitigation Plan. Future projects will be evaluated using a similar process.

Specific projects and future actions involving federal grants requiring a more detailed Benefit-Cost Analysis will be managed on a case-by-case basis at each jurisdiction's discretion or if determined to be beneficial by the LVMCOG (for regional projects).

For the LVMCOG HMP, mitigation projects were reviewed and prioritized by the HMP Planning Group which considered:

- The expected benefit to the community according to the following categories:
  - Protection of Life / Loss of Life Reduction
  - Protection of Property / Property Loss Reduction
  - Protection of the Environment / Environmental Loss Reduction
  - Increase Public Awareness
  - Scope of Impact (i.e., the degree to which the project benefits the community or region)
- Costs: total estimated expense including ongoing maintenance requirements
- Constraints: the availability of resources, if funds were already budgeted or if additional budget funding was required, and the timeline for completion (if known)
- Other considerations included whether projects were already in progress or part of another effort (e.g., part of a County-wide program or existing city initiative)

The following tables provide examples of the Benefit-Cost Review factors considered:

Benefit Factors	Evaluation Score
Protection of Life/Loss of Life Reduction	High / Medium / Low / None
Protection of Property/Property Loss Reduction	High / Medium / Low / None
Protection of the Environment/Environmental Loss Reduction	High / Medium / Low / None
Increased Public Awareness	High / Medium / Low / None
Scope of Impact	High (benefits the entire city or region) Medium (benefits a large part of the city or region) Low (benefits a targeted or limited area) None

[11] FEMA Publication 386-5, State and Local Mitigation Planning, Using Benefit-Cost Review in Mitigation Planning, May 2007

Cost Factor	Evaluation Score
More than $500K regionally or $50K locally	High
$250K to $499K regionally or $25K to $49.9K locally	Moderately High
$100K to $249K regionally or $10K to $24.9K locally	Medium
$50K to $99K regionally or $5K to $9.9K locally	Moderately Low
Less than $50K regionally or $5K locally	Low
In-house Time	None

Constraint Factor	Evaluation Score
Resources	No Resources Available Limited Resources Available Resources Allocated and Assigned
Funding	No Funds Available (Need to Obtain New Funding) Limited Funds Available Funds Allocated
Time	Rapid or Condensed Timeframe Moderate Timeframe No Time Constraints

PLAN MONITORING, EVALUATION, UPDATES, AND FORMAL REVIEW PROCESS

The Las Virgenes-Malibu Multi-Jurisdictional Hazard Mitigation Plan will be evaluated on an annual basis to determine the effectiveness of programs, and to reflect changes in development or programs that may affect mitigation priorities. Steering Committee members in conjunction with the Planning Group are responsible for monitoring and evaluating the progress of the mitigation strategies in the plan. The Steering Committee and Planning Group also responsible for updating the plan.

The Steering Committee and Planning Group will review the goals and action items to determine their relevance to changing conditions within the Region, as well as changes in State or Federal policy, and to ensure they are addressing current and expected conditions. The Steering Committee and Planning Group will also review the risk assessment portion of the plan to determine if this information should be updated or modified, given any new available data.

The Planning Group comprised of representatives from each LVMCOG city supports the Steering Committee by attending regularly scheduled meetings to review local planning efforts and evaluate progress on mitigation efforts. The Planning Group will report progress to the Steering Committee and work with other city departments to implement the mitigation strategies contained in this Hazard Mitigation Plan.

The city departments responsible for the various action items identified in Section 4: Hazard Mitigation Goals and Strategies will report on the status of their projects, the success of various implementation processes, difficulties encountered, success of coordination efforts, and which strategies require revision.

Public Involvement

Public involvement is a key component of hazard mitigation planning (per 44 CFR §201.6(c)(4)(iii)). The cities within the Las Virgenes-Malibu COG provide access of the Hazard Mitigation Plan to the public and continue to involve the public in the Hazard Mitigation Planning, Implementation, and Maintenance process through several mechanisms:

Distribution Method	Description
City Web Pages	• Downloadable online copies of the Hazard Mitigation Plan are posted on each City's website. • Members of the Public may provide feedback on each City's mitigation via the contact information from their public web pages: o Agoura Hills (818) 597-7314 or Email: lcelaya@ci.agoura-hills.ca.us o Calabasas (818) 224-1600 Email: info@cityofcalabasas.com o Hidden Hills (818) 888-9281 Email: eoc@hiddenhillscity.org o Malibu (310) 456-2489 ext. 313 Email: SDuenas@malibucity.org o Westlake Village (818) 706-1613 Emergency Preparedness • Links to mitigation and preparedness resources are provided via City web sites. Examples include: o www.Ready.gov o www.fema.gov/national-flood-insurance-program o http://fire.lacounty.gov/SafetyPreparedness/SafetyPreparedness.asp o www.redcross.org/prepare
City Facilities	• Mitigation brochures and handouts are made available at designated City-owned facilities including City Halls and Libraries.
Public Surveys	• An ongoing Disaster Preparedness (Mitigation) and Risk Survey provides continual feedback opportunities to the public for their input and comments regarding hazard mitigation planning, prioritization of mitigation efforts and risks, and community mitigation and preparedness needs. https://www.surveygizmo.com/s3/4297498/2018-Las-Virgenes-Malibu-Community-Risk-Survey
Public Meetings and Events	• National Emergency Preparedness Month Annual Public Preparedness, and Mitigation Planning Events (each September). • Local Disaster Preparedness Events. • City Council Meetings (as applicable per published Agenda items).
Local Media	• Preparation and Mitigation Information Posted in Local News Media (including links to the HMP, Hazard Survey, and Planning Meetings). • Preparation and Mitigation Tips and Announcements via City TV and social media Information Bulletins.
Training Programs	• Mitigation and response activities are included in ongoing CERT Program training.

Agoura Hills HMP Web Page

Figure 77: City of Agoura Hills HMP Public Download Links

Calabasas HMP Web Page

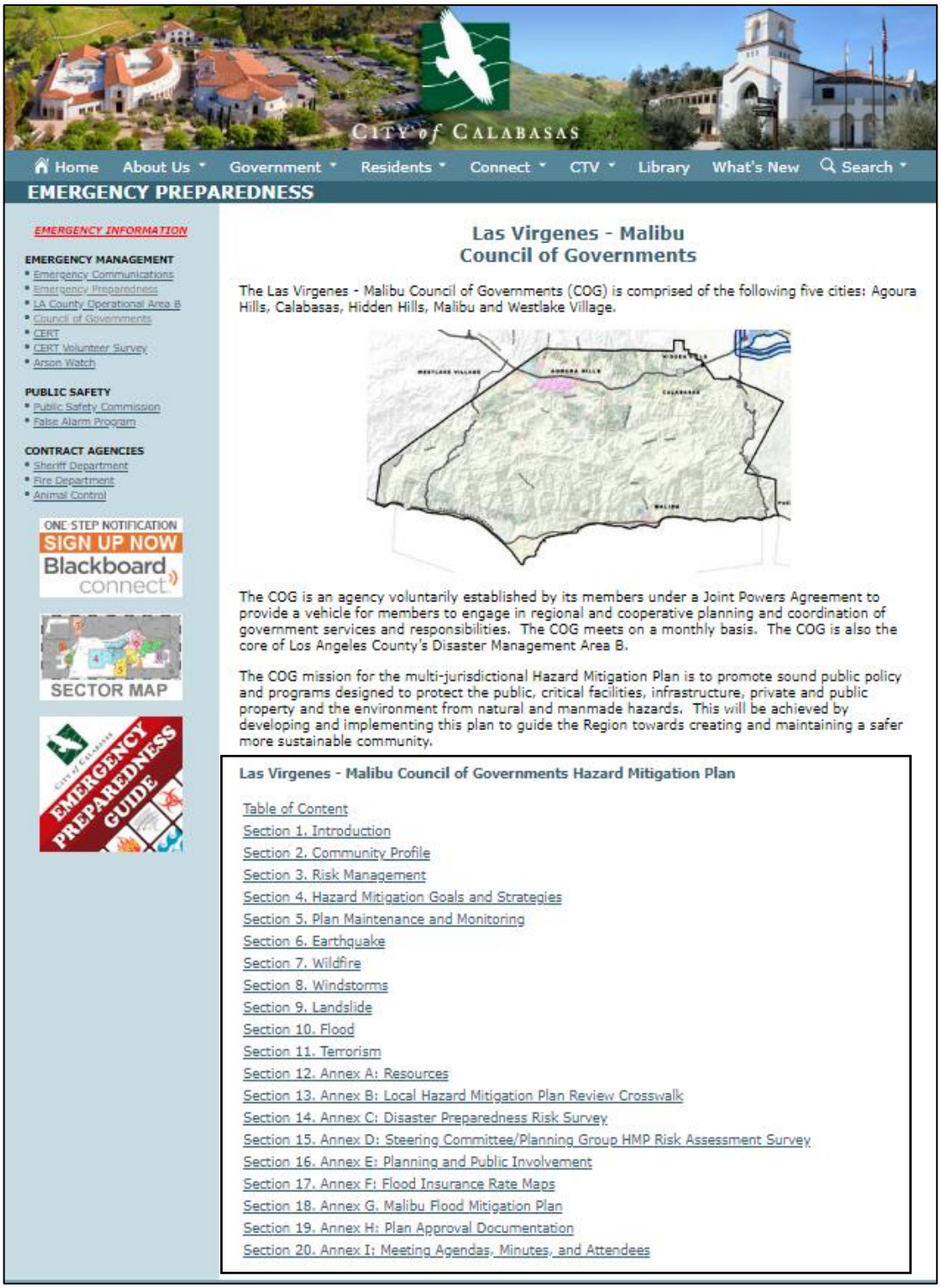

Figure 78: City of Calabasas HMP Public Download Links

Hidden Hills HMP Web Page

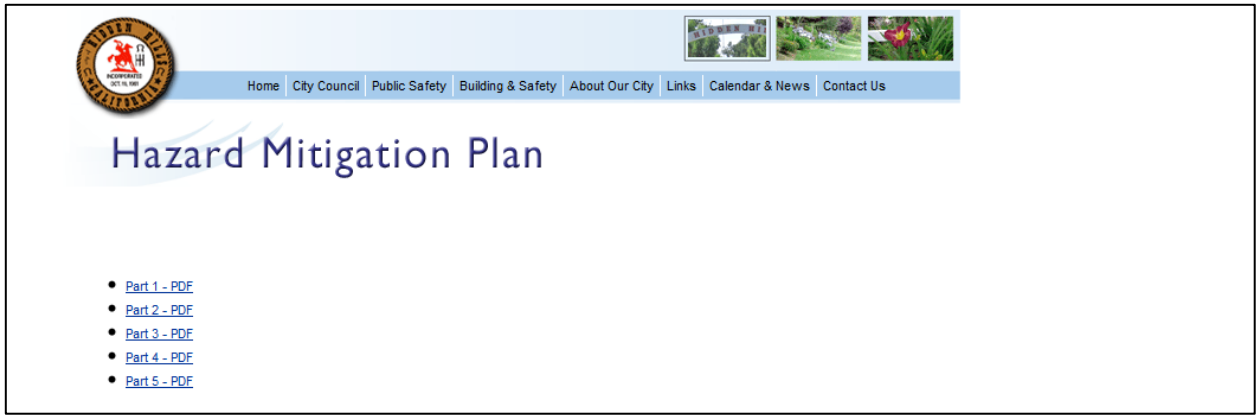

Figure 79: City of Hidden Hills HMP Public Download Links

Malibu HMP Web Page

Figure 80: City of Malibu HMP Public Download Link

Westlake Village HMP Web Page

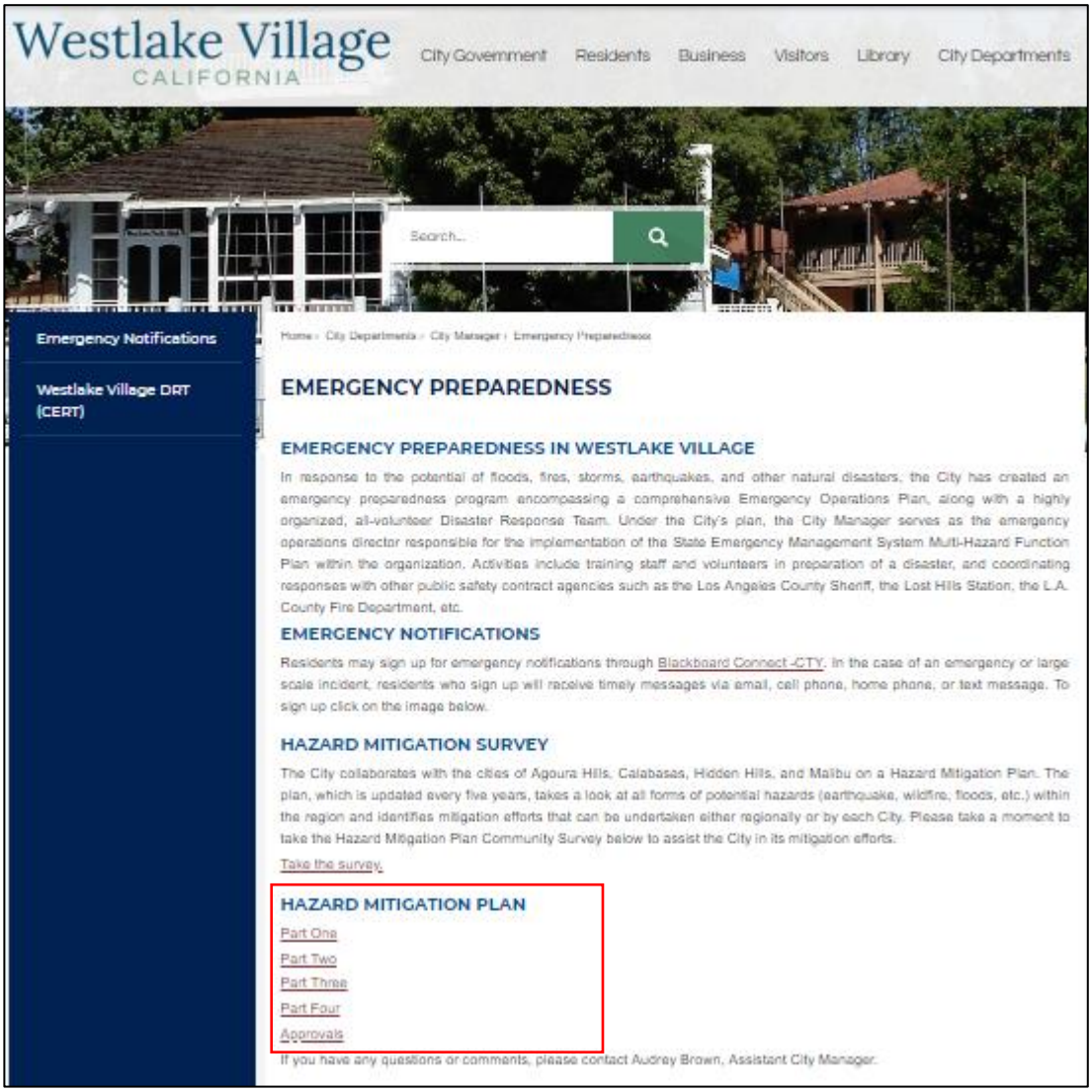

Figure 81: City of Westlake Village HMP Public Download Links

Hazard Mitigation Community Risk Survey

In April 2018, a public community risk survey was implemented. Announcements were made by each city, encouraging public input and participation. For example, in Hidden Hills an Email was sent to all residents. Further, all cities within the LVMCOG promoted the survey via their web sites, through their CERT programs, and in public announcements. The intent of the survey was to provide a platform for local residents to voice their opinions about their disaster preparedness needs and concerns. As of September 2018, 119 members of the public completed the survey (see **Annex C** for a summary of the results).

Figure 82: HMP Community Risk Survey Announcement and Link - City of Agoura Hills

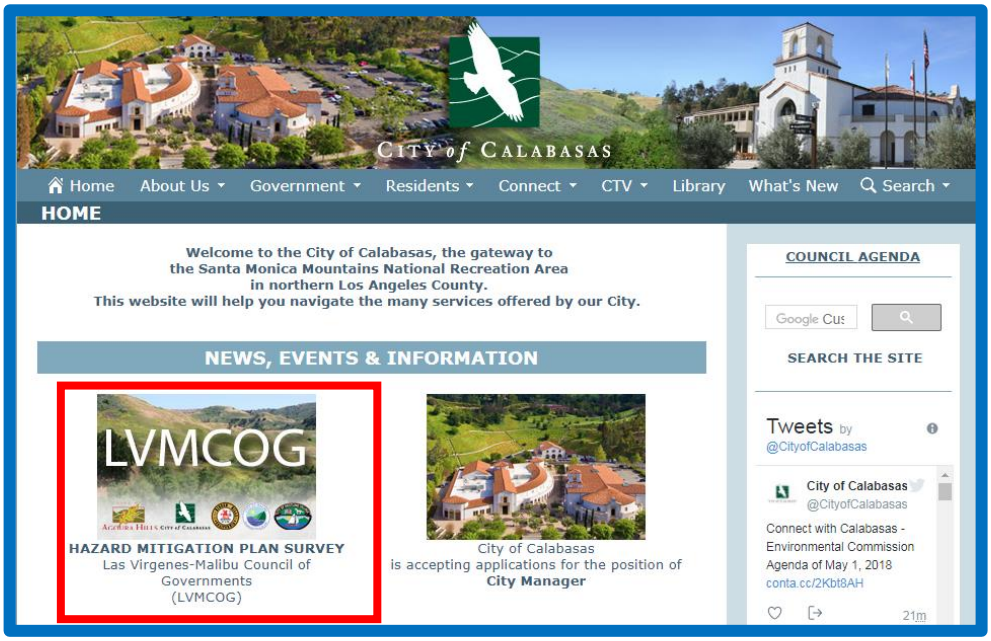

Figure 83: HMP Community Risk Survey Link - City of Calabasas

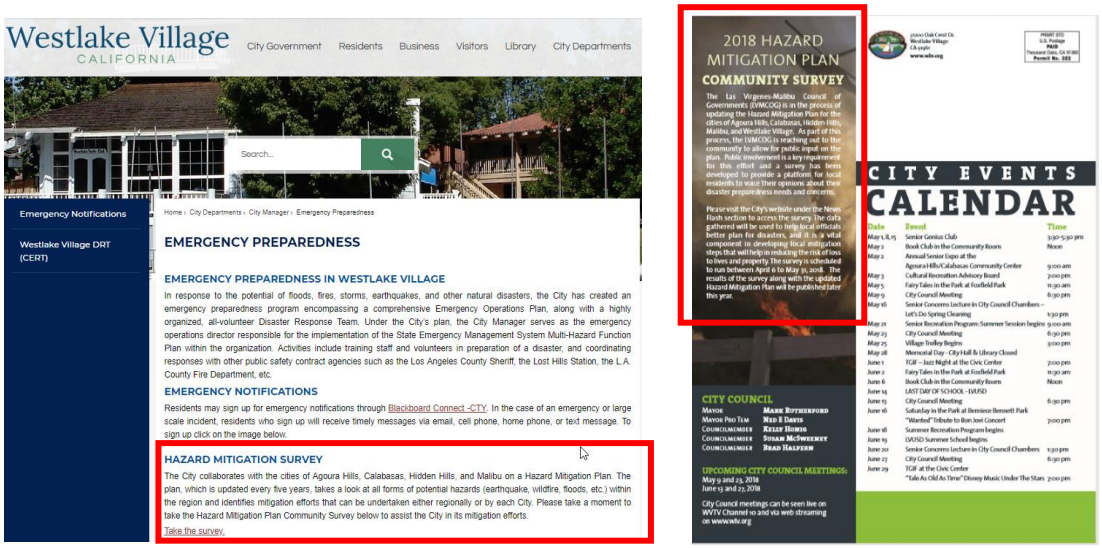

Figure 84: HMP Community Risk Survey Announcement - City of Westlake Village

Public Forums and Workshops

In addition to ongoing web page, social media, and public service announcements. The cities hold events and participate in National Preparedness Month (annually in September). For example, on September 29, 2018 the City of Malibu conducted a Safety & Preparedness Expo to further promote preparedness and mitigation action in the community (see **Public Involvement section** for further details on how the public is involved in the disaster mitigation and planning process).

Furthermore, each city has established Community Emergency Response Team programs that promote preparedness, planning, and mitigation. Finally, on August 22, 2018 a public forum was held at the City of Calabasas to obtain public input to the Hazard Mitigation Plan from all residents of the 5 cities represented by the LVMCOG.

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