Local Hazard Mitigation Plan

City of South Gate, California

Draft for Public Review
April 9, 2024

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INTERNATIONAL

CITY OF SOUTH GATE
LOCAL HAZARD MITIGATION PLAN – DRAFT

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April 2024

JN 195595

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APPENDIX

SECTION 1.0: INTRODUCTION AND PURPOSE

Natural and human-caused hazards can cause significant damage to communities, businesses, public infrastructure, and the environment. The impacts to residents and businesses within communities can be immense, and infrastructure damage can result in regional, economic, and public health consequences. Municipal buildings and critical infrastructure are vulnerable to a variety of hazards that can result in damaged structures, loss of power, disruption to operations and services, contaminated natural resources, and revenue losses. By planning for natural and human-caused hazards, and implementing projects that mitigate risk, cities can reduce costly damage and improve reliability of service following a disaster incident.

The City of South Gate (City) strives to improve resilience through capital improvement projects, innovative planning, and emergency management practices. The City has developed this 2024 City of South Gate Hazard Mitigation Plan (LHMP) update in an effort to reduce future loss of life and property damage, resulting from natural or human-caused hazards.

Previously, the City prepared the 2018 LHMP to implement a hazard mitigation strategy within the community. This LHMP expired July 24, 2023, and this iteration of the plan serves as a comprehensive hazard mitigation plan update.

No community can be protected against all potential impacts from natural or human-caused hazards, and hazard events often result in periods of emergency response and recovery before returning to “normal” operations. However, communities can reduce potential impacts by taking actions to become more resilient. This LHMP provides a blueprint for the City to reduce threats posed by hazards that may impact people, infrastructure, or operations. Proper planning, prior to a natural or human-caused disaster, will allow the City to return to “normal” sooner, with fewer impacts.

1.1 Plan Purpose

The purpose of this LHMP is to provide the City with clear direction for hazard mitigation action planning. This LHMP identifies natural and human-caused hazards that threaten City infrastructure operations and people. This LHMP also provides resources, information, and strategies to reduce this risk.

Hazard mitigation plays an important role in reducing disaster impacts by identifying effective and feasible actions to reduce the risks posed by potential hazards before an occurrence. This plan has been developed and updated to be consistent with current standards and regulations, ensuring the understanding of hazards facing the community reflects the best available information and present-day conditions.

The LHMP does not supersede any internal plans or strategies. Rather, the LHMP enhances the ability to identify, inform, and mitigate hazard risks unique to South Gate.

Information in this plan will be used to help guide and coordinate mitigation actions and serve as a tool for City decision-makers to specifically direct mitigation activities and resources.

This LHMP incorporates the latest policy guidance from the Federal Emergency Management Agency (FEMA) Local Mitigation Planning Policy Guide, released April 19, 2022, and effective April 19, 2023. Specifically, this LHMP responds to updated policy guidance relating to climate change, socially vulnerable populations and equity in the following sections.

1.2 Plan Authority

Federal

The federal Robert T. Stafford Disaster Relief and Emergency Act (Stafford Act), as amended by the Disaster Mitigation Act of 2000 (DMA 2000) and supported by various regulations, directs hazard mitigation planning activities, including creation of this plan. The Stafford Act requires State, local, and tribal governmental entities that wish to be eligible for federal hazard mitigation grant funds to submit a hazard mitigation plan, identifying the natural and man-made hazards, risks, and vulnerabilities of each jurisdiction (United States Code [USC] Title 42, Section 5156[a]). FEMA has promulgated Code of Federal Regulations (CFR) Title 44, Part 201 to carry out the hazard mitigation planning requirements in the Stafford Act. These regulations direct the planning process, plan content, and FEMA approval of hazard mitigation plans. This LHMP complies with the Stafford Act and DMA 200, along with the appropriate sections of Title 44 of the CFR, including parts 201, 206 and 322.

State

California Government Code Section 8685.9 (Assembly Bill [AB] 2140) limits the State of California's share of disaster relief funds paid out to local governments to 75 percent of the funds not paid for by federal disaster relief efforts, unless the jurisdiction has adopted a valid hazard mitigation plan consistent with DMA 2000. This LHMP is consistent with current standards and regulations, as outlined by Cal OES. It uses the best available information, and its mitigation actions reflect best practices and community values. This LHMP meets the requirements of current State and federal guidelines and ensures the City of Sonora is eligible for all appropriate benefits under State and federal law and practices. This LHMP has been prepared to meet FEMA and Cal OES requirements, thus making the City eligible for funding and technical assistance from State and federal hazard mitigation programs.

1.3 Plan Adoption

Following FEMA approval of the LHMP, the South Gate City Council will formally adopt the LHMP. Copies of the resolution are provided in Appendix A, *City of South Gate Adoption Resolution*.

1.4 Plan Organization

The LHMP is organized into seven sections to reflect the logical progression of activities undertake to develop a hazard mitigation strategy, and includes all relevant documentation required to meet the necessary criteria for FEMA approval. Each section is described briefly below.

Section 1.0: Introduction describes the background and purpose of the LHMP, as well as the authority established for its development.

Section 2.0: Planning Process describes the LHMP planning process, as well as the meetings and outreach activities undertaken to engage City officials and staff, stakeholders and members of the public.

Section 3.0: Community Profile provides the history, geography, demographics, and socioeconomics of the City of South Gate, including land use and development trends. This section also evaluates social vulnerability through a variety of environmental justice indices, and identifies applicability to the planning area.

Section 4.0: Hazards Assessment identifies and profiles the natural and human-caused hazards affecting the City, identifies the vulnerability and risk associated with each hazard, and provides a vulnerability assessment to critical facilities in relation to each of those hazards.

Section 5.0: Mitigation Strategy identifies the mitigation strategy and actions to reduce potential risks to the City's critical facilities, residents, and business owners and assesses the City's capabilities to implement and achieve the objectives of the mitigation actions.

Section 6.0: Plan Maintenance and Capabilities discusses implementation of the Plan, including the process to monitor, evaluate, update, and maintain the LHMP, and identifies opportunities for continued public involvement.

Section 7.0: References identifies the various resources utilized throughout the LHMP.

1.5 Mitigation Goals

The City has adopted the following goals for reducing disaster risk:

- Enhanced protection of life and property from hazard impacts.
- Municipal and emergency operations are fully functional during disasters.

- Strengthened partnerships with the community and the region that enhance hazard mitigation, preparation, response and recovery capabilities.
- Educated and empowered community members prepare for, mitigate, respond to, and recover from hazards that affect their family and property.

1.6 Changes in Hazard Mitigation Priorities

Priorities from the City of South Gate remain largely similar to those presented in the 2018 LHMP. Hazard mitigation goals as listed above remain unchanged from those presented in the previous iteration of this plan. The only significant change in hazard mitigation priorities includes consideration within this LHMP for human-caused disasters within the planning area. New human-caused hazards incorporated into this LHMP include civil unrest, pandemic, terrorism, and active shooter threats. This incorporation supplements the previously identified human-caused hazardous materials spill, previously identified in the 2018 LHMP. No significant priorities have changed related to natural hazards listed in the previous 2018 LHMP.

Mitigation actions from the previous LHMP are reviewed in Section 5.0. Where specific mitigation actions are no longer relevant or useful to the City based on changed or updated priorities, further explanation is documented.

SECTION 2.0: PLANNING PROCESS

This section describes each stage of the planning process used to develop the LHMP. This LHMP follows a prescribed series of planning steps which includes organizing resources, assessing risk, developing the mitigation strategy, drafting the plan, reviewing/revising the plan, and adopting and submitting the plan for approval. Each step is further described in this section.

Hazard mitigation planning in the United States is guided by statutory regulations described in the Disaster Mitigation Act of 2000 (DMA 2000) and implemented through Title 44 Code of Federal Regulations (CFR) Parts 201 and 206. FEMA hazard mitigation plan guidelines outline a four-step planning process for the development and approval of hazard mitigation plans. Table 2-1, *DMA 2000 CFR Crosswalk*, lists the specific CFR excerpts that contain the requirements for approval, and identifies the applicable section of this LHMP.

Table 2-1
DMA 2000 CFR Crosswalk

DMA 2000 (44 CFR 201.6)	2022 LHMP Plan Section
(1) Organize Resources	Section 2
201.6(c)(1)	Organize to prepare the plan
201.6(b)(1)	Involve the public
201.6(b)(2) and (3)	Coordinate with other agencies
(2) Assess Risks	Section 4
201.6(c)(2)(i)	Assess the hazard
201.6(c)(2)(ii) and (iii)	Assess the problem
(3) Develop the Mitigation Plan	Section 5
201.6(c)(3)(i)	Set goals
201.6(c)(3)(ii)	Review possible activities (actions)
201.6(c)(3)(iii)	Draft an action plan
(4) Plan Maintenance	Section 6
201.6(c)(5)	Adopt the plan
201.6(c)(4)	Implement, evaluate, and revise

2.1 Organizing Resources

The first step in the planning process involved organization of resources, including identifying the LHMP Project Management Team, convening the LHMP Planning Team, and reviewing background materials and documents.

2.1.1 LHMP Project Management Team

The LHMP Project Management Team was responsible for day-to-day coordination of the LHMP work program, including forming and assembling the LHMP Planning Team; scheduling meetings; preparing, reviewing, and disseminating meeting materials;

coordinating, scheduling, and participating in community engagement activities and meetings; and coordinating document review. The LHMP Project Management Team wad lead by Lt. Sergio Camacho from the City of South Gate Police Department.

The LHMP Project Management Team worked with the LHMP Consultant Team throughout the development of the LHMP. The LHMP Consultant Team consisted of hazard mitigation/planning professionals from Michael Baker International. The LHMP Consultant Team provided guidance and support to the City through facilitation of the planning process, data collection, community engagement, and meeting materials and document development.

2.1.2 LHMP Planning Team

The LHMP Project Management Team worked with the LHMP Consultant Team to identify stakeholders to participate in the LHMP. Stakeholders included representatives from internal city departments, along with several external entities including neighboring jurisdictions, utilities, professional organizations, community-based organizations, schools/academia and other non-profits/NGOs.

The LHMP Project Management team carefully selected stakeholders to represent a cross section of relevant community lifelines. Community lifelines are defined by FEMA as a fundamental service in the community that, when stabilized, enable all other aspects of society. When disrupted, decisive intervention (e.g., rapid service re-establishment or employment of contingency response solutions) is required. Community lifelines are categorized as follows:

- Safety and Security: Law Enforcement/Security, Fire Service, Search and Rescue, Government Service, Community Safety.
- Food, Hydration, Shelter: Food, Hydration, Shelter, Agriculture.
- Health and Medical: Medical Care, Public Health, Patient Movement, Medical Supply Chain, Fatality Management.
- Energy: Power Grid, Fuel.
- Communications: Infrastructure, Responder Communications, Alerts Warnings and Messages, Finance, 911 and Dispatch.
- Transportation: Highway/Roadway/Motor Vehicle, Mass Transit, Railway, Aviation, Maritime.
- Hazardous Materials: Facilities, HAZMAT, Pollutants, Contaminants.
- Water Systems: Potable Water Infrastructure, Wastewater Management.

Stakeholders were notified via email, advising of the City's efforts to prepare an LHMP and requesting their involvement in preparation of the Plan, including an invitation to attend the LHMP Planning Team meetings. The list of stakeholders included in this

notification effort are summarized in Table 2-2, *LHMP Planning Team and Community Lifelines* below.

Table 2-2
LHMP Planning Team and Community Lifelines

Agency or Utility Name	Community Lifeline
Local and Regional Agencies Involved in Hazard Mitigation Activities	
Caltrans	Transportation
City of South Gate (see department list below)*	Food, Water, Shelter; Safety and Security; Communications; Transportation
Golden State Water Company	Water Systems
Los Angeles County Fire Department	Safety and Security; Communications
Los Angeles County Office of Emergency Management	Safety and Security; Communications
Los Angeles Department of Water and Power	Energy; Communications
Southern California Edison	Energy; Communications
USACE Los Angeles Division	Safety and Security
Agencies with the Authority to Regulate Development	
City of South Gate (see department list below)*	Food, Water, Shelter; Safety and Security; Communications; Transportation
Agencies of Neighboring Communities	
City of Bell Gardens	Safety and Security; Communications
City of Cudahy	Safety and Security; Communications
City of Downey	Safety and Security; Communications
City of Lynwood	Safety and Security; Communications
City of Los Angeles	Safety and Security; Communications
City of Huntington Park	Safety and Security; Communications
City of Paramount	Safety and Security; Communications
County of Los Angeles OEM	Safety and Security; Communications
Representatives of Business, Academia, and other Private Organizations	
Los Angeles Community College District	Safety and Security; Communications
Los Angeles Unified School District	Safety and Security; Communications
Downey Unified School District	Safety and Security; Communications
Lynwood Unified School District	Safety and Security; Communications
Paramount Unified School District	Safety and Security; Communications
Representatives of Nonprofit Organizations/Community Based Organizations	
American Red Cross*	Health and Medical; Food, Water, Shelter; Safety and Security; Communications
PATH Los Angeles*	Food, Water, Shelter; Safety and Security
South Gate Kiwanis Club	Food, Water, Shelter; Safety and Security
Tweedy Mile Association	Food, Water, Shelter; Safety and Security
South Gate Rotary Club	Food, Water, Shelter; Safety and Security
*Indicates an LHMP Planning Team member that provides services to socially vulnerable populations or other "high-risk" populations within the planning area. Refer to Section 3.8.2 for further discussion.	

In addition to external stakeholders, the LHMP Planning Team included City of South Gate staff members, representing a diverse cross-section of departments and responsibilities. Members of the LHMP Planning Team represented the following City departments and divisions:

- Administrative Services Department
- Community Development
- Human Resources
- Parks and Recreation
- Police Department
- Public Works

The LHMP Planning Team worked together to ensure the success of the planning process and is responsible for its implementation and future maintenance. The committee's key responsibilities included:

- Participation in LHMP Planning Team meetings
- Collection of valuable local information and other requested data
- Decision on plan process and content
- Development and prioritization of mitigation actions for the LHMP
- Review and comment on plan drafts
- Coordination and involvement in the public engagement process

Table 2-3, *LHMP Planning Team*, identifies both LHMP Project Management Team and LHMP Planning Team members, along with their roles in plan development.

Table 2-3
LHMP Planning Team

Name	Title/Role	Organization	LHMP Planning Team Role
LHMP Project Management Team			
Lt. Sergio Camacho	Lieutenant/Project Manager	South Gate Police Department	City Project Manager – Organization of LHMP Planning Team and meetings, development of and participation in community outreach, hazard identification, capabilities assessment, mitigation actions and prioritization, plan coordination and review.
LHMP Planning Team			
Brad Evans	Division VI, Acting AC	Los Angeles County Fire Department	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, draft LHMP review/comment.

Table 2-3 (continued)
LHMP Planning Team

Name	Title/Role	Organization	LHMP Planning Team Role
Chris Castillo	Water Division Manager	City of South Gate	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, mitigation action review and mitigation strategy discussion, draft LHMP review/comment.
David Kingston	Chief of Emergency Management	LA District USACE	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, mitigation action development/review, draft LHMP review/comment.
Derwin Dy	Water Resources Manager	City of South Gate	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, mitigation action development/review, draft LHMP review/comment.
Eugenia (Gigi) Chan	Community Services Liaison	Los Angeles County Fire Department	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, draft LHMP review/comment.
Francisco Martinez	Local Public Affairs	Southern California Edison	Mitigation action development/ review, risk assessment/ vulnerability discussion, draft LHMP review/comment.
Glenn Massey	Parks Superintendent	City of South Gate	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, mitigation action development/review, draft LHMP review/comment.
Gymeka Williams	Emergency Management Coordinator	LA County OEM	Mitigation action development/ review, draft LHMP review/comment.
Hailes Soto	Community Club Member	South Gate Kiwanis Club	Risk assessment/ vulnerability discussion, mitigation action review and mitigation strategy discussion, draft LHMP review/comment.

Table 2-3 (continued)
LHMP Planning Team

Name	Title/Role	Organization	LHMP Planning Team Role
Jeremy Gloer	Outreach Representative for South Gate	PATH Los Angeles	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, mitigation action development/review, draft LHMP review/comment.
Jillian De Vela	Emergency Management Coordinator	City of Los Angeles	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, mitigation action development/review, draft LHMP review/comment.
Jose Loera	Traffic Engineer	City of South Gate	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, mitigation action development/review, draft LHMP review/comment.
Lt. Evelyn Garcia	Lieutenant	South Gate Police Department	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, draft LHMP review/comment.
Luis Osuna	Deputy City Engineer	City of South Gate	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, mitigation action discussion, draft LHMP review/comment.
Meredith Eguira	Director of Community Development	City of South Gate	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, draft LHMP review/comment.
Osie Harrell	General Maintenance and Electrical Superintendent	City of South Gate	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, draft LHMP review/comment.

Table 2-3 (continued)
LHMP Planning Team

Name	Title/Role	Organization	LHMP Planning Team Role
Rakdy Khlok	Emergency Management	City of Downey	Mitigation action development/review, draft LHMP review/comment.
Richard Lee	Operations Division	LA District USACE	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, draft LHMP review/comment.
Rick Blackburn	Emergency Services	Southern California Gas	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, mitigation action development/review, draft LHMP review/comment.
Sandra Varela	Community Development Tech II	City of South Gate	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, mitigation action discussion, draft LHMP review/comment.
Terence Cheung	District Local Assistant Engineer	Caltrans	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, draft LHMP review/comment.
Thevin Rajapaksha Arachchilage	Disaster Program Manager	American Red Cross	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, mitigation action development/review, draft LHMP review/comment.
Thurman Green	Risk Manager	City of South Gate	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, mitigation action development/review, draft LHMP review/comment.
Tina Fierro	Deputy Director of Parks and Recreation	City of South Gate	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, draft LHMP review/comment.

Table 2-3 (continued)
LHMP Planning Team

Name	Title/Role	Organization	LHMP Planning Team Role
Travon Espy	Battalion Chief	LA County Fire Department	Risk assessment/ vulnerability discussion, mitigation action development/review, draft LHMP review/comment.
Victor Pelayo	Water Distribution Superintendent	Golden State Water Company	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, mitigation action development/review, draft LHMP review/comment.
Yalini Siva	Senior Planner	City of South Gate	Project goals and objectives identification, hazard identification and prioritization, critical facilities review, risk assessment/ vulnerability discussion, draft LHMP review/comment.

A series of LHMP Planning Team meetings and smaller focus group meetings were hosted during the LHMP update process. The LHMP Planning Team Meeting #1 was hosted during October 2023 to introduce the LHMP, outline the planning process, and discuss priority natural hazards for the plan. Stakeholders on the LHMP Planning Team were then invited to participate in focus group meetings, hosted during November 2023. Focus groups were either held with a single stakeholder or a group of stakeholders with similar responsibilities or interests. The meeting series was concluded with the LHMP Planning Team Meeting #2, hosted during April 2024. The purpose of the conclusion meeting was to present vulnerability/risk assessment findings and present mitigation actions. The meeting series is summarized below in Table 2-4, *LHMP Planning Team and Focus Group Meeting Summary*.

Meetings were held virtually via Microsoft Teams, to accommodate stakeholders distributed throughout the region along with remote staff serving on the LHMP Consultant team. Meeting materials, including PowerPoint presentations, sign-in sheets, agendas, notes, and other relevant handouts, are provided in Appendix B, *LHMP Planning Team Documentation*.

Table 2-4
LHMP Planning Team and Focus Group Meeting Summary

Date/Time	Meeting	Attendees	Discussion Items
October 23, 2023 1:00 PM– 3:00 PM	LHMP Planning Team Meeting #1	LHMP Planning Team (all)	• Project Background • Purpose & Requirements of the LHMP • Project Goals, Objectives and Expectations • Hazard Identification and Prioritization
November 27, 2023 2:00 PM – 3:00 PM	Focus Group Meeting #1	Lt. Sergio Camacho – City of South Gate Glenn Massey – City of South Gate Jose Loera – City of South Gate Thurman Green – City of South Gate	• Critical Facilities Review • Risk/Vulnerability Discussion • Mitigation Action Discussion
November 28, 2023 2:00 PM – 3:00 PM	Focus Group Meeting #2	Thevin Rajapaksha Arachchilage – American Red Cross Jeremy Gloer – PATH Los Angeles	• Critical Facilities Review • Risk/Vulnerability Discussion • Mitigation Action Discussion
November 29, 2023 2:00 PM – 3:00 PM	Focus Group Meeting #3	Lt. Sergio Camacho – City of South Gate Rakdy Khlok – City of Downey Jillian De Vela – City of Los Angeles David Kingston -- USACE	• Critical Facilities Review • Risk/Vulnerability Discussion • Mitigation Action Discussion
November 30, 2023 2:00 PM – 3:00 PM	Focus Group Meeting #4	Victor Pelayo – Golden Water State Company Rick Blackburn – Southern California Gas Francisco Martinez Derwin Dy – City of South Gate	• Critical Facilities Review • Risk/Vulnerability Discussion • Mitigation Action Discussion
April 1, 2024 2:00PM – 3:30 PM	LHMP Planning Team Meeting #2	LHMP Planning Team (all)	• Risk/Vulnerability Summary • Mitigation Strategy Discussion • Draft LHMP Presentation

The draft LHMP was electronically circulated to the LHMP Planning Team on April 1, 2024, for an internal, one-week review period concluding on April 8, 2024. At the conclusion of the internal one-week review period, no comments, edits, or points of clarification were requested in the LHMP. Documentation of this process is included in Appendix B, *LHMP Planning Team Documentation*.

2.1.3 Public Outreach

A public outreach and engagement strategy was developed to maximize public involvement in the LHMP planning process. The LHMP public outreach strategy included a dedicated webpage, community survey, a community outreach event and public review draft distribution, as described below; refer to Appendix B, *LHMP Planning Team*

Documentation. The LHMP public outreach process was specifically designed to maximize participation and input from all community members, including underserved groups and vulnerable populations.

Webpage

A dedicated webpage was developed on the City's website for the LHMP planning process. The webpage provided information on the LHMP, and how the public can get involved in the planning process. Contact information was included for comments or questions via email. A link to complete the community survey was posted to encourage participation. The website was updated throughout the planning process and provided notifications and access to LHMP materials. The draft LHMP was also made available for public review on this webpage, available here: https://www.cityofsouthgate.org/Business-Development/City-Growth-Plans-Strategy/Local-Hazard-Mitigation-Plan

Virtual outreach on the City's website posted for the entirety of the LHMP development process allowed for maximum audience reach, including underserved and vulnerable populations. Traditionally, virtual outreach has the ability to reach community members who may be unable to attend in-person meetings or hearings. Individuals can access all information at their own convenience, and have the ability to communicate directly with City staff regarding questions or comments.

Community Survey

A community survey was developed to obtain input from the community about various hazard mitigation topics. In addition to basic demographic information (e.g., zip code and age), the survey asked residents to identify specific safety concerns, including identifying what hazards they felt were most likely to impact their neighborhood or property. Participants were also asked what actions they had taken to be more resistant to hazards, and preferences for future communication methods from the City. A survey link was posted on the LHMP webpage and a QR code was distributed on a printed handout at the South Gate Farmers' Market outreach event (below). Members of the LHMP Planning Team also distributed the survey link to colleagues and constituents within their jurisdiction.

The survey was open between November 9, 2023 and closed March 18, 2024. A total of 42 responses were received. Of the 42 participants, approximately 50 percent provided contact information and requested notification when the draft LHMP becomes available for public review. Input received was generally consistent with feedback from the South Gate Farmers Market pop-up event, as outlined below. Survey input directly influenced the final hazard rankings, provided in Section 4.0, *Hazard Assessment*. Further details received allow the City to better target future outreach and engagement activities regarding the LHMP. The survey specifically provides outreach with underserved and vulnerable populations who may not have the capacity or ability to attend in-person

outreach events or hearings. A detailed community outreach summary is included in Appendix B, *LHMP Planning Team Documentation*.

Pop-Up Community Outreach

> ***Definitions:***
>
> **Whole Community**: engaging the full capacity of private and nonprofit sectors, including businesses, faith-based and disability organizations, and the general public, in conjunction with the participation of local, tribal, state and Federal governmental partners (FEMA)
>
> **Social Vulnerability**: characteristics of a person or group that affect their capacity to anticipate, cope with, resist, and recover from the impact of a discrete and identifiable disaster in nature or society.

An interactive pop-up booth focused on LHMP outreach and content was hosted at the South Gate Farmers' Market on February 13, 2024 from 8:30 AM - 11:00 AM. The intent of this outreach event was to reach public stakeholders/constituents of all economic sectors in South Gate. The South Gate Farmers' Market was specifically selected for LHMP as it is well attended by a diverse cross-section of the City's population. The City partners with Harbor Area Farmers Market to facilitate food assistance at the weekly South Gate Farmers' Market. The City distributes "Market Match" coupons, where clients receiving food assistance from CalFresh, WIC (Women, Infants and Children), and FMNP (Farmer's Market Nutrition Program) receive coupons to spend specifically at the South Gate Farmers' market. Additionally, the City can process transactions for SNAP (Supplemental Nutrition Assistance Program) clients for qualified purchases all famers' market vendors. As the City makes a concentrated effort to serve the whole community at the weekly South Gate Farmers' Market, the LHMP Planning Team selected this event to facilitate an interactive pop-up booth. The intent of this outreach event was to use the "whole community" approach and meet stakeholders/constituents at a convenient location during a free and well-attended City event.

The LHMP Consultant, Michael Baker International, set up several informational boards regarding the LHMP update process and information about key community lifelines. Participants were given sheets of five dot stickers to place on the list of South Gate hazards indicating which of the hazards were a top concern or priority. To facilitate the "whole community" outreach process, outreach materials were translated into Spanish to ensure members of the public could participate utilizing their preferred language. In addition, a Spanish-speaking staff member from the LHMP Consultant Team (Michael Baker International) was present to answer questions and facilitate community outreach.

Results from this exercise, along with the board illustrations are documented in Appendix B, *LHMP Planning Team Documentation*. Feedback was generally consistent with the results from the community survey exercise. City staff was available to answer questions from the public regarding hazard mitigation and resilience related to the City.

Approximately 50 participants took part in the natural hazard ranking activity during the four hour long pop-up event.

In addition to the activities and informational boards, staff passed out an informational postcard describing the LHMP Update process containing the Community Survey QR Code to provide them the opportunity to give additional input. An illustration of this handout is included below as Exhibit 2-1, *Postcard Handout from South Gate Farmers' Market Outreach* and photos from the event are included as Exhibit 2-2, *Pictures from the Farmers' Market Pop-Up Event*.

Exhibit 2-1
Postcard Handout from South Gate Farmers' Market Outreach

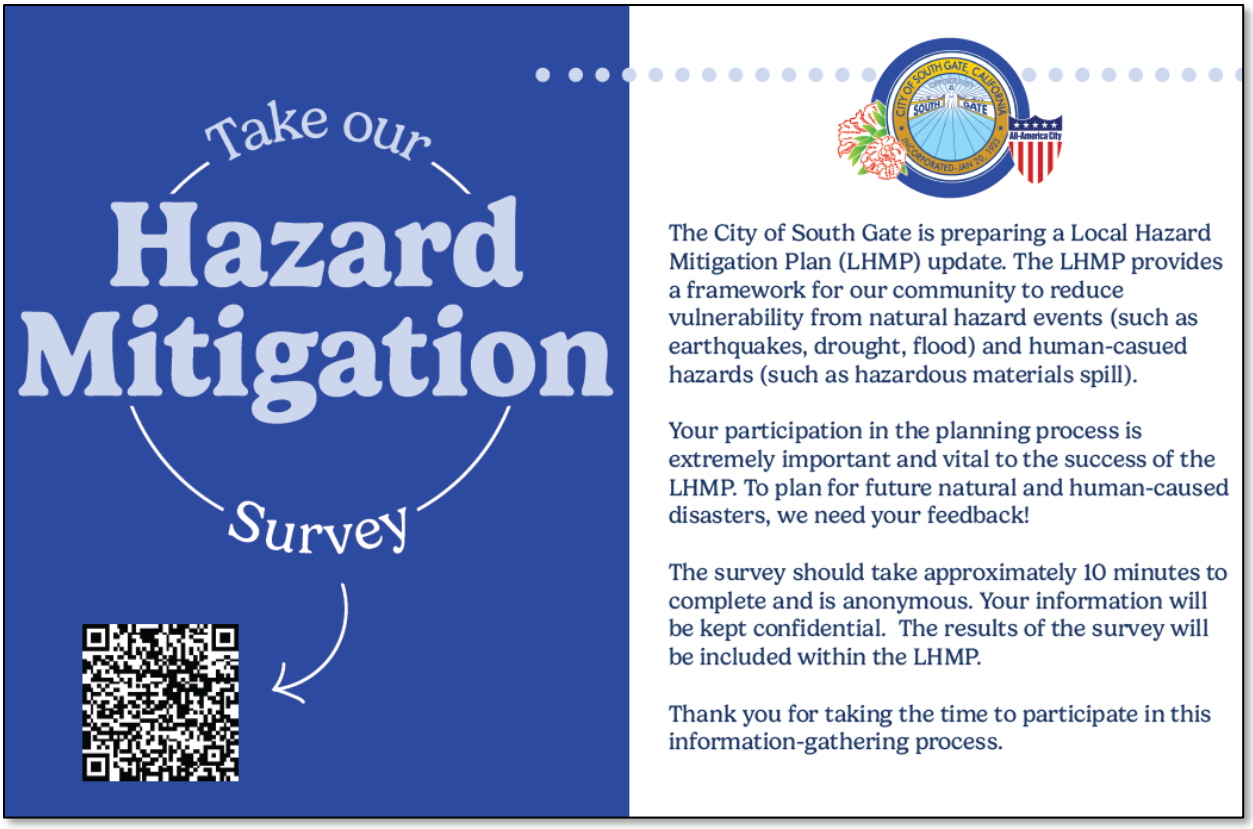


Exhibit 2-2
Pictures from the Farmers' Market Pop-Event

PUBLIC REVIEW DRAFT LHMP

A draft of the LHMP was made available on the LHMP webpage for the public to review and comment for a two week period beginning XX 2024 and ending on XX 2024. **[PENDING]** Notification of the draft LHMP availability for review and comment was distributed via the City's website and email listservs. The LHMP received XX comments on the draft LHMP. Documentation of this process is included in Appendix B, *LHMP Planning Team Documentation*.

2.1.4 Review and Incorporate Existing Information

The LHMP Planning Team referenced a variety of plans, studies, data, and technical reports available from local, State, and federal sources to prepare the LHMP update. Primary sources were reviewed and incorporated as part of the LHMP planning process, and are listed in Table 2-5, *Existing Plans, Studies, Reports, and Other Technical Data/Information*. A complete list of references is included in Section 7.0, *References*.

Table 2-5
Existing Plans, Studies, Reports, and Other Technical Data/Information

Existing Plans, Studies, Reports, and Other Technical Data/Information	Planning Process / Area of Document Inclusion
2023 Sewer Management Plan	Multiple Plan Sections
2020 Urban Water Management Plan	Hazard Profiles; Vulnerability Assessment; Mitigation Strategy; Capabilities Assessment
2020 Water Shortage Contingency Plan	
2020 Urban Water Management Plan for Tuolumne Utilities District	Hazard Profiles; Vulnerability Assessment; Mitigation Strategy; Capabilities Assessment
2019 Water Master Plan	Hazard Profiles; Vulnerability Assessment; Mitigation Strategy; Capabilities Assessment
2017 Pavement Management System	Multiple Plan Sections
2014 Lighting Master Plan	Multiple Plan Sections
2012 Bicycle Transportation Plan	Multiple Plan Sections
2008 Green Street Policy	Multiple Plan Sections
2007 Street Tree Master Plan	Multiple Plan Sections
California Department of Conservation	Hazard Profiles
California Governor's Office of Emergency Services California Adaptation Planning Guide (2020)	Hazard Profiles; Climate Mitigation Plan Development
California State Hazard Mitigation Plan (2023)	Hazard Profiles
City of South Gate Local Hazard Mitigation Plan 2015	Multiple Plan Sections
FEMA Fact Sheet – Hazard Mitigation Planning for Local Communities	Multiple Plan Sections
FEMA Local Mitigation Plan Review Guide	Multiple Plan Sections
FEMA Local Mitigation Planning Handbook	Multiple Plan Sections
FEMA Local Mitigation Planning Policy Guide	Multiple Plan Sections
National Oceanic and Atmospheric Administration Databases	Hazard Profiles
South Gate General Plan 2035	Local Plan Integration Existing/Planned Land Uses
Southern California Earthquake Data Center	Hazard Profiles
United States Drought Monitor	Drought Hazard Profile
United States Geological Survey Science Data Catalog	Hazard Profiles, Vulnerability Assessment

2.2 Assess Risks

In accordance with FEMA requirements, the LHMP Planning Team identified and prioritized the hazards affecting the City and assessed vulnerability from those hazards. Results from this phase of the LHMP planning process aided subsequent identification of

appropriate mitigation actions to reduce risk from these hazards; refer to Section 5.0, *Mitigation Strategy*.

2.2.1 Identify/Profile Hazards

Based on a review of past hazards, as well as a review of existing plans, reports, and other technical studies, data, and information, the LHMP Planning Team determined which specific hazards could affect the City. Content for each hazard profile is provided in Section 4.0, *Hazard Assessment*.

2.2.2 Assess Vulnerabilities

Hazard profiling exposes the unique characteristics of individual hazards and begins the process of determining which areas within the City are vulnerable to specific hazards. The vulnerability assessment included input from the LHMP Planning Team and a GIS overlaying method to map hazard risk assessments. Using these methodologies, critical facilities impacted by hazards were identified and potential loss estimates were determined, where available. Detailed information on the vulnerability assessments for each hazard is provided in Section 4.0, *Hazard Assessment*.

2.3 Develop Mitigation Plan

2.3.1 Identify Goals

The LHMP Planning Team reviewed mitigation goals from the previous 2018 LHMP and made minor editorial edits for clarification. Hazard mitigation goals were discussed during Meeting #1, before finalization and incorporation into the LHMP. The Mitigation Goals are included in Section 1.0, *Introduction*.

2.3.2 Develop Capabilities Assessment

A capabilities assessment is a comprehensive review of all mitigation capabilities and tools currently available to the City for mitigation action implementation, prescribed in the LHMP. The LHMP Planning Team identified the planning and regulatory; administrative and technical; financial; and education and outreach capabilities to implement mitigation actions, as detailed in Section 5.0, *Mitigation Strategy*.

2.3.3 Identify Mitigation Actions

As part of the LHMP planning process, the LHMP Planning Team worked to identify and develop mitigation actions, after which mitigation actions were prioritized as high, medium, or low. A detailed discussion of the identification and prioritization of mitigation actions, and the creation of the implementation strategy is provided in Section 5.0, *Mitigation Strategy*.

2.3.4 Plan Adoption and Submittal

This plan will be submitted to Cal OES and FEMA for review. Upon receiving “approvable pending adoption” notification from FEMA, this plan will be presented to the City for

consideration and approval. If approved, a copy of the resolution will be provided in Appendix A, *City of South Gate Adoption Resolution*.

2.3.5 Plan Maintenance

Plan maintenance procedures, found in Section 6.0, *Plan Maintenance and Capabilities*, include the measures the City will take to ensure the LHMP's continuous long-term implementation. The procedures also include the manner in which the LHMP will be regularly monitored, reported upon, evaluated, and updated to remain a current and meaningful planning document.

SECTION 3.0: COMMUNITY PROFILE

3.1 Physical Setting

The City of South Gate (planning area) is located in southeastern Los Angeles County, approximately eight miles southeast of downtown Los Angeles, and covers an area slightly more than seven square miles. The planning area is bordered by the unincorporated community of Walnut Park and the Cities of Huntington Park, Cudahy, and Bell Gardens to the north, the City of Downey to the east, the Cities of Lynwood and Paramount to the south, and the City of Los Angeles and the unincorporated community of Florence-Graham to the east. The Los Angeles River and Interstate 710 (I-710) run north–south through South Gate through the eastern part of the City, and Interstate 105 (I-105) runs through a small portion of the City in the extreme southeastern corner. The US Census reported that South Gate had a population of 92,726 in 2020. Exhibit 3-1 below depicts South Gate's regional location.

South Gate is part of the Gateway Cities region of Los Angeles County. According to the 2009 General Plan, the community is almost entirely developed; vacant land occupies only 1.7 percent (80 acres) of South Gate's total size. Residential land uses, primarily single-family homes, account for 41 percent (approximately 1,960 acres) of the City.

3.2 History

The area now known as South Gate was originally inhabited by the Tongva (also known as the Gabrieleño) and other Native American peoples, who settled the Los Angeles Basin and the southern Channel Islands. Spanish explorers first entered the region in 1542. Permanent occupation by Europeans began when Mission San Gabriel Arcángel was constructed in 1771 in present-day City of San Gabriel. In 1810, King Joseph I of Spain granted close to 30,000 acres of the region to Corporal Antonio Maria Lugo as a reward for his military service, forming an estate called Rancho San Antonio. Beginning in 1855, the rancho was subdivided into 40-acre agricultural parcels. By 1880, cattle ranching took hold in the area.

In the early 1900s, residential subdivisions began to replace the cattle ranches. The community became known as Southgate Gardens, due to its position around the southern gate of the former Rancho San Antonio. Southgate Gardens incorporated in 1923, as the City of South Gate, with a population of approximately 2,500 people. A residential and industrial base was established and served as the cornerstone of South Gate.

The new City became home to many major industrial companies, including General Motors and Firestone Tires. New developments quickly sprung up to provide housing for factory workers. South Gate became a key industrial hub during World War II. After the war ended, local businesses founded the South Gate Chamber of Commerce to promote economic welfare and happiness of the community.

Exhibit 3-1
Regional Location

This history is reflected in the housing stock; the Census Bureau reports that over 30 percent of homes in South Gate were constructed during the 1940s, and approximately 77 percent were constructed before 1970.

3.3 Demographics and Socioeconomic Factors

Population, education, employment, and housing data are described in this section, below.

3.3.1 City of South Gate Population

Table 3-1, *City of South Gate and Los Angeles County Population and Housing Data (2022)*, provides an overview of City and County demographics.

Table 3-1
City of South Gate and Los Angeles County Population and Housing Data (2022)

Category Description	City of South Gate	County of Los Angeles
Total population	92,381	9,936,690
Percent of Residents that are children (under 18 years)	24.8%	21.1%
Percent of Residents that are senior citizens (65 and over)	11.3%	14.2%
Median Age (years)	33.7	37.4
Median Household Income	$67,188	$83,411
Median House Value (Owner-occupied housing units)	$578,900	$732,200
Occupied Housing Units	23,920	3,363,093
Percent of Renter-Occupied Housing Units	55.2%	53.8%
Percent of Owner-Occupied Housing Units	44.8%	46.2%
Average Household Size	3.86	2.89

Source: US Census Bureau, 2022: American Community Survey 5-Year Estimates, *DP05 Demographic and Housing Estimates*.
US Census Bureau, 2022: American Community Survey 5-Year Estimates, *DP04 Selected Housing Characteristics*.

The City of South Gate has an estimated population of 92,381 according to the 2022 U.S. Census American Community Survey (ACS) 5-year estimates. South Gate residents under the age of 18 make up 24.8 percent of the City's population, residents 65 and older account for only 11.3 percent of the population, the remaining 63.9 percent of the population is between the ages of 18 and 65. The median age of City residents is 33.7 years of age. Comparatively, Los Angeles County age demographic comprises 21.1 percent of residents under the age of 18, with 14.2 percent of residents 65 and over. Approximately 64.7 percent of the population is between the ages of 18 and 65 with a median age of 37.4 years. Overall, these metrics show that the City and County have similar age demographics, however, the population of South Gate is slightly younger than that of the County.

The City has a lower median household income and median house value in comparison to Los Angeles County. The median household income in the City of South Gate is

$67,188, which is roughly 20 percent lower than the median income in Los Angeles County at $83,411. Similarly, the median house value in the City is roughly 20 percent lower than that of the County. The City of South Gate has an average household size of 3.86 persons per household, and the average household size across Los Angeles County is 2.89 persons per household. The percentages of owner-occupied and renter-occupied housing units between the City and County are effectively equal.

Table 3-2, *City of South Gate and Los Angeles County Racial and Ethnic Composition (2022)*, provides an overview of the City's and County's racial/ethnic demographics.

Table 3-2
City of South Gate and Los Angeles County Racial and Ethnic Composition (2022)

Race or Ethnicity	City of South Gate		Los Angeles County	
	Population	Percentage	Population	Percentage
Hispanic or Latino (of any race)	87,994	95.3%	4,837,594	48.7%
White	2,366	2.6%	2,505,177	25.2%
Black or African American	764	0.8%	753,155	7.6%
American Indian and Alaska Native	123	0.1%	18,662	0.2%
Asian	541	0.6%	1,452,646	14.6%
Native Hawaiian and other Pacific Islander	167	0.2%	20,597	0.2%
Other race	206	0.2%	49,953	0.5%
Two or more races (Not Hispanic or Latino)	220	0.2%	298,906	3.0%
Total	**92,381**	**100%**	**9,936,690**	**100%**

Source: US Census Bureau, 2022: American Community Survey 5-Year Estimates, *DP05 Demographic and Housing Estimates*.

The largest ethnic group in the City is the Hispanic or Latino population, which accounts for 95.3 percent of the City's total population. The City's remaining ethnic makeup consists of White at 2.6 percent, Black or African American at 0.8 percent, American Indian and Alaskan Native at 0.1 percent, Asian at 0.6 percent, and Native Hawaiian and Other Pacific Islander at 0.2 percent. Persons identifying as "other race" and those reporting two or more races both account for 0.2 percent of the City's population.

The racial/ethnic makeup of Los Angeles County consists of White at 25.2 percent, Black or African American at 7.6 percent, American Indian and Alaskan Native at 0.2 percent, Asian at 14.6 percent, and Native Hawaiian and Other Pacific Islander at 0.2 percent. Hispanic or Latino persons of any race make up the largest ethnic group at 48.7 percent of the population. Persons identifying as "other race" account for 0.5 percent of the population, while those reporting two or more races make up 3.0 percent of the population.

The population of South Gate has significantly less racial/ethnic diversity compared to that of Los Angeles County. Although, the largest ethnic group in both the City and County is the Hispanic or Latino population, this ethnic group constitutes the vast majority of the

City at 95.3 percent. That is more than double the percentage of Los Angeles County at 48.7 percent. The City of South Gate has a racially/ethnically concentrated population and racial/ethnic groups outside of the Hispanic or Latino population make up very little of the City population.

3.3.2 City of South Gate Educational Attainment

Educational attainment is analyzed based on the population of individuals ages 25 and over. Refer to Table 3-3, *City of South Gate and Los Angeles County Educational Attainment (2022)*.

Table 3-3
City of South Gate and Los Angeles County Educational Attainment (2022)

Education Attainment (Age 25 and Over)	City of South Gate		Los Angeles County	
	Population	Percentage	Population	Percentage
Less than 9th Grade	15,239	25.7%	811,822	11.7%
9th to 12th Grade	9,146	15.4%	552,831	8.0%
High School Graduate	15,024	25.4%	1,412,260	20.4%
Some College, No Degree	10,004	16.9%	1,260,211	18.2%
Associate's Degree	2,993	5.1%	482,967	7.0%
Bachelor's Degree	5,463	9.2%	1,542,422	22.3%
Graduate or Professional Degree	1,359	2.3%	847,137	12.3%
Total	**59,228**	**100%**	**6,909,650**	**100%**

Source: US Census Bureau, 2022: American Community Survey 5-Year Estimates, *S1501 Educational Attainment*.

Of the City's population aged 25 years and older, 2.3 percent attained a graduate or professional degree, 9.2 percent attained a bachelor's degree, and 5.1 percent attained an associate degree. About 16.6 percent of the City's population has completed a higher education degree. In comparison, Los Angeles County's higher education degree attainment is as follows: 12.3 percent attained a graduate or professional degree, 22.3 percent attained a bachelor's degree, and 7.0 percent attained an associate degree for a total of 41.6 percent. Therefore, the County has a notably higher level of educational attainment than that of the City of South Gate. Approximately 41.1 percent of adults in the City of South Gate have not completed high school compared to approximately 19.7 percent of adults in the County.

3.3.3 Economic and Employment Trends

According to the 2022 U.S. Census ACS, there are 72,162 residents over 16 years of age in the City of South Gate, and 47,133 residents in the labor force. Out of the 47,133 people in the labor force, 43,422 (92 percent) were employed and 3.711 (7.7 percent) were unemployed. The educational services and healthcare/social services industry employed the largest number of City residents (17.1 percent); followed by manufacturing (13.7

percent); transportation, warehousing and utilities (11.6 percent); and retail trade (11.3 percent). The median household income in the City was $67,188. While approximately 6.2 percent of employees work from home, a majority of residents commute for work. The average commute travel time is 32 minutes.[1]

3.3.4 Housing

According to the 2022 ACS, there are 24,466 housing units in the City of South Gate. Of the total housing units, approximately 97.8 percent are occupied.[2]

There are 23,920 occupied households in the City with the average household size of 3.86 persons per household. The most common household size is the 4-or-more-person household with 12,028 total units (50.3 percent) followed by 2-person households with 4,697 total units (19.6 percent), 3-person households with 4,108 units (17.2 percent), and 1-person households with 3,087 units (12.9 percent).[3] Of the 23,920 housing units, just over half are renter occupied housing units (55.2 percent) while the remaining 44.8 percent are owner-occupied housing units.

Single family homes were the most common housing type in the City accounting for 62.3 percent of the housing stock in the City of South Gate. Multi-family structures make up approximately 36 percent of the housing stock, while the number of mobile homes account 1.5 percent. The housing vacancy rate in the City is approximately 2.2 percent in 2023.[4] Housing growth within the City of South Gate is discussed in Section 3.6, *Development Trends and Future Development*, below.

3.5 Land Uses and Existing Development

The Community Design Element of the South Gate General Plan, adopted in 2009, is the principal policy document regulating land use in the City. Nine land use designations, including residential, transportation, industrial and other land uses, make up the City. Like much of the region, South Gate is now a built-out urban community. Table 3-4, *City of South Gate Land Use Designations*, identifies the type and distribution of land uses in South Gate.

The majority of land within the City has been developed as residential, industrial, commercial, and transportation land uses. Residential land uses are distributed throughout the City and are mostly comprised of single family units. Industrial land uses are concentrated in specific locations within the City, including northeast of the Firestone/Atlantic Intersection and east of I-710 and the Los Angeles River. Commercial

[1] US Census Bureau, *American Community Survey, ACS 5-Year Estimates Data Profiles, Table DP03, 2022*, https://data.census.gov/table?q=2022%20acs%20DP03&g=050XX00US06037_160XX00US0673080. Accessed on January 31, 2024.
[2] US Census Bureau, *American Community Survey, ACS 5-Year Estimates Data Profiles, Table DP04, 2022*, https://data.census.gov/table?q=2022%20acs%20DP04&g=050XX00US06037_160XX00US0673080. Accessed on January 31, 2024.
[3] US Census Bureau, *American Community Survey, ACS 5-Year Estimates Data Profiles, Table S2501, 2022*, https://data.census.gov/table/ACSST5Y2022.S2501?q=2022%20acs%20S2501&g=050XX00US06037_160XX00US0673080. Accessed on January 31, 2024.
[4] US Census Bureau, *American Community Survey, ACS 5-Year Estimates Data Profiles, Table DP04, 2022*, https://data.census.gov/table?q=2022%20acs%20DP04&g=050XX00US06037_160XX00US0673080. Accessed on January 31, 2024.

land uses are also concentrated along specific corridors throughout the City. The primary commercial retail areas in the City are along Tweedy Boulevard, Firestone Boulevard, Long Beach Boulevard and in the El Paseo/South Gate Towne Center shopping area. Other commercial districts are located along State Street, California Avenue, Atlantic Avenue, Garfield (between Lincoln and Century), Paramount and around the intersection of Garfield and Imperial.

Table 3-4
City of South Gate Land Use Designations

Land Use	Acres	Percent	Summary of Land Use Description
Residential	1966	41.0%	Largest land use category in South Gate including single-family homes, duplexes and multifamily units.
Transportation	968	20.2%	Arterial and local roadways throughout the City.
Industrial	762	15.9%	Industrial uses are concentrated in several specific locations within the City including north and east of the Firestone/Atlantic intersection and east of I-710 and the Los Angeles River. Industrial uses include heavy manufacturing, light industry, warehouse/distribution land uses.
Public Works, Water Bodies, Easements	342	7.1%	Water bodies, easements and public works lands in the City of South Gate include the Los Angeles River, the Rio Hondo Channel, railroad lines, the high-tension power line along Southern Avenue and other utility easements in the City.
Commercial	308	6.4%	Commercial development covers a broad spectrum of uses including retail, office, and service commercial. Auto related commercial, shopping and department stores and "other/not specified" land uses make up most of the uses under this designation.
Parks	166	3.4%	Parks land uses include passive and active recreational facilities. South Gate Park and Hollydale Regional Park are the two largest parks within the City.
Schools	109	2.3%	Elementary schools, middle schools, high schools, and adult school campuses located within the City. Schools are operated by the Los Angeles Unified School District and the Paramount Unified School District.
Civic/Institutional	99	2.1%	Local government buildings and religious facilities including City Hall, city yard, two libraries (one on Tweedy Boulevard and another on Garfield Avenue), approximately 30 churches, several private schools, and other civic and institutional uses.
Vacant	80	1.7%	Undeveloped/abandoned land within the City.
Total	**4800**	**100%**	

Source: South Gate General Plan 2035, *Community Design Element*, December 2009.

3.6 Development Trends and Future Development

Since the previous iteration of the 2018 LHMP, population patterns, development, and land use have not substantially changed within the planning area. Therefore, vulnerability has not substantially changed as associated with the identified hazards. The City population decreased nominally, from 94,396 individuals identified in the 2018 LHMP to 92,381 individuals in this LHMP – representing a loss of 2,015 individuals, or 2.1 percent

decrease of the City population. These population trends are largely attributed to the COVID-19 pandemic, where the Los Angeles County region experienced a similar population decrease of 2.9 percent.[5] As the population in the larger reason declined during the COVID-19 pandemic, development also significantly slowed due to supply chain and economic challenges. Because no major changes in land use occurred while the previous 2018 LHMP was active, risk and vulnerability associated with the majority of hazards listed in the LHMP remains similar. Any differences are further discussed within the hazard profiles in Section 4.0.

The City of South Gate is largely built out, and future development is heavily constrained by existing infrastructure and other environmental features. However, redevelopment, increases in the density of current developments, and rezoning could impact future development. A key indicator of projected growth is the California Department of Housing and Community Development (HCD) Regional Housing Need Allocation (RHNA).

The RHNA represents the minimum number of housing units the City is required to provide adequate sites for zoning and is one of the primary threshold criteria to achieve State approval of the Housing Element. For the 2021-2029 Housing Element cycle, the City of South Gate is required to accommodate 8,282 residential units. A breakdown of the required housing units, as presented in the South Gate Housing Element (2021), is included in Table 3-5, *City of South Gate RHNA Allocation*, below.

Table 3-5
City of South Gate RHNA Allocation

Income Level	Units	Percent
Extremely Low Income	1,068	12.9%
Very Low Income	1,068	12.9%
Low Income	994	12.0%
Moderate Income	1,173	14.2%
Above Moderate Income	3,979	48.0%
Total	**8,282**	**100%**

The City is required to demonstrate an availability of land, zoning provisions, and development standards that facilitate and encourage affordable housing development. The City anticipates accommodating these housing units though projected accessory dwelling units (ADUs), RHNA credits for projects that are in progress, and housing units in and outside of specific plan areas throughout the City. The majority of sites that are identified are outside of major hazard areas, where possible. The City will continue to

[5] The Real Deal Real Estate News, *LA County lost 2.9% of its population during the pandemic*, https://therealdeal.com/la/2023/04/21/la-county-lost-2-9-of-its-population-during-the-pandemic/, accessed March 12, 2024.

ensure proposed projects comply with the latest building and safety requirements and mitigate environmental impacts to the maximum extent feasible.

In addition to the RHNA requirements, the City of South Gate Public Works is currently overseeing the design and construction of various capital improvement projects. See Table 3-6, *Capital Improvement Projects*, for a description and status of current and future development projects.

Table 3-6
Capital Improvement Projects

Project	Location	Description	Status
Tweedy Blvd Traffic Signal Synchronization Project	Tweedy Blvd	Project to enhance safety and traffic circulation by synchronizing 13 signalized intersections along Tweedy Boulevard from Victoria Avenue to Atlantic Avenue. Improvements include installation of fiber optic cable, upgrade cabinets and controllers, re-wire intersections and installation of video detection systems.	Estimated Start Date July 2023
Urban Orchard Project	Along Los Angeles River, between Firestone Boulevard, the Thunderbird Villa Mobile Home Park and I-710 Freeway	A proposal to construct a 30-acre passive park along the Los Angeles River in three phases. The two primary purposes are to divert and treat storm water run-off from the Los Angeles River and provide recreation opportunities through a new passive public park featuring orchards, constructed wetland, an education garden, walking paths, native landscaping and trail extension.	Construction Paused Pending approval from Los Angeles County Solid Waste Division
I-170 Firestone Boulevard/Otis Street Widening	Firestone Boulevard & Otis Street	First phase included widening of Firestone Boulevard Bridge over the Los Angeles River on the south side of street. Second phase entails re-aligning and widening the I-710 Freeway/Firestone Boulevard Southbound on-ramp, to align the newly widened Firestone Boulevard Bridge at the Los Angeles River and install a permanent 4th eastbound lane for dedicated access to the I-710 Freeway. Improvements also include traffic signal timing adjustment, ADA ramps, crosswalks, and landscaping along the freeway embankment.	Phase I Compete Phase II Design and Environmental Estimated Completion December 2023
Garfield Avenue Complete Streets	Garfield Avenue	Project to enhance pedestrian, bike and motorist safety, improve traffic circulation, address deferred maintenance issues and beautify the corridor. Includes installation of a Class I bike path, Class II bike lanes, and Class III bike routes, along with pedestrian improvements and sidewalks, construction of raised median islands, ADA curb ramps, curb and gutter, sidewalk, pedestrian crossing improvements, solar flashing Beacons and re-striping of traffic markings.	Estimated Completion March 2024
Long Beach Boulevard Street Improvements	Long Beach Boulevard	Project to improve pedestrian lighting, enhanced crosswalks, flashing beacons, sidewalk repairs, curb ramps, and bicycle facilities. Also entails installing non-invasive and drought tolerant trees and vegetation in raised center medians. Bioswales will be installed in parkways for storm water treatment and infiltration.	Estimated Completion 2024

Table 3-6 (continued)
Capital Improvement Projects

Project	Location	Description	Status
Citywide Residential Resurfacing Project, Phase I-III	Various Streets	Project to improve residential streets including safety enhancement, improvement of pavement and sidewalk conditions and the municipal water system. Street improvements will include the streets on Iowa Ave., Illinois Ave., Ohio Ave., Kansas Ave., Beaudine Ave., Glenwood Pl., Evergreen Ave., Independence Ave., Elizabeth Ave., Virginia Ave., Cherokee Ave., Missouri Ave., Indiana Ave., South Gate Ave., and Madison Ave. Water improvements will include the streets of Kansas Ave. and Cherokee Ave.	Estimated Construction Commencement March 20, 2023
Tweedy Mile Complete Street Project	Dearborn Avenue to Dorothy Avenue	To enhance pedestrian, bike and motorist safety, implement traffic calming measures and address issues of deferred maintenance.	
The Boulevard Project Phase II CIP No. 476 – TRF	Firestone Boulevard	Congestion relief, enhanced safety and addressed deferred maintenance on corridor. Phase II will make improvements to Segment 1 – a 1.4 mile, Firestone Boulevard between Alameda Street and California Avenue and Segment 2 – a 1.1 mile, Firestone Boulevard between California Avenue	Phase I Complete 2019 Phase II
Hollydale Area Access Improvements Project	Hollydale neighborhood	Enhance existing bike lanes by connecting residential neighborhoods through implementation of Class II and Class III bicycle facilities.	Pending planning approval
Electric Vehicle Charging Stations Project	City infrastructure	Install electric vehicle charging stations at the Civic Center, City Hall Parking Garage, Police Department, and Public Works Corporate Yard	Construction began early February 2023 Completion TBD
Coating, Seismic & Cathodic Protection System Upgrades – Hawkins Tank	4244 Santa Ana Street	Recoat two interconnected 2.5 MG steel tanks key to the water system serving the east side of the City of South Gate, install cathodic protection.	Estimated Completion May 2024
Well No. 30 at Hawkins Reservoir Site	4244 Santa Ana Street	The City plans to construct a new well, Well No. 30, to replace the two existing wells.	Design completion October 2023
Stormwater Infiltration Well Improvements	Karmount Avenue and Blumont Road, later moved to Adella Avenue	Construct two stormwater infiltration wells to reduce contaminants reaching the Los Angeles River	Estimated completion December 2023
South Gate Police Department Air Conditioner Replacement	8620 California Avenue	Replacement of HVAC system at South Gate Police Department	Design phase estimated completion August 2023
Fuel Management System Replacement	8620 California Avenue	Install a fuel management system to existing fueling stations to monitor all fuel consumption at the Corporate Yard, Park Maintenance Yard and the Police Department	RFP completion September 2023

Table 3-6 (continued)
Capital Improvement Projects

Project	Location	Description	Status
Hollydale Community Park Project	5400 Monroe Ave	Renovation of Hollydale Community park improvements including a 1,700 square-foot building, stormwater chambers, playground, synthetic turf, sand and water play area, basketball court shade structures, a new irrigation system, decomposed granite, park bench and picnic tables, permeable pavers, concrete flat work, and other miscellaneous park amenities	Estimated Completion November 2023
Courthouse Renovation Project	8640 California Avenue	Rehabilitating electrical and mechanical repairs to building structure, remodeling building's interior, replacing existing fixtures with LED fixtures, replacing heading, ventilation and air conditioning systems replacing existing outdated electrical panels and galvanized pipes with copper pipes, replacing doors that are non-ADA compliant and rehabilitating overall conditions to the interior building bringing into compliance with building codes.	Starting demolition August 2023
Circle Park Project	10129 Garfield Avenue	A project to renovate the four-acre neighborhood park, Circle Park. Includes new playground, basketball court, pickle ball court, futsal court and shade structures, newly paved parking lot, new park lighting, new hardscaping including large boulders, synthetic turf, new irrigation system, landscaping, trash receptacles, benches, and picnic tables.	Construction bidding November 2023
South Gate Sports Center HVAC	9520 Hildreth Avenue	Upgrade the Chiller to a larger capacity unit and provide a duct system to distribute air to locker rooms and weight rooms	Construction begins November 2023
Traffic Improvements at Various Intersections City Project No. 681-ST	Various intersections	The project will install pedestrian crossing safety improvements at seven intersections along California Avenue and Southern Avenue	Estimated Completion 2024
Boy Scout Huts and Civic Center Complex Roof System Rehabilitation	Various City facilities	The project to reroof and perform miscellaneous roof repairs on City facilities including the Boy Scout Huts, Girls Club House, Civic Center, City Hall, and Police Department	Design begun December 2023

Source: City of South Gate, *Capital Improvement Program Projects*, https://www.cityofsouthgate.org/Government/Departments/Public-Works/Capital-Improvement-Program-Projects, accessed February 5, 2024.

The capital improvement projects identified above are focused on maintaining and improving the current infrastructure to accommodate growth and future development withing the City. Additionally, the Gateway District Specific Plan (GDSP) identifies the Gateway District as an area with great potential for redevelopment in preparation for the future Light Rail Transit (LRT) Station. The Gateway District is located north of Firestone Boulevard, bound to the east by the Los Angeles River and bound to the west by Atlantic Avenue. The GDSP proposes to reconfigure the area into 12 parcels including nine

parcels for residential uses. The GDSP also includes parcels immediately south of Firestone Boulevard which are likely to be redeveloped due to growth. Overall, the GDSP is anticipated to accommodate over 1,400 housing units.

Additional specific plans that focus on residential development include the Tweedy Boulevard Specific Plan and the Hollydale Village Specific Plan. The Tweedy Boulevard Specific Plan was adopted in 2019 to revitalize Tweedy Boulevard as a "main street" area. The Hollydale Village Specific Plan was adopted in 2017 to demonstrate a clear vision for the Hollydale area with the anticipated arrival of two Eco-Rapid transit stations. The Tweedy Boulevard Specific Plan poses a development potential for at least 723 residential units, and the Hollydale Village Specific Plan shows potential for at least 737 units. These specific plan areas are anticipated to accommodate much of the RHNA requirement for housing growth.

While it remains unlikely that all projected residential growth listed above will be approved and constructed within the five-year active period of this LHMP, it is reasonable to assume that some level of residential development will occur. Any residential growth within the planning area is generally associated with population growth. Discussions related to how growth could impact risk and vulnerability is discussed on a hazard-by-hazard basis within Section 4.0.

3.7 Infrastructure Systems

Infrastructure systems within the City, such as roadways, water and wastewater facilities, electricity, and natural gas, provide vital community and individual functions. The ability for infrastructure systems to remain operational during hazard events and emergencies will contribute to the City's ability to withstand or recover sooner from hazard events.

3.7.1 Transportation

Regional access to the City is provided via I-710 Long Beach Freeway which runs north-south through the City, and the I-105 Glen Anderson Freeway which runs in the east-west direction south of the City. The two full access interchanges on I-170 are at Firestone Boulevard Imperial Highway. The Interchange for I-105 within the City is located at Paramount Boulevard. The City has numerous regional arterial roadways with primary arterials designated as Boulevards and secondary arterials classified as Avenues. Primary arterials include Firestone Boulevard, Imperial Highway, Long Beach Boulevard, Atlantic Avenue, Garfield Avenue, and Paramount Boulevard. The City's secondary arterials include Tweedy Boulevard, Southern Avenue Extension, California Avenue, State Street, Centaury Boulevard (West).

The Union Pacific Railroad (UPRR) currently operates two railroad lines through the City of South Gate. The two railroad lines are San Pedro Sub-division which runs in the northwest to southeast direction in the eastern portion of the City and the Spur Line which runs in an east-west direction, north of Firestone Boulevard (and in the western half of

the City between Independence Avenue and Ardmore Avenue). Additionally, the "Alameda Corridor" links the ports of Long Beach and Los Angeles and runs north-south immediately to the west of the City.

Additionally the City operates a local transit bus system called the "Get Around Town Express" (GATE). The service has stops in many population location around the City including Azalea Shopping Center, Cesar Chavez Park, Circle Park, City Hall, Downtown Hollydale, E.L.A.C. South Gate campus, El Paseo, Hollydale Community Center, Lucky's supermarket, South Gate High School, South Gate Middle School, South Gate Park, Target and Tweedy Mile. The service operates for most of the year with exceptions and routinely from Monday – Friday 6 a.m. – 7 p.m. and Saturday 8 a.m. – 5 p.m.

3.7.2 Water And Wastewater

The City of South Gate Water Division is responsible for the maintenance and operation of the City's water system. The Water Division services over 14,300 connections to most of the City and includes 4.2 million-gallon underground reservoir, five surface tanks with 9.5 million gallons of storage, 8 active wells, and 135 miles of distribution pipeline.

The City of South Gate primarily receives water from local groundwater wells. There are currently twelve groundwater wells with eight of the wells active, one inactive, and three on standby. The eight active wells and together have a flow capacity of 17,500 gpm or approximately 25 MGD.

The City of South Gate currently has a water master plan created on June 2019 which serves to describe the City's existing land use and systems, water demands and supplies, system evaluation, and capital improvement program. The plan identifies several water production facilities including 1) Well No. 30 at Hawkins Reservoir Site, 2) South Gate Park Reservoir Site, 3) West Side Tank Site and 4) Elizabeth Tank Site. There are two inactive tanks including the Santa Fe and Salt Lake which are both elevated tanks that are no longer in service.[6]

The City of South Gate is also responsible for wastewater collection. The City complies with the State Water Resources Control Board (State Water Board)

3.7.2 Sanitation Infrastructure/Solid Waste

The City of South Gate also serves the South Gate Transfer Station through the Los Angeles County Sanitation Districts and only accepts non-hazardous municipal solid and inert waste. The station does not accept liquid wastes.[7]

[6] City of South Gate, *Water Master Plan*, https://www.cityofsouthgate.org/files/sharedassets/public/v/1/government/departments/public-works/documents/south-gate-water-master-plan-2019.pdf, prepared June 20, 2019, access March 12, 2024.
[7] Los Angeles County of Sanitation Districts, *South Gate Transfer Station*, https://www.lacsd.org/services/solid-waste/facilities/south-gate-transfer-station, accessed March 12, 2024.

3.7.3 Electricity

Southern California Edison provides electricity to the City of South Gate. Plaster Substation (ID SS3125) is the only substation within the City. Power lines within the City are located both aboveground and underground, with regional transmission lines crossing through major thoroughfares. Damage to substations or the larger distribution system outside of the City could result in power loss to the City. More localized power losses can also occur in the event underground transmission lines are damaged.

3.7.4 Natural Gas

Southern California Gas (SoCal Gas) provides gas to the City of South Gate. There are major gas transmission lines traversing the City. One line runs from Santa Ana Blvd. then runs down south along Atlantic Avenue. Another line runs along Santa Ana St. then down south towards San Vicente Ave. into Ardmore Ave. The western portion of the transmission line runs through Glenwood Pl., into Southern Ave. and Calden Ave. crossing S Alameda S. into unincorporated are for the County of Los Angeles. A high-pressure distribution line runs briefly along Southern Ave adjacent to S Alameda S. Additionally, damage to these facilities may interfere with electricity service in areas throughout Los Angeles County. Localized disruptions could occur in the event local transmission lines are damaged.

3.8 Critical Facilities

The LHMP Planning Team identified 63 of critical facilities in South Gate for incorporation in the hazard vulnerability/risk analysis; refer to Exhibit 3-2, *City of South Gate Critical Facilities* and Table 3-7, *City of South Gate Critical Facilities*. These facilities provide important services to the community, such as basic government functions, water and power service, and schools. Some of these facilities can also serve additional roles during an emergency situation, including as a shelter for displaced residents, a staging area for emergency response and recovery activities, or a location for important City administration functions. Damage to these facilities can impair response and recovery operations, and may lead to a disruption of vital services for South Gate residents.

The LHMP Planning Team utilized the previous 2018 LHMP critical facilities list for evaluation. LHMP Planning Team members made recommendations for critical facility additions, based on experience and expertise in the City. The LHMP Planning Team identified each facility's potential loss value (where feasible), comprised of replacement and contents for each facility. If a facility is completely destroyed in a hazard event, the replacement and contents value indicate the cost to replace the facility. Typically, the cost to repair a damaged facility will be less than the replacement value. While replacement and contents values are used throughout this LHMP to estimate potential losses, it is noted that the actual cost to recover from a hazard event will depend on the type and magnitude of the specific occurrence.

Table 3-7
City of South Gate Critical Facilities

Map Number	Facility Name	Location	Community Lifeline
1	City of South Gate Civic Center (includes Police Department)	8620-8650 California Avenue	Safety and Security; Communications
2	Hollydale Library	12000 Garfield Avenue	Safety and Security
3	L.A. County Fire Station #54	4867 Southern Avenue	Safety and Security; Hazardous Material
4	L.A. County Fire Station #57	5720 Gardendale Street	Safety and Security; Hazardous Material
5	Leland R Weaver Library	4035 Tweedy Boulevard	Safety and Security
6	Parks & Recreation - Hollydale Community Resource Center	12221 Industrial Avenue	Safety and Security
7	Parks & Recreation – South Gate Girls Clubhouse	4940 Southern Avenue	Safety and Security
8	Parks & Recreation – South Gate Golf Course	9615 Pinehurst Avenue	Safety and Security
9	Parks & Recreation – South Gate Senior Center	4855 Tweedy Boulevard	Safety and Security
10	Parks & Recreation – South Gate Sports Center	9520 Hildreth Avenue	Safety and Security
11	Public Works Corporate Yard	4244 Santa Ana Street	Safety and Security; Hazardous Material
12	South Gate Park – Administration/Municipal Auditorium	4900 Southern Avenue	Safety and Security
13	State Street Park – Westside Community Resource Center	9200 State Street	Safety and Security
14	AltaMed Medical and Dental Group	8627 Atlantic Avenue	Health and Medical
15	Urgent Care South Gate and Brookdale Medical Center	2908 Tweedy Blvd	Health and Medical
16	East Los Angeles College – South Gate Campus	2340 Firestone Boulevard	Safety and Security
17	Urban Orchard Project – Phase I	Adjacent to Southern Avenue	Safety and Security
18	Cesar Chavez Park	2541 Southern Avenue	Safety and Security
19	Circle Park	10129 Garfield Avenue	Safety and Security
20	Gardendale Tot Lot	5480 Gardendale Street	Safety and Security
21	Hollydale Regional Park	5400 Monroe Avenue	Safety and Security
22	Parks Maintenance Yard	4933 Southern Avenue	Safety and Security; Hazardous Material
23	Stanford Park	2715 Illinois Avenue	Safety and Security
24	Triangle Park	Corner of Atlantic Avenue and Southern Avenue	
25	Boom Squad Academy	13223 Paramount Blvd Ste. A	Safety and Security; Communications
26	St. Helen Elementary	9329 Madison Ave	Safety and Security; Communications

Table 3-7 (continued)
City of South Gate Critical Facilities

Map Number	Facility Name	Location	Community Lifeline
27	Aspire Academy Charter Elementary	8929 Kauffman Ave.	Safety and Security; Communications
28	Bryson Avenue Elementary	4470 Missouri Ave.	Safety and Security; Communications
29	Hollydale Elementary	5511 Century Blvd.	Safety and Security; Communications
30	Independence Elementary	8435 Victoria Ave.	Safety and Security; Communications
31	KIPP Corazon Academy Elementary	8616 Long Beach Blvd.	Safety and Security; Communications
32	Legacy High School Complex	5225 Tweedy Blvd.	Safety and Security; Communications
33	Liberty Boulevard Elementary	2728 Liberty Blvd.	Safety and Security; Communications
34	Madison Elementary	9820 Madison Ave.	Safety and Security; Communications
35	Montara Avenue Elementary	10018 Montara Ave.	Safety and Security; Communications
36	Odyssey Continuation School	8693 Dearborn Ave.	Safety and Security; Communications
37	San Gabriel Avenue Elementary	8628 San Gabriel Ave.	Safety and Security; Communications
38	San Miguel Elementary	9801 San Miguel Ave.	Safety and Security; Communications
39	Simon Rodia Continuation School	2701 Sequoia Dr.	Safety and Security; Communications
40	South East High	2720 Tweedy Blvd.	Safety and Security; Communications
41	South Gate Middle	4100 Firestone Blvd.	Safety and Security; Communications
42	South Gate Senior High	3351 Firestone Blvd.	Safety and Security; Communications
43	Southeast Middle	2560 Tweedy Blvd.	Safety and Security; Communications
44	Standford Avenue Elementary	2833 Illinois Ave.	Safety and Security; Communications
45	Standford Primary Center Elementary	3020 Kansas Ave.	Safety and Security; Communications
46	State Street Elementary	3211 Santa Ana St.	Safety and Security; Communications
47	Tweedy Elementary	9724 Pinehurst Ave.	Safety and Security; Communications
48	Valiente College Preparatory Charter School	8691 California Ave.	Safety and Security; Communications

Table 3-7 (continued)
City of South Gate Critical Facilities

Map Number	Facility Name	Location	Community Lifeline
49	Victoria Avenue Elementary	3320 Missouri Ave.	Safety and Security; Communications
50	Willow Elementary	2777 Willow Pl.	Safety and Security; Communications
51	Azalea Shopping Center	4635 Firestone Boulevard	N/A
52	El Paseo Shopping Center	8634 Garfield Avenue	N/A
53	Bridge Number 53 0828	I-710 over the Los Angeles River	Transportation
54	Bridge Number 53 0829	I-710 over Southern Pacific Railroad	Transportation
55	Bridge Number 53 0830	I-710 over Miller Way	Transportation
56	Bridge Number 53 0831	Firestone Boulevard over I-710	Transportation
57	Bridge Number 53 0832	Union Pacific Railway over I-710	Transportation
58	Bridge Number 53 2425	Paramount Boulevard over I-710	Transportation
59	Bridge Number 53C0166	Southern Avenue over Rio Hondo River	Transportation
60	Bridge Number 53C0649	Garfield Avenue over Rio Hondo River	Transportation
61	Bridge Number 53C0844	Imperial Highway over the Los Angeles River	Transportation
62	Bridge Number 53C1972	Firestone Boulevard over the Los Angeles River	Transportation
63	Bridge Number 53C1973	Firestone Boulevard over the Rio Hondo River	Transportation

3.9 Socially Vulnerable Populations and Determination

3.9.1 SVP Research and Methodology

Identification and integration of Socially Vulnerable Populations (SVP) into the hazard mitigation planning process is a new addition from Cal OES and FEMA, as required by the recent Local Mitigation Planning Policy Update effective April 2023. The purpose of this new LHMP section is to identify vulnerable populations within the planning area, along with identifying characteristics that can make individuals more vulnerable to natural and human-caused hazards. Social vulnerability is defined by the Center for Disease Control and Prevention as characteristics of a person or group that affect their capacity to anticipate, cope with, resist, and recover from the impact of a discrete and identifiable disaster in nature or society. Several socioeconomic factors or other characteristics influence social vulnerability, as illustrated in Exhibit 3-3 below.

THE CITY OF SOUTH GATE

Legend

- Critical Facility
- South Gate City Limit

Exhibit 3-2
City of South Gate Critical Facilities

November 2, 2023

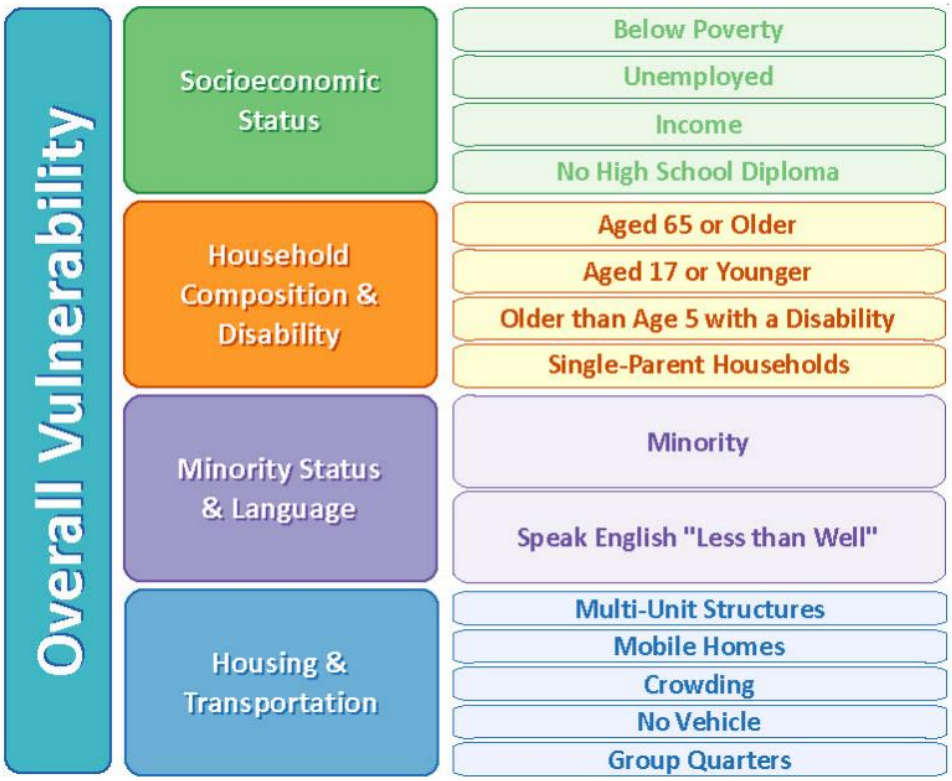
Coordinate System: California State Plane - Zone 6

Source: City of South Gate 2023

N

0 0.3 0.6 1.2 Miles

Exhibit 3-3
Social Vulnerability Index Themes and Social Factors



Source: CDC and Prevention – National Center for Environmental Health, Planning for an Emergency: Strategies for Identifying and Engaging At-Risk Groups, published 2015.

US Census and American Community Survey data at the census tract level was utilized to locate and identify socially vulnerable populations within the planning area. The City of South Gate is made up of 20 census tracts. The LHMP Planning Team evaluated California-based and national environmental justice definitions and data indices as a method for locating/identifying socially vulnerable populations within the City of South Gate.

In May 2022, CalEPA established four criteria markers to indicate the presence of a disadvantaged community (DAC) at the census tract level; census tracts meeting one or more criteria are considered disadvantaged. Applicability to the City of South Gate is summarized in Table 3-9, *South Gate Disadvantaged Communities Criteria Evaluation*, below.

Table 3-9
South Gate Disadvantaged Communities Criteria Evaluation

CalEPA DAC Criteria	Applicability to City of South Gate
1. Census tracts receiving the highest 25% of overall scores in CalEnviroScreen 4.0.	**Applicable**. All but two census tracts within the City of South Gate are listed with composite scores at 75 or above. Refer to Table 3-10, below.
2. Census tracts lacking overall scores in CalEnviroScreen 4.0 due to data gaps but receiving the highest 5% of CalEnviroScreen 4.0 cumulative pollution burden scores.	**Not Applicable**. No data gaps are listed in CalEnviroScreen 4.0 for census tracts within the City of South Gate.
3. Census tracts identified in the 2017 DAC designation as disadvantaged as required by SB535, regardless of scores in CalEnviroScreen 4.0.	**Applicable**. All but one census tract within the City of South Gate were listed in the 2017 DAC designation. Refer to Table 3-10, below.
4. Lands under the control of federally recognized tribes.	**Not Applicable**. No tribal jurisdiction is located within the City of South Gate.

Exhibit 3-4, *CalEnviroScreen 4.0 Disadvantaged Communities*, shows the CalEnviroScreen DAC status for census tracts within South Gate and Exhibit 3-5, *2017 Disadvantaged Communities*, shows the 2017 DAC designations as required by SB 535. CalEnviroScreen overall percentile scores and DAC designation based on the CalEPA criteria summarized in Table 3-10*, South Gate Disadvantaged Communities by Census Tract*, below.

All census tracts within the City have overall CalEnviroScreen 4.0 percentile scores above 75, with the exception of two census tracts (Census Tract 5358.03 and Census Tract 5359.02). Thus, all but two census tracts are considered a DAC under the first CalEPA DAC criteria. Furthermore, all census tracts, with the exception of Census Tract 5358.02, were identified in the 2017 DAC designation as disadvantaged. Considering both of these applicable criteria, Census Tract 5358.02 is the only census tract that is not identified as a DAC under the CalEPA DAC criteria. No data gaps are listed in CalEnviroScreen 4.0 for census tracts and no tribal jurisdiction is located within the City; these CalEPA criteria do not apply to the City of South Gate.

Contributing factors that impact CalEnviroScreen 4.0 scores include pollution burden, exposures and environmental effects, as well as sensitive populations and socioeconomic factors. Most census tracts within the City have similar CalEnviroScreen scores across environmental and socioeconomic indicators. Higher scores indicate less desirable environmental and socioeconomic circumstances indicative of disadvantaged communities.

High scores for pollutant exposures, specifically to fine particle (PM2.5) pollution, toxic releases, drinking water contaminants and lead exposure, are reported across census tracts in South Gate. These indicator scores are typically within the 70-95 percentile for census tracts in the City. Environmental effects such as cleanup sites, groundwater threats, hazardous waste, impaired waters, and solid waste have scores that vary significantly from census tract to census tract. High indicator scores for these

environmental effects are correlated with census tracts that have the highest pollution burden percentile scores and overall CalEnviroScreen percentile scores. Sensitive populations indicators reported by CalEnviroScreen include incidence of asthma, low birth rate, and cardiovascular disease. High indicator scores for cardiovascular disease are common across census tracts with scores typically within the 75-82 percentile. Indicator scores for low birth weight and asthma are varied, however, Census Tract 5361.02 has the highest score for low birth weight by a significant margin with a score of 93. Socioeconomic factors with universally high scores throughout South Gate include education and linguistic isolation. Census tracts within South Gate are typically in the 85-95 percentile range. Multiple census tracts also show high indicator scores for poverty, unemployment and housing burden, although scores vary from census tract to census tract. Ultimately, a varying combination of environmental and socioeconomic factors contribute to a CalEPA DAC designation for census tracts throughout South Gate.

Table 3-10
South Gate Disadvantaged Communities by Census Tract

Census Tract	Disadvantaged Community Criteria		
	CalEnviroScreen 4.0 Percentile Score	2017 DAC	Disadvantaged Community
5355.01	93	Yes	**Yes**
5355.02	83	Yes	**Yes**
5355.03	78	Yes	**Yes**
5356.03	97	Yes	**Yes**
5356.04	97	Yes	**Yes**
5356.05	88	Yes	**Yes**
5356.06	96	Yes	**Yes**
5356.07	93	Yes	**Yes**
5357.01	76	Yes	**Yes**
5357.02	91	Yes	**Yes**
5358.02	71	No	**No**
5358.03	78	Yes	**Yes**
5358.04	84	Yes	**Yes**
5359.01	95	Yes	**Yes**
5359.02	73	Yes	**Yes**
5360.00	98	Yes	**Yes**
5361.02	97	Yes	**Yes**
5361.03	98	Yes	**Yes**
5361.04	100	Yes	**Yes**
5362*	94	Yes	**Yes**

*CalEnviroScreen data shows Census Tract 5362 as one tract where other data shows this area as separate census tracts.
Source: California Office of Environmental Health Hazard Assessment, *CalEnviroScreen 4.0*, https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40, accessed February 15, 2024.

THE CITY OF SOUTHGATE

Legend

Southgate City Limit

CES 4.0 Score - 75th Percentile or Higher

- No
- Yes

Exhibit 3-4
CalEnviroScreen 4.0
Disadvantaged Communities

October 23, 2023

Coordinate System: California State Plane - Zone 6

Source: CA OEHHA 2021

N

0 0.3 0.6 1.2 Miles

Walnut Park
Firestone Park
South Gate
Cudahy
Vinvale
Watts
Lynwood
Willowbrook
Lynwood Gardens
Workman
Hollydale
Live Oak St
Hope St
Hill St
Clara St
Cudahy St
Hartle Ave
Salt Lake Ave
Atlantic Ave
Wilcox Ave
Eastern Ave
Lubec St
Darwell Ave
Toler Ave
Florence Ave
Jaboneria Rd
Ira Ave
Priory St
Clara St
Gotham St
Quinn St
Cecilia St
Patata St
Santa Ana St
Liberty Blvd
Firestone Blvd
Glenwood Pl
Southern Ave
Illinois Ave
Kansas Ave
Tweedy Blvd
Duane Way
Missouri Ave
Otis St
Pellet St
Dinwiddie St
Adwen St
Luxor St
Rayo Ave
Hildreth Ave
Seminole Ave
Century Blvd
Abbott Rd
Pendleton Ave
E Imperial Hwy
Imperial Hwy
Fernwood Ave
Lynwood Rd
Louise St
Virginia St
Carlin Ave
Euclid Ave
Palm Ave
E Pine St
E Oaks St
Olanda St
McMillan St
Howe St
Somerset Ranch Rd N
Gardendale St
Brock Ave
Paramount Blvd
Rundell St
Old River School Rd
Rives Ave
Quill Dr
Hondo St
Erickson Ave
Consuelo St
Rio Hondo
Garfield Ave
Oklahoma Ave
Hoover Ave
Wright Rd
Bullis Rd
Ernestine Ave
Muriel Dr
Shirley Ave
Pine Ave
Elm St
Louise Ave
Pope Ave
Otis St
Bowman Ave
Bryson Ave
Dorothy Ave
Annetta Ave
Jackson Ave
Walnut Ave
Pinehurst Ave
Virginia Ave
San Juan Ave
Deeble St
Victoria Ave
Madison Ave
Garden View Ave
Tiruba Ave
Long Beach Blvd
Alameda St
Santa Fe Ave
State St
Seville Ave
Crockett Blvd
Juniper St
Elm St
Mona Blvd
Weigand Ave
School St
Peach St
Birch St
California Ave
N Bullis Rd
S Alameda St
S Aranbe Ave
E Bliss St
W Cressey St
E 83rd St
E 87th St
E 95th St
E 97th St
E 105th St
E 107th St
E 114th St
E 117th St
E 119th St
E 124th St
E 126th St
E 130th St
124 ft
86 ft
710
105

THE CITY OF SOUTHGATE

Legend

- Southgate City Limit
- SB535 Disadvantaged Community

Exhibit 3-5
2017 Disadvantaged Communities

October 23, 2023

Coordinate System: California State Plane - Zone 6

Source: CalEPA 2022

N

0 0.3 0.6 1.2 Miles

In addition to the CalEPA DAC criteria based on CalEnviroScreen 4.0, the LHMP Planning Team utilized the Center for Disease Control (CDC) Social Vulnerability Index (SVI) to evaluate the presence of socially vulnerable populations. Exhibit 3-6, *CDC Social Vulnerability Index – Nationwide Comparison (2020)*, shows the CDC SVI for census tracts within the City. This index was selected because it is most frequently utilized in federal grant evaluations and decision-making, including FEMA hazard mitigation grants. Table 3-11, *South Gate Overall Social Vulnerability Index Scores*, shows the SVI score and level of vulnerability for census tracts within the City. Possible scores range from 0 (lowest vulnerability) to 1 (highest vulnerability).

Table 3-11
South Gate Overall Social Vulnerability Index Scores

Census Tract	Social Vulnerability Index Scores	
	2020 Statewide Overall SVI Score	Level of Vulnerability
5355.01	0.9423	High
5355.02	0.8476	High
5355.03	0.8487	High
5356.03	0.9445	High
5356.04	0.7851	High
5356.05	0.8757	High
5356.06	0.9164	High
5356.07	0.8715	High
5357.01	0.7974	High
5357.02	0.7334	Medium - High
5358.02	0.8572	High
5358.03	0.8258	High
5358.04	0.8254	High
5359.01	0.711	Medium – High
5359.02	0.6722	Medium - High
5360.00	0.9356	High
5361.02	0.7035	Medium – High
5361.03	0.8016	High
5361.04	0.8403	High
5362.01*	0.676	Medium – High
5362.02*	0.7528	High

*CDC data shows Census Tracts 5362.01 and 5362.02 as separate tracts where other data combines these tracts into Census Tract 5362.

Source: Center of Disease Control/Agency for Toxic Substances and Disease Registry, *CDC/ATSDR Social Vulnerability Index (SVI)*, https://www.atsdr.cdc.gov/placeandhealth/svi/interactive_map.html, accessed February 15, 2024.

THE CITY OF SOUTHGATE

Legend

Southgate City Limit

Level of Social Vulnerability

- Medium-High
- High

Exhibit 3-6
CDC Social Vulnerability Index - Nationwide Comparison (2020)

October 23, 2023

Coordinate System: California State Plane - Zone 6

Source: CDC SVI 2020

N

0 0.3 0.6 1.2 Miles

Census tracts within South Gate show medium to high levels of vulnerability according to the CDC Social Vulnerability Index. Most census tracts are considered to have a high level of vulnerability. Also, Census Tract 5358.02, the only census tract that is not identified as a DAC under the CalEPA DAC criteria, shows a high level of vulnerability according to the CDC Social Vulnerability Index.

Several factors are reported to contribute toward the medium to high vulnerability determinations for census tracts within the City. Census tracts within the City indicate social vulnerability based on 16 indicators identified in the SVI including socioeconomic status, household characteristics, racial/ethnic minority status and housing type/transportation. The SVI flags census tracts in the top ten percent (i.e., the 90th percentile) for these demographic, socioeconomic and housing indicators to indicate a high level of vulnerability. All but two census tracts have one or more indicator scores that are within the 90th percentile indicating a high level of vulnerability. Additionally, certain indicator scores are within the 90th percentile for nearly all census tracts within the City indicating a universal vulnerability characteristic in South Gate.

The majority of census tracts in South Gate were included in the 90th percentile for the following indicators:

- Persons with no high school diploma
- Persons who speak English “less than well”
- Minority population
- Residential/Household Overcrowding

Census tracts within the 90th percentile for persons with no high school diploma included 15 of the 21 census tracts in South Gate. On average, over 41 percent of the population for each census tract did not attain a high school diploma. This indicates a low level of educational attainment throughout the City and an increased level of social vulnerability.

Additionally, 13 of the 21 census tracts scored within the 90th percentile for limited English or persons who speak English “less than well”. The average percentage of individuals with limited English across census tracts in South Gate is nearly 24 percent of the population. Persons with limited English proficiency may misunderstand information on hazard preparation and may face challenges communicating with emergency response personnel during a hazard event.

Nearly every census tract (18 out of 21) in South Gate was included in the 90th percentile for minority population. The Hispanic or Latino population makes up most of the population in the City of South Gate contributing to the minority population statistics. On average, the minority population is over 96 percent of the City by census tract. Similarly to the vulnerability of limited English proficiency, minority populations may have social/ cultural characteristics the lead to miscommunication in hazard preparation and

emergency response. Additionally, minority populations may be reluctant to utilize government services before, during and after hazard events.

The percentage of overcrowded households, or households with more people than rooms, was included in the 90th percentile indicators for 12 of the 21 census tracts within South Gate. By census tract, overcrowded households account for an average of over 23 percent of households within South Gate. Overcrowded households increase risk and vulnerability to hazards for various different reasons depending on the hazard. Primarily, the risk that any particular hazard would impact an increased number of people increases with overcrowding. Additionally, the ability to efficiently evacuate residents may be impacted by a heightened level of overcrowding.

The only two census tracts that did not score in the 90th percentile for one or more SVI indicators were Census Tract 5362.01 and 5362.02. Several other SVI indicators impacted census tracts within South Gate, however, the above-mentioned SVI indicators were the primary vulnerabilities that scored in the 90th percentile and impacted the majority of census tracts within South Gate. Considering the medium – high vulnerability levels for every census tract in South Gate, coupled with the contributing factors that impact most census tracts, it is reasonable to conclude that every census tract in South Gate includes SVPs for one or multiple vulnerabilities included in the CDC Social Vulnerability Index.

3.9.2 SVP Determination

Due to the data listed above, the LHMP Planning Team determined that for the purposes of this LHMP, the ***population within the entirety of South Gate is formally established as an SVP***. While the presence of many socioeconomic concerns and limitations are present within the community, the scope of the LHMP has limited ability to address or mitigate the underlying causes of such social vulnerability. Rather, this LHMP aims to utilize the data uncovered through the environmental justice indices listed above to establish a more equitable and inclusive LHMP planning process.

Based on the CalEPA DAC designation criteria and CalEnviroScreen environmental and socioeconomic data, all but one census tract qualified as a DAC. Primary concerns include pollution burden, exposures and environmental effects, as well as sensitive populations and socioeconomic factors resulting in high CalEnviroScreen percentile scores and indicating DAC and SVPs throughout the City.

The LHMP Planning Team also relied on CDC SVI data, reporting the following categories and groups as driving the high vulnerability determination in census tracts throughout the City:

- Persons with no high school diploma
- Persons who speak English “less than well”

- Minority population
- Residential/Household Overcrowding

Based on the DAC and SVI analysis, the LHMP Planning Team concluded that the entire population of South Gate includes SVPs. As such, the LHMP Planning Team acknowledges that certain characteristics can make individuals throughout South Gate more vulnerable or "high-risk" in specific natural or human-caused hazard incidents. According to the CDC, these characteristics include but are not limited to the factors outlined in Exhibit 3-2, *Social Vulnerability Index Themes and Social Factors*.

The CDC SVI tracks these data markers to report congregated populations that indicate a high social risk. On an individual level, residents throughout the City may meet one or more of the characteristics listed above, that enhance vulnerability within specific hazard circumstances. This LHMP identifies all census tracts as SVP communities, and additional consideration is given at the qualitative data level regarding characteristics that make individuals more socially vulnerable during hazard incidents. This consideration is also integrated into the hazard profiles within Section 4.0, *Hazards Assessment*.

After understanding data behind the high vulnerability determination for all census tracts, the LHMP Project Management team worked to incorporate stakeholders into the LHMP Planning Team that represent or serve socially vulnerable groups, including:

- American Red Cross (persons living in poverty, overcrowded households)
- PATH Los Angeles (persons experiencing homelessness, overcrowding and other housing challenges)
- Local school districts and institutions of higher education (persons with no high school diploma, persons who speak English less than well)
- City of South Gate Community Development Department (overcrowding and other housing challenges)

Feedback from these stakeholders and the rest of the LHMP Planning team regarding socially vulnerable populations was included in the hazard profiles (Section 4.0) and mitigation actions (Section 5.0). Specific connects between the risk assessment and relevant mitigation actions are discussed on a hazard-by-hazard basis within Section 4.0, *Hazards Assessment*.

SECTION 4.0: HAZARD ASSESSMENT

4.1 Hazard Identification And Prioritization

4.1.1 Hazard Identification

The first step in developing the risk assessment is identifying the hazards. The LHMP Planning Team reviewed the previously prepared 2018 City of South Gate Hazard Mitigation Plan, hazard mitigation plans from neighboring jurisdictions, and other relevant information to determine the extent of natural hazards with potential to affect the City; refer to Table 2-5, *Existing Plans, Studies, Reports, and Other Technical Data/Information*. A discussion of potential hazards during the first LHMP Planning Team meeting resulted in the identification of the natural hazards that pose a potential risk to the City of South Gate. Table 4-1, *City of South Gate Hazard Identification*, summarizes the Planning Team's discussion of each of the natural hazards and indicates those identified for inclusion in the LHMP.

Table 4-1
City of South Gate Hazard Identification

List of hazards	Identified in Previous LHMP	Include in Updated LHMP	Discussion Summary
Agricultural Pests	No	No	Not applicable. There is no agriculture in South Gate.
Avalanche	No	No	Not applicable. The conditions for avalanche are not present in South Gate.
Climate Change	Yes	Yes	Climate change is not profiled as a distinct hazard, but rather a phenomenon that could exacerbate hazards. Climate change will be considered as a factor for relevant identified hazards.
Coastal Erosion/Bluff Failure	No	No	Not applicable. The City is located inland in Los Angeles County, and there is no coastline within the jurisdiction. Therefore, the City does not experience impacts due to coastal erosion.
Coastal Storm	No	No	Not applicable. The City is located inland in Los Angeles County, and there is no coastline within the jurisdiction. Therefore, the City does not experience impacts due to coastal storms.
Dam Failure	Yes	Yes	The City is susceptible to inundation caused by dam failure of Garvey, Whittier Narrows, and Hansen Dams along the Los Angeles and Rio Hondo Rivers.
Disease and Pest Management	Yes	Yes	Trees in the City are susceptible to invasive insects and fungi. Disease and pest management is profiled along with Pandemic.

Table 4-1 (continued)
City of South Gate Hazard Identification

List of hazards	Identified in Previous LHMP	Include in Updated LHMP	Discussion Summary
Drought	Yes	Yes	The City depends on groundwater and imported surface water, both of which are susceptible to drought. The City has experienced several historical droughts, and thus included this hazard in the LHMP.
Expansive Soils	No	No	Not applicable. There are no expansive soil issues in South Gate.
Extreme Heat	Yes	Yes	The City experiences extreme heat events during the summer months; there are several extreme heat days per year.
Flood	Yes	Yes	Portions of the City are located within FEMA mapped floodplains and have experienced historic flooding. Localized flooding can also occur during severe rainstorms.
Hailstorm	Yes	Yes	Though rare, the City has experienced substantial hail damage in the past. The hazard has been combined with similar hazards and profiled under Severe Weather in this LHMP.
Hazardous Materials Spills	Yes	Yes	Hazardous materials are generated, used, stored, and transported within the City. Hazardous materials (including intentional or accidental releases) could compromise City water supplies, health, and infrastructure.
Human Caused Hazards	No	Yes	Terrorism/active shooter and civil unrest are potential human-caused hazards within the City.
Hurricane	No	No	Not applicable. There are no historical or expected occurrences of hurricane in South Gate.
Land Subsidence	No	No	Not applicable. There are no historical or expected occurrences of land subsidence in South Gate.
Landslide and Mudflow	No	Yes	Seismically induced landslides are a potential threat to South Gate and have been included under Seismic Hazards.
Pandemic	No	Yes	The City experienced significant impacts during the COVID-19 pandemic and has included this hazard for consideration in the LHMP.
Sea Level Rise	No	No	Not applicable. South Gate is not a coastal community.
Seismic Hazards	Yes	Yes	The City is located within a seismically active region in southern California and is susceptible to fault rupture, ground shaking, liquefaction, and seismically induced landslides. For organizational purposes, these hazards are profiled together under Seismic Hazards.
Severe Weather	No	Yes	The City experiences severe winter storms in the form of heavy rains and hailstorms. This hazard is profiled under Severe Weather.

Table 4-1 (continued)
City of South Gate Hazard Identification

List of hazards	Identified in Previous LHMP	Include in Updated LHMP	Discussion Summary
Tornado	Yes	Yes	Tornados are rare, but have occurred near the City. The hazard will be combined with similar hazards and identified as Severe Weather.
Tsunami	No	No	Not applicable. South Gate is not a coastal community.
Volcano	No	No	Not applicable. There are no volcanoes in or near South Gate.
Wildfire	No	No	Not applicable. South Gate is a built-out urban community, surrounded by built-out urban communities; there are no wildfire risks in the City.
Wind	Yes	Yes	The City has experienced damage from wind events. The hazard will be combined with similar hazards and identified as "severe weather."
Windstorm	Yes	Yes	The City has experienced damage from wind events. The hazard will be combined with similar hazards and identified as "severe weather."

4.1.2 Hazard Prioritization

The LHMP Planning Team used a Microsoft Excel-based tool to prioritize the identified hazards by assigning each hazard a ranking based on probability of occurrence and potential impact. These rankings were assigned based on a group discussion, knowledge of past occurrences, and familiarity with the City's vulnerabilities. Four criteria were used to establish priority:

- Probability (likelihood of occurrence)
- Location (size of potentially affected area)
- Maximum Probable Extent (intensity of damage)
- Secondary impacts (severity of impacts to community)

A value from one to four was assigned for each criterion, where one is the lowest and four is the highest. The four criteria were then weighted based on the LHMP Planning Team's opinion of each criterion's importance. To enhance collaboration and discussion regarding hazard rankings, the LHMP Planning Team participated in a live survey through Mentimeter, allowing each LHMP Planning Team member to individually report initial thoughts on probability, location, maximum probable extent, and secondary impacts. Rankings were assigned individually based on knowledge of past occurrences and familiarity with City vulnerabilities. The survey was integrated into the LHMP Planning Team Meeting #1 PowerPoint presentation, and all attendees filled out the survey questions. Results were averaged to provide a group score per hazard, utilizing the weighted value (recommended by FEMA and confirmed by the LHMP Planning Team) based on the importance of the criterion; refer to Table 4-2, *Hazard Ranking Methodology*.

The hazard rankings were multiplied by weighted factors to obtain a score for each criterion. A higher weight was given to the criterion considered more important or significant. For example, the probability of the hazard occurrence received a higher weight than the potential secondary impacts. The scores for location, maximum probable extent (anticipated damage), and secondary impacts for each hazard were added together to determine the total impact score. The total impact score was then multiplied by the overall probability score to determine the final score. The final scores were used to determine the prioritization of each hazard based on the following FEMA recommended scale:

- Low Threat: 0 to 12;
- Medium Threat: 12.1 to 42; and
- High Threat: 42.1 to 64.

Table 4-2
Hazard Ranking Methodology

Probability	**Importance**	**2.0**
Based on estimated likelihood of occurrence from historical data		
Probability		*Score*
Unlikely (less than 1% probability in next 100 years or has a recurrence interval of greater than every 100 years)		1
Somewhat Likely (between 1% and 10% probability in next year or has a recurrence interval of 11 to 100 years)		2
Likely (between 10% and 100% probability in next year or has a recurrence interval of 10 years or less)		3
Highly Likely (near 100% probability in next year or happens every year)		4

Affected Area	**Importance**	**0.8**
Based on size of geographical area of community affected by hazard		
Affected Area		*Score*
Isolated		1
Small		2
Medium		3
Large		4

Secondary Impacts	**Importance**	**0.5**
Based on estimated secondary impacts to community at large		
Impact		*Score*
Negligible – no loss of function, downtime, and/or evacuations		1
Limited – minimal loss of function, downtime, and/or evacuations		2
Moderate – some loss of function, downtime, and/or evacuations		3
High – major loss of function, downtime, and/or evacuations		4

Total Score = Probability x Impact, where:
Probability = (Probability Score x Importance)
Impact = (Affected Area + Primary Impact + Secondary Impacts), where:
Affected Area = Affected Area Score x Importance
Primary Impact = Primary Impact Score x Importance
Secondary Impacts = Secondary Impacts Score x Importance

Table 4-2 (continued)
Hazard Ranking Methodology

Primary Impact	Importance	0.8
Based on percentage of damage to typical facility in community		
Impact		*Score*
Negligible – less than 10% damage		1
Limited – between 10% and 25% damage		2
Critical – between 25% and 50% damage		3
Catastrophic – more than 50% damage		4

Hazard Planning Consideration			
Total Score	Range	Distribution	Hazard Level
0.0	20.0	0	Low
20.1	42.0	6	Medium
42.1	64.0	3	High

The probability of each hazard is determined by assigning a level, from unlikely to highly likely, based on the likelihood of occurrence from historical data. The total impact value includes the affected area, primary impact, and secondary impact levels of each hazard. Each level's score is reflected in the matrix. The total score for each hazard is the probability score multiplied by its importance factor times the sum of the impact level scores multiplied by their importance factors. Based on this total score, the hazards are separated into three categories based on the hazard level they pose to the communities: High, Medium, and Low.

The results from the LHMP Planning Team Meeting #1 survey were compiled and presented during LHMP Planning Team Meeting #2 for further evaluation and discussion. Table 4-3, *Hazard Rankings*, identifies the final scores and the hazard planning consideration (threat level) for each hazard based on discussions with the LHMP Planning Team and the prioritization process described above.

Table 4-3
Hazard Rankings

Hazard Type[1]	Probability	Impact			Total Score[2]	Hazard Planning Consideration
		Affected Area	Primary Impact	Secondary Impact		
Dam Failure	1.53	2.14	2.38	2.64	14.37	Medium
Drought	3.00	3.14	2.50	2.64	33.50	Medium
Extreme Heat	3.33	3.50	2.81	2.86	41.27	Medium
Flood	2.20	2.93	3.00	3.43	27.10	Medium
Hazardous Materials Spills	2.80	3.07	2.64	2.54	31.22	Medium
Human Caused - Civil Unrest	2.13	2.13	1.93	2.23	17.76	Medium
Human Caused - Terrorism/Active Shooter	2.07	2.20	1.93	2.15	17.33	Medium
Pandemic & Disease/Pest Management	2.07	2.93	2.29	2.38	21.26	Medium
Seismic Hazards - Fault Rupture	2.13	2.71	2.87	2.92	24.01	Medium
Seismic Hazards - Ground Shaking	2.87	3.50	3.33	3.38	39.18	Medium
Seismic Hazards - Landslide	1.60	1.36	1.67	1.77	10.05	Low

Table 4-3 (continued)
Hazard Rankings

Hazard Type[1]	Probability	Impact			Total Score[2]	Hazard Planning Consideration
		Affected Area	Primary Impact	Secondary Impact		
Seismic Hazards - Liquefaction	1.40	1.79	1.73	1.85	9.99	Low
Severe Weather - Heavy Rains/Hailstorm	2.87	3.14	3.00	2.71	34.26	Medium
Severe Weather - High Winds/Windstorm	2.40	2.86	2.69	2.50	26.01	Medium
Severe Weather - Tornado	1.27	1.71	1.63	1.43	8.18	Low

1. The LHMP Planning Team did not rank climate change, due to the interconnected nature with other identified hazards. Climate change is profiled with each identified hazard in Section 4.4, below.
2. Refer to Table 4-2 for the hazard ranking methodology. The total score is based on an equation that provides a weighted value to each category by importance.

Many hazards identified by the LHMP Planning Team are recognized to be interconnected or interrelated. Where appropriate, the hazard profiles (presented below) may include references to other hazard profiles. Additionally, as part of the hazard identification and prioritization process, the LHMP Planning Team determined that some hazards could be combined for clarity purposes within a larger hazard category. Some hazards were expanded or renamed to reflect conditions more accurately for the City of South Gate. Thus, the Severe Weather profile includes high winds/windstorms, heavy rain/hailstorm, tornado, and power outages as a secondary impact. The Human-Caused Hazards profile includes terrorism/active shooter and civil unrest. The Seismic Hazards profile includes fault rupture, ground shaking, liquefaction, and landslide.

It is noted that Power Outage is not a direct hazard, but a secondary impact from other natural disasters (primarily windstorm, but potentially extreme heat and heavy rains as well). The LHMP Planning Team and survey participants expressed concerns about the ramifications of Power Outrages and the effects on City infrastructure and operations; thus, Power Outage is discussed under Severe Weather.

The following hazards are discussed in the LHMP, below:

- Dam Failure
- Drought
- Extreme Heat
- Flood
- Severe Weather (High winds/windstorm, heavy rain/hailstorm, tornado, power outage)
- Hazardous Materials Spills
- Human Caused Hazards (Terrorism/active shooter and civil unrest)
- Pandemic & Disease/Pest Management
- Seismic Hazards (Fault rupture, ground shaking, liquefaction and landslide)

4.2 Climate Change Considerations

Climate change has the potential to exacerbate many of the existing hazards in the City. As such, the LHMP Team decided climate change would be included under each applicable hazard profile with a discussion about how each hazard would intersect or become more significant with impacts of climate change. Discussion and analysis related to climate change is discussed as a subsection under each hazard profile included below.

4.3 Vulnerability/Risk Assessment

Vulnerability describes how exposed or susceptible to damage an asset is, and depends on an asset's construction, condition, contents, and economic value of functions. A vulnerability analysis predicts the extent of injury/damage on the built environment that may result from a hazard event of a given intensity in a specific area. The vulnerability assessment considers risks to critical facilities listed in Section 3.0, *Community Profile*, and to residential and non-residential buildings throughout South Gate. Critical facilities serve an important function in the operations of the municipal government and in serving the community. Facilities listed include essential public buildings, police and fire stations, schools, transportation infrastructure, and essential public utility assets. Many facilities may also be vital to evacuations, serve as assembly points or temporary structures, or provide a supportive role in preparing for and recovering from hazard events. While the City owns and maintains the majority of critical facilities, there are critical facilities owned by other public agencies or jurisdictions. Direct and indirect impacts were considered as part of the vulnerability assessment as impacts to some particular facilities may have indirect impacts on other facilities or populations.

The vulnerability assessment below quantifies, to the extent feasible using the best available data, City assets at risk to hazards and estimates potential losses. This section focuses on the profiled hazards and risks specific to the City of South Gate.

Each hazard profile in the following section includes a Vulnerability and Risk Assessment section that presents the results of the method described below. Replacement and content values for the facilities in each the hazard areas are tallied in each vulnerability table to estimate the total potential losses for each facility.

4.3.1 Methodology

For each hazard profiled in Sections 4.5 to 4.13, a vulnerability/risk assessment is included within the section. The vulnerability/risk assessment gives equal weight to all hazards, regardless of the identified probability. The specific hazard and associated probability are considered as part of the mitigation prioritization, discussed in Section 5.0, *Mitigation Strategy*. This assessment considers the physical threats to critical facilities. It should be noted that actual losses will depend on the type, location, magnitude, and extent of the actual hazard event.

This assessment considers the physical threat to the critical facilities, as well as the physical threat to residential and non-residential structures. Socioeconomic impacts are

generally discussed as some hazards have the potential to impact the City in ways beyond physical damages. To confirm at-risk community populations, a detailed parcel analysis investigated the intersection of each mapped natural hazard with development and population vulnerability. The critical facilities listed in Section 3.0, *Community Profile*, were mapped in GIS and overlaid with mapped hazard areas (those hazards that have a specific geographic area) to determine which assets are located in each hazard area.

Using the comprehensive parcel database from the City of South Gate, parcels with residential and non-residential structures were identified within each mapped natural hazard zone. For residential assets, the number of units is reported per hazard zone. Single family homes are assumed to be one unit. The number of residential units then informs an estimate of residents within each hazard zone. The estimate was generated using the 3.86 persons per household identified by the American Community Survey (ACS) 2022 dataset. For non-residential assets, the total structure square footage was calculated.

Hazard areas and critical facility overlays were conducted for: flood, liquefaction and hazardous materials sites. It should be noted that the parcel analysis is based on the best available data and is intended for planning purposes only. Los Angeles County provided parcel data via ArcGIS download in November 2023. Michael Baker International did not manipulate the data and used the data as it was provided to estimate hazard vulnerabilities. As such, the parcel analysis serves as an estimate of potential losses based on this data snapshot and may not reflect actual or current conditions within the City at the time of this document approval.

Overlays were not prepared for the following hazards: dam/reservoir failure, drought, extreme heat, severe weather (heavy rain/hailstorm, high winds/windstorm, tornado, and power outage [secondary impact]), human caused hazards (terrorism/active short and civil unrest), pandemic and disease/pest management, and seismic hazards (fault rupture, ground shaking and landslide). These hazards are not geographically defined and/or have the potential to affect the entire City. For the purposes of this LHMP and vulnerability assessment, it is assumed that dam/reservoir failure, drought, extreme heat, severe weather, human caused hazards, pandemic and disease/pest management, and seismic hazards could impact the entirety of the planning area, including all critical facilities.

Replacement and contents values for the facilities and the number of residents and residential and non-residential structures in each hazard area are provided where possible, to estimate the potential losses based on the method described above. Replacement values for City of South Gate facilities were estimated using the replacement values identified in the previous 2018 City of South Gate HMP, and applying the 2023 Consumer Price Index (CPI) percent increase from 2018. The CPI increase was determined to be 26.21 percent, and this increase in value was applied to all City facilities to account for inflation from the previous iteration of the plan.

Replacement values were not available for certain privately owned facilities in the tables.

Where feasible, estimations were prepared using replacement values identified in the HAZUS 6.0 Inventory Technical Manual (2022). Additional data limitations specific to each hazard are discussed further in the sections below.

4.4 Hazard Profiles

The following sections, Section 4.5 through Section 4.13, contains profiles for the hazards identified in Table 4-1, *City of South Gate Hazard Identification*, above. The profiles include a vulnerability analysis and risk assessment using the methods described in Section 4.3, *Vulnerability and Risk Assessment*.

4.5 Dam Failure

4.5.1 Description

A dam is an artificial barrier preventing the flow of water or a barrier built across a watercourse for impounding water. Dam failure is the uncontrolled release of impounded water from behind a dam. Flooding, earthquakes, blockages, landslides, lack of maintenance, improper operation, poor construction, vandalism, and terrorism can all cause dam infrastructure to fail. Dam failure results in sudden, fast-moving floods that can damage or destroy property, cause injury or loss of life, and displace large numbers of people in the flood's path. A dam failure event can also damage regional infrastructure such as transportation and energy networks, causing impacts outside of the immediate inundation zone.

Dam failures are most likely to happen for the following reasons:[1]

- Overtopping, caused by water spilling over the top of the dam, usually a precursor of dam failure because of inadequate spillway design, debris blockage of spillways, or settlement of the dam crest;
- Foundation defects, including settlement or slope stability;
- Cracking caused by natural settling of a dam or seismic movements;
- Inadequate maintenance and upkeep; and/or
- Piping, when seepage through a dam is not properly filtered, soil particles continue to progress and form sinkholes in the dam.

Because dam failure can have severe consequences, FEMA and the California Governor's Office of Emergency Services (Cal OES) require all dam owners to develop an Emergency Action Plan (EAP) for warning, evacuation, and post-flood actions. In the event of a major dam failure, mutual aid from all levels of government would be required for an extended period. Recovery efforts would include the removal of debris, clearing roadways, demolishing unsafe structures, assistance in reestablishing public services, and providing continued care for the affected population.

[1] Association of State Dam Safety Officials, *Dam Failures and Incidents,* https://damsafety.org/dam-failures, accessed May 23, 2023.

Dams in the vicinity of the City are owned by the United States Army Corps of Engineers (USACE) and are regulated by the City of Los Angeles Department of Water and Power (LADWP), Division of Safety of Dams (DSOD) Southern Region. DSOD ensures dam safety by:[2]

- Reviewing and approving dam enlargements, repairs, alterations, and removals, and ensuring that the dam appurtenant structures are designed to meet minimum requirements;
- Performing independent analyses to understand dam and appurtenant structures performance (including structural, hydrologic, hydraulic, and geotechnical evaluations);
- Overseeing construction to ensure work is performed in accordance with approved plans/specifications;
- Inspecting each dam on an annual basis to ensure safety and performance standards; and
- Periodically reviewing the stability of dams/major appurtenances, as well as new findings regarding earthquake hazards and hydrologic estimates in California.

DSOD is responsible for assigning each jurisdictional dam a downstream hazard classification. This classification is based only on potential downstream impacts to life and property, should the dam fail when operating with a full reservoir. This hazard status is not related to the condition of the dam or the likelihood of the dam to fail in either the short- or long-term. Additionally, dams in southern California usually do not operate at full capacity at all times of the year, and thus hazard risks and classifications are a worst-case scenario assessment. The DSOD definitions for downstream hazards are borrowed from the Federal Guidelines for Inundation Mapping of Flood Risks Associated with Dam Incidents and Failures, and are outlined in Table 4-4, *DSOD Downstream Hazard Potential Classification Levels*.

Table 4-4
DSOD Downstream Hazard Potential Classification Levels

Downstream Hazard Potential Classification	Potential Downstream Impacts to Life and Property
Low	No probable loss of human life and low economic and environmental losses. Losses are expected to be principally limited to the owner's property.
Significant	No probable loss of human life but can cause economic loss, environmental damage, impacts to critical facilities, or other significant impacts.
High	Expected to cause loss of at least one human life.
Extremely High	Expected to cause considerable loss of human life or would result in an inundation area with a population of 1,000 or more.

Source: California Department of Water Resources, Division of Safety of Dams, *Definitions of Downstream Hazard and Condition Assessment*, https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Files/Publications/Division-of-Safety-of-Dams-Definitions-for-Downstream-Hazard-and-Condition-Assessment.pdf, accessed February 26, 2024.

[2] California Department of Water Resources, *Division of Safety of Dams*, https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams, accessed April 11, 2023.

Due to the urbanized nature of the City, the downstream hazard potential from dam failure is classified as "high". As noted above, this is not reflective of the likelihood for the specific infrastructure to fail; this classification is due to the highly populated areas downstream from the dams. DSOD inspects dams once annually and provides a condition assessment. This condition assessment is a more accurate tool to evaluate infrastructure risk.

DSOD uses the National Inventory of Dams (NID) condition rating definitions, with additional criteria, as a guideline in assigning condition assessments. This rating system is outlined in Table 4-5, *DSOD Condition Assessment Rating Levels*. For the dams profiled in this LHMP, which are owned by USACE, the DSOD condition assessment rating is not available. Instead, USACE utilizes a five-degree rating system for dam safety called the Dam Safety Action Classification (DSAC) system, shown in Table 4-6, *Dam Safety Action Classification System*.

Table 4-5
DSOD Condition Assessment Rating Levels

Rating	National Inventory of Dams Definitions	California DSOD Additional Criteria
Satisfactory	No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions (static, hydrologic, seismic) in accordance with the applicable regulatory criteria or tolerable risk guidelines.	None.
Fair	No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.	• Dam has a long-standing deficiency that is not being addressed in a timely manner. • Dam is not certified and its safety is under evaluation. • Dam is restricted and operation of the reservoir at the lower level does not mitigate the deficiency.
Poor	A dam safety deficiency is recognized for loading conditions that may realistically occur. Remedial action is necessary. A poor rating may also be used when uncertainties exist as to critical analysis parameters that identify a potential dam safety deficiency. Further investigations and studies are necessary.	• Dam has multiple deficiencies or a significant deficiency that requires extensive remedial work.
Unsatisfactory	A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.	• None.
Not Rated	The dam has not been inspected, is not under State jurisdiction, or has been inspected but, for whatever reason, has not been rated.	• None.

Source: California Department of Water Resources, Division of Safety of Dams, *Definitions of Downstream Hazard and Condition Assessment*, https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Files/Publications/Division-of-Safety-of-Dams-Definitions-for-Downstream-Hazard-and-Condition-Assessment.pdf, accessed February 26, 2024.

As mentioned, for dams owned and operated by USACE a five-degree rating system for dam safety is used, called the Dam Safety Action Classification (DSAC) system, shown in Table 4-6, below. The DSAC system is used to determine appropriate actions to

address any dam safety issues and deficiencies of USACE dams. This system also identifies different levels and urgencies of actions that are specific to the different classes of the safety status of USACE dams.

Table 4-6
Dam Safety Action Classification System

DSAC Class	Dam Safety Risk
DSAC-I	Very High Urgency: Progression toward failure is confirmed to be taking place under normal operations, and the dam is almost certain to fail under normal operations without intervention within a few years, potentially immediately. Alternatively, the life or economic consequences given the probability of failure is extremely high.
DSAC-II	High Urgency: Failure could begin under normal operations or as the result of an event, and the likelihood of failure before intervention is too high to assure public safety. Alternatively, the life or economic consequences given the probability of failure is very high.
DSAC-III	Moderate Urgency: The dam has issues indicating that it is significantly inadequate. Alternatively, the life or economic consequences given the probability of failure is moderate to high.
DSAC-IV	Low Urgency: The dam has issues indicating that it is inadequate, and it may not meet all essential engineering guidelines. However, the life, economic, and/or environmental consequences given the probability of failure is low.
DSAC-V	Normal: The dam is considered adequately safe and meets all essential guidelines. The risk is considered tolerable.

Source: US Army Corps of Engineers, *Dam Safety Program*, https://www.lre.usace.army.mil/Missions/Civil-Works/Engineering-and-Construction/Dam-Safety-Program/#:~:text=The%20Dam%20Safety%20Action%20Classification,and%20deficiencies%20of%20USACE%20dams., accessed February 26, 2024.

4.5.2 Location/Extent

The geographic extent from dam or reservoir failure is dependent on the type of infrastructure and amount of water stored at the time of the hazard incident. There are no dams located within the City of South Gate, however, dams outside of the planning area have inundation zones that include the City. Many dams within the greater Los Angeles region would ultimately be funneled or contained by the Los Angeles River channel, Rio Hondo channel and other flood mitigation infrastructure. Thus, impacts to the City would be minimal as inundation would be contained by existing flood infrastructure.

The previously prepared 2018 City of South Gate Hazard Mitigation Plan identified three dams in proximity to the City of South Gate with the potential to impact the City: Garvey Dam, Hansen Dam, and Whittier Narrows Dam. Upon review of the most up to date dam inundation maps, it was determined that a failure at Garvey Dam is no longer anticipated to impact the City of South Gate. For this reason, Garvey Dam was removed from this hazard profile and analysis.

Additionally, Hansen Dam and Whittier Narrows Dam are owned and operated by USACE. Current inundation mapping was not made available to the LHMP Planning Team during the preparation of this Plan. Considering the size and downstream hazard potential, the Planning Team decided to assume a failure at Hansen Dam and/or Whittier Narrows Dam would impact the entirety of the City of South Gate.

Details of the critical dams in proximity to the City of South Gate are listed in Table 4-7, *Upstream Dams affecting the City of South Gate*.

Table 4-7
Upstream Dams affecting the City of South Gate

Dam Name	Dam Owner	Location	Hazard Classification	Type	Size	DSAC Class
Hansen Dam	U.S. Army Corps of Engineers – Los Angeles District	Inundation zone within the City	High	Earth	1,461.3 acre-feet	DSAC-III
Whittier Narrows Dam	U.S. Army Corps of Engineers – Los Angeles District	Inundation zone within the City	High	Earth	66,702 acre-feet	DSAC-I

Sources: U.S. Army Corps of Engineers, *National Inventory of Dams*, https://nid.sec.usace.army.mil/#/, accessed March 15, 2024.

Hansen Dam is an earthen dam that was built in September 1940 by the U.S. Army Corps of Engineers, Los Angeles District. The dam is located in the City of Los Angeles along the northeastern edge of the San Fernando Valley. The dam and reservoir have a drainage area of 152 square miles and a maximum storage of 44,990 acre-feet.[3] Hansen Dam has a "high" hazard classification and is considered a DSAC-III, indicating a moderate urgency for addressing dam deficiencies based on the moderate to high consequences of failure or inadequacies of the dam. The primary purpose of the dam is flood risk management.

Whittier Narrows Dam and reservoir is an earthen dam constructed by the U.S. Army Corps of Engineers, Los Angeles District as a flood control and water conservation project. The dam was completed in 1957 and spans the San Gabriel River and Rio Hondo approximately eight miles northeast of the City of South Gate. The dam and reservoir have a maximum capacity of 66,702 acre-feet. Whittier Narrows Dam has a "high" hazard classification and is considered a DSAC-I, indicating a very high urgency for addressing dam deficiencies based on the very high consequences of a potential failure or inadequacies of the dam. The dam's primary purpose is to reduce the risk of flooding to more than one million people.[4]

While dam failure is a rare and unlikely occurrence within the vicinity of the City, the magnitude and severity can be significant. Dam or reservoir failure within highly urbanized areas like the City can be catastrophic and result in property damage, destruction, and loss of life. Dams in Los Angeles County are regularly inspected and monitored to ensure structural integrity and safety; thus, most issues are identified early and immediately rectified to prevent dam failure. Dam failures can also increase in magnitude and severity when coupled with other natural disasters. Earthquakes or heavy rains can threaten the

[3] U.S. Army Corps of Engineers, *National Inventory of Dams*, https://nid.sec.usace.army.mil/#/, accessed March 15, 2024.
[4] U.S. Army Corps of Engineers, *National Inventory of Dams*, https://nid.sec.usace.army.mil/#/, accessed March 15, 2024.

structural integrity of dam/reservoir infrastructure, and create challenging conditions for emergency response.

4.5.3 Previous Occurrences

Dam failure events are very rare, as dams are designed to high safety standards and subject to continued inspections. During heavy rains and floods, dam operators may release water from the dam, reducing the risk of incoming water exceeding the dam's capacity. Nevertheless, the Los Angeles region has historically experienced dam failures.

The most significant failure in proximity to the City of South Gate was the failure of St. Francis Dam. In 1928, the St. Francis Dam, constructed approximately 45 miles northwest of South Gate as part of the Los Angeles Aqueduct system, failed catastrophically due to weak foundations and a leak which had eroded part of the dam structure; modern analysis suggests a landslide may also have been involved. The collapse caused a wave of water as high as 140 feet, which steadily decreased as it rushed 54 miles to the ocean over a period of 5.5 hours. The disaster killed an estimated 431 people (although some estimates are over 600), damaged several towns, and knocked out power to parts of the San Fernando Valley and downtown Los Angeles.

In 1963, the Baldwin Hills Dam, located approximately 10 miles northwest of South Gate, experienced a partial collapse due to geologic conditions. On December 14, 1963, signs of lining failure and leakage were identified at the Baldwin Hills Dam. Within three hours the dam failed, resulting in approximately 250 million gallons of water surging down the hillside into the City of Los Angeles. Although the failure did not directly impact South Gate, the inundation resulted in five deaths, thousands of homes destroyed, and approximately $11 million in total damage (over $110 million in 2023 dollars, accounting for inflation). While this incident occurred near the planning area, the City did not experience have direct impacts.

No other major dam failure or incidents have occurred within the planning area, or any upstream dams with inundation zones mapped within the City. No incidents have been reported at Hansen Dam or Whittier Narrows Dam. No federally declared disasters relating to dam or reservoir failure have occurred including the City within the last five years; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area*.

4.5.4 Probability of Future Occurrences

The probability of dam failure that would impact the City of South Gate is considered medium. Hansen Dam and Whittier Narrows Dam pose a significant potential threat to the City; the entirety of the City is considered vulnerable to inundation from these dams.

Hansen Dam is located approximately 23 miles northwest of South Gate, in the San Fernando Valley. The US Army Corps of Engineers gives Hansen Dam a DSAC-III rating. Hansen Dam's DSAC rating and capacity make it the primary dam failure hazard in South Gate.

Whittier Narrows Dam is located on the San Gabriel River approximately 8 miles northeast of South Gate in the City of Montebello. The gates of Whittier Narrows Dam are normally left open and the reservoir is generally not storing water; the dam's gates are only closed and a reservoir allowed to build during flood events.

Despite best planning efforts, dam or reservoir failure resulting in flooding within the community could occur due to significant precipitation or seismic activity. While the probability of future occurrences remains low, an incident has the potential to be destructive due to the urbanized nature of the City and the proximity to extremely high hazard dams.

4.5.5 Climate Change Considerations

Climate change could indirectly increase the likelihood of dam/reservoir infrastructure failure. Climate change is expected to cause more frequent periods of intense precipitation, leading to a potential rise in flood events. It is possible that floodwaters may damage dams or erode the ground that they are built on, increasing the risk of dam failure. Severe storm events and increased temperatures resulting in rapid snowmelt both threaten to overwhelm dams/reservoirs. Severe storm events could also oversaturate soils and compromise dam infrastructure.

4.5.6 Vulnerability Assessment

A dam failure could potentially impact the entirety of the City of South Gate. Therefore, all critical facilities, infrastructure systems, structures, residents, and businesses are considered vulnerable to dam failure. The potential impacts associated with dam inundation across the planning area rely on many factors including the amount of water stored at the time, weather conditions, the cause of the incident and potential warning time. The potential warning time and/or notice to prepare would vary depending on the situation. A potential failure may occur suddenly with little to no warning, or it may be preceded by heavy rains and signs of failure. Impacts of a sudden failure would likely be more severe; however, depending on the circumstances, any dam failure may result in physical damage due to inundation which may impact residences, businesses, and critical facilities within the planning area. Impacts would likely require an immediate and continued response from the planning area including evacuation coordination, temporary shelter for displaced residents or other assistance for residents and businesses. However, a significant dam failure and inundation impacts are unlikely given the City's proximity to the dams and the flood infrastructure throughout the Los Angeles area.

As discussed in Section 3.6, the population within the planning area has decreased during the last five years, representing a population decline of 2.1 percent. Therefore, the number of vulnerable individuals located within the planning area has decreased by the same percentage when compared to the previous 2018 LHMP. No major changes in land use or development occurred while the previous 2018 LHMP was active, that affected risk or vulnerability associated with dam inundation.

At the time of this LHMP preparation, the City anticipates future residential development and redevelopment within the planning area, as outlined in the recently adopted Housing

Element. While it is unlikely that all planned residential growth will be constructed within the five-year period of this LHMP, the City anticipates some level of population growth to occur. As the entirety of the planning area would be vulnerable to dam inundation, any projected population growth within the City would increase the number of vulnerable individuals. At this time, no proposed projects under the purview of the City are expected to substantially increase dam inundation vulnerability. Therefore, no substantial changes in vulnerability are anticipated due to changing land use patterns or development.

4.5.7 SVP Vulnerability and Risk Assessment

The location, extent and magnitude of a dam failure would apply to the entirety of the planning area, including SVPs and other high-risk individuals located within the City. No physical infrastructure or unique considerations elevate risk of SVPs to dam failure. The primary concern for SVPs and other high-risk individuals is outreach and communication. Emergency communication and alerts in the case of dam failure should consider cultural competence, including consideration for minority populations and individuals with limited English proficiency. Additionally, considerations for overcrowded households may be required as densely populated and overcrowded housing units put more individuals at risk to a potential dam failure. Mitigation Actions #2, #4, #6, #7, and #21 include considerations for improved public awareness and safety campaigns, with consideration for linguistic isolation and densely populated or overcrowded households. Additional mitigation actions categorized as “All Hazard” efforts include improvements to public outreach and emergency communication, that would directly benefit SVPs across the community in the case of a dam failure.

4.6 Drought

4.6.1 Description

A drought is a long-term shortage of water, usually caused by extended periods with little or no precipitation. Drought is also defined by factors other than rainfall, including vegetation conditions, agricultural productivity, soil moisture, water levels in reservoirs, and stream flow. Unlike the other emergencies discussed here, droughts develop over a lengthy period of time. It generally takes multiple dry years to develop a drought, and similarly it can take multiple wet years to alleviate one. In urban areas, drought conditions can cause a decrease in available water supplies, which may lead to increases in water rates or restrictions in water use. Communities may need to seek alternative water supplies to meet demand, which can be a costly and lengthy process. Vegetation, including street trees and landscaped areas in public parks, can become water stressed if it is not adapted to drought conditions, which may result in plant disease or death. Drought cycles are common in southern California and can be influenced by cyclical El Niño and La Niña events.

The term "drought" can have different meanings depending on how a water deficiency affects day to day activities. Drought is a complex natural hazard, reflected in the following four definitions commonly used:[5]

- *Agricultural* – Agricultural drought is defined principally in terms of naturally occurring soil moisture deficiencies relative to water demands of plant life, usually arid crops.
- *Hydrological* – Hydrological drought is related to the effects of precipitation shortfalls on stream flows and reservoir, lake, and groundwater levels.
- *Meteorological* – Meteorological drought is defined solely on the degree of dryness, expressed as a departure of actual precipitation from an expected average or normal amount based on monthly, seasonal, or annual time scales.
- *Regulatory (or socioeconomic)* – Regulatory drought can occur when the availability of water is reduced due to imposition of regulatory restrictions on the diversion and export of water out of a watershed to another area. A significant percentage of water in southern California is imported from other regions (Colorado River and Northern California) via aqueducts. Correspondingly, drought in California can be made worse by water availability conditions in the regions at which the water originates.

Although climate is a primary contributor to hydrological drought, other factors such as changes in land use (i.e., deforestation), land degradation, and dam construction can affect the hydrological characteristics of a region. Because regions are geographically interconnected by natural systems, the drought impacts may extend well beyond the borders of the precipitation-deficient area. Changes in land use upstream may alter hydrologic characteristics such as infiltration and runoff rates, resulting in more variable stream flow and a higher incidence of hydrologic drought downstream. Land use change is one way human actions can alter water shortage frequencies, even when no change in precipitation occurred.[6]

Droughts cause public health and safety impacts, as well as economic, environmental, and social impacts. Public health and safety impacts are primarily associated with catastrophic wildfire risks and drinking water shortage risks. Drought conditions often cause a reliance on groundwater supplies, and extended periods of drought can deplete these reserves. Examples of other impacts include costs to homeowners due to loss of residential landscaping, degradation of urban environments due to loss of landscaping, agricultural land fallowing and associated job loss, degradation of fishery habitat, and tree mortality with damage to forest ecosystems. Drought conditions can also result in damage to older infrastructure that is located within dry soils with potential to break or crack. Dead or dying vegetation poses a risk to falling and damaging structures and infrastructure systems. Drought may also accelerate the spread of native bark beetles that attack trees,

[5] NOAA, *Definition of Drought,* https://www.ncdc.noaa.gov/monitoring-references/dyk/drought-definition, accessed May 11, 2023.
[6] National Drought Mitigation Center, *Drought Basics*, https://drought.unl.edu/Education/DroughtBasics.aspx, accessed May 11, 2023.

and thereby exacerbate tree loss. While bark beetles survive poorly in healthy trees, trees stressed by drought may attract the beetles causing widespread mortality in forests and forested native communities in California.[7]

In Los Angeles County, drought conditions typically result in implementation of large-scale conservation efforts, reducing water supplies to customers and altering the pricing system by implementing higher rates for water usage that exceed certain levels. Drought conditions often cause a reliance on groundwater supplies, and extended periods of drought can deplete these reserves.

4.6.2 Location/Extent

Droughts are widespread events that would affect the entire City and likely the southern California region. The geographic extent of drought conditions would extend to every resident and business owner within the City. The City operates its own water division, which supplies water for roughly 90 percent of City. The remaining 10 percent of the City receives water services from Golden State Water Company (GSWC). The majority of the City's water supply (97 percent) is groundwater from the Central Groundwater Basin. The remaining water need is met by recycled water from Central Basin Municipal Water District (CBMWD). The City can also receive imported water from Metropolitan Water District (MWD) of Southern California through CBMWD, though it has not done so in years; these connections are reserved for emergency use.[8] MWD's water is imported from the Colorado River and the Sacramento-San Joaquin River Delta. Water supplied by GSWC is primarily groundwater sourced from the Central Groundwater Basin to customers in the Hollydale system of the City.[9] Droughts can significantly decrease the amount of available ground water and surface water both locally and/or in the regions where the water supply originates. A drought in the area would affect the entirety of the City and would potentially impact the City's supply of water coming from the Central Groundwater Basin. Impacts would depend on the duration and severity of the drought, but may include restrictions on water use, increased water rates, and may impact landscaping throughout the City.

Drought severity and extent depends on numerous factors, including duration, intensity, and geographic extent, as well as regional water supply demands by humans and vegetation. The severity of drought can be aggravated by other climatic factors, such as prolonged high winds and low relative humidity. The magnitude of drought is usually measured in time and the severity of the hydrologic deficit. The United States Drought Monitor provides weekly data that indicates the portions of the United States that are experiencing drought. The intensity of drought is categorized as one five classifications: abnormally dry (D0), showing areas that may be going into or are coming out of drought, and four levels of drought: moderate (D1), severe (D2), extreme (D3), and exceptional (D4); refer to Table 4-8, *Drought Severity Classification*.

[7] United States Department of Agriculture, *Bark Beetles in California Conifers,* February 2015.
[8] City of South Gate, *2020 Urban Water Management Plan*, June 2021.
[9] Golden State Water Company, *Central Basin West*, https://www.gswater.com/central-basin-west, accessed May 11, 2023.

Exhibit 4-1, *Drought Monitor Map*, identifies areas of drought within California and labels them by intensity shown in Table 4-8. As of February 20, 2024, the entirety of Los Angeles County, including the City of South Gate, is experiencing no drought or dry conditions, according to the United States Drought Monitor. The Drought Monitor is not a forecast but looks backward; providing a weekly assessment of drought conditions based on how much precipitation did or did not fall. A series of storms during December 2022 to March 2023 brought record breaking levels of precipitation to California, improving the drought conditions experienced between 2019 – 2022. Furthermore, storms throughout the 2023 – 2024 winter season brought additional precipitation to the southern California region. Los Angeles County and the City of South Gate are not predicted to experience water shortages at the time of this writing.

Table 4-8
US Drought Monitor Classification Scheme

Category	Description	Possible Impacts
D0	Abnormally dry	Slower growth of crops and pastures compared to normal activities.
D1	Moderate drought	Some damage to crops and pastures. Streams, reservoirs, or wells low. Some water shortages may be developing or imminent.
D2	Severe drought	Likely crop and pasture losses. Water shortages are common, leading to restrictions.
D3	Extreme drought	Major crop and pasture losses. Widespread water shortages.
D4	Exceptional drought	Exceptional and widespread crop and pasture losses. Water emergencies develop from shortages in reservoirs, streams, and wells.

Source: US Drought Monitor, *Drought Classification*, https://droughtmonitor.unl.edu/About/AbouttheData/DroughtClassification.aspx, accessed May 9, 2023.

4.6.3 Previous Occurrences

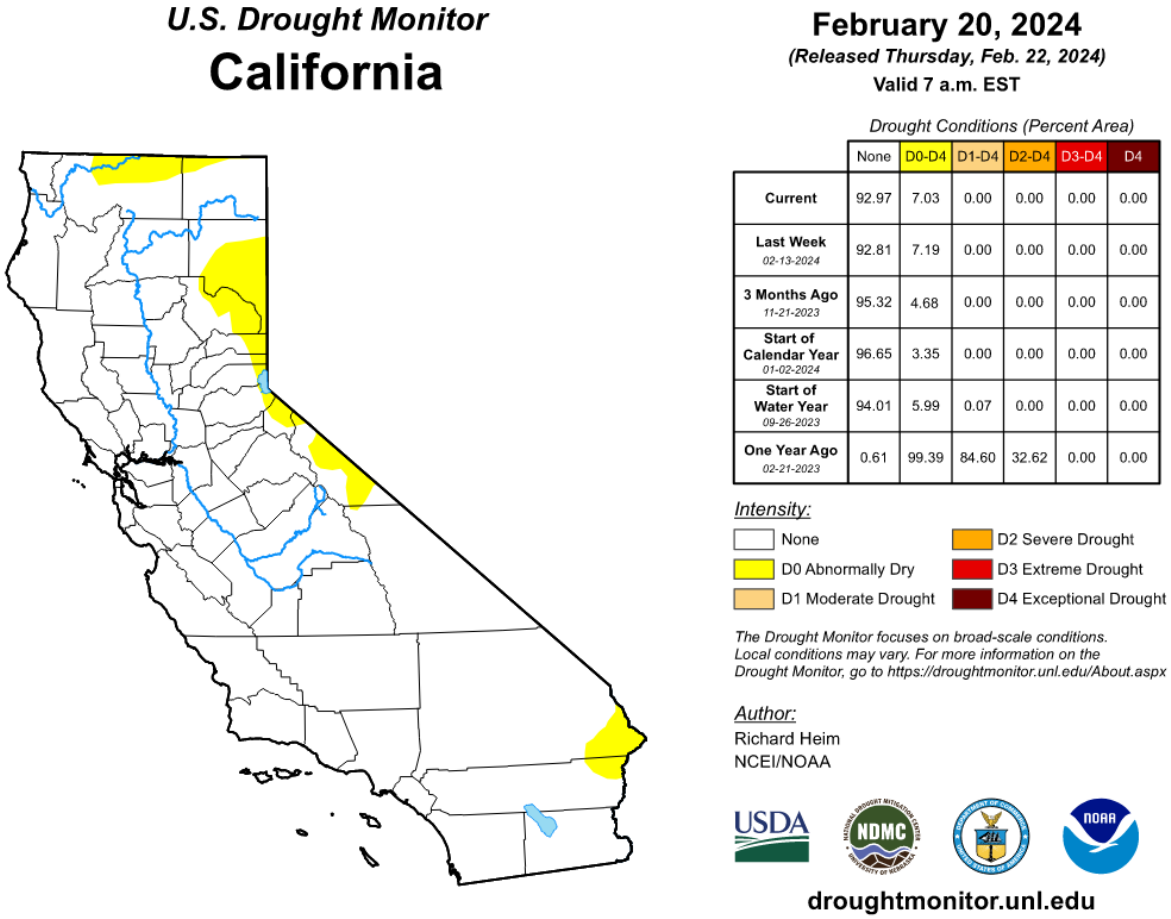
Historically, droughts have affected virtually every county in California. A federally declared disaster for California drought was issued in January of 1977 for the entire state. Additionally, the California State Hazard Mitigation Plan notes over 100 United States Department of Agriculture (USDA) agricultural disaster declarations and California Emergency Proclamations for drought in California.[10] In the southern California region, droughts are a relatively frequent event that often last for multiple years. Some of the most severe droughts in California history have occurred in recent years.

The most severe drought on record began in 2012 and continued through 2017. On January 17, 2014, the Governor of California declared a State of Emergency for drought conditions, and on April 1, 2015, the Governor announced the first-ever mandatory 25-percent statewide water use reduction. As part of this reduction effort, the state proposed a series of actions to help save water, increase enforcement to prevent wasteful water use, streamline the State's drought response, and invest in new technologies that would make California more drought resilient. By the end of May 2014, all of California, including South Gate, was in a condition of "extreme" or "exceptional" drought. After a series of

[10] California Governor's Office of Emergency Services, *California State Hazard Mitigation Plan*, August 2023.

winter rains, the Governor issued an executive order in April 2017 ending the drought emergency in Southern California, including Los Angeles County.[11]

Exhibit 4-1
Drought Monitor Map



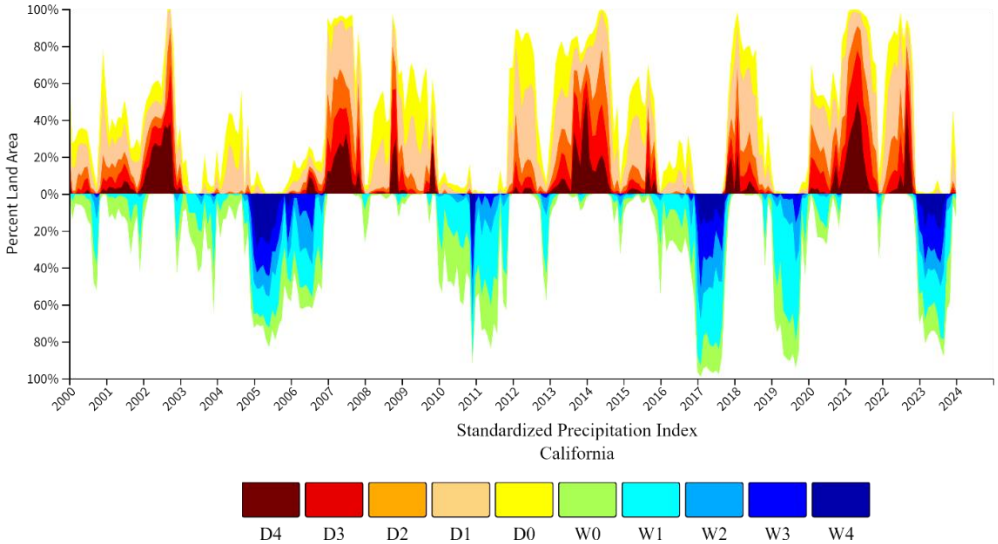
Source: U.S. Drought Monitor, California, https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?CA, accessed February 27, 2024.

Drought conditions worsened throughout 2020 and by April, 2021, a State of Emergency for drought conditions was issued for counties in northern California. The proclamation was expanded that summer to include the majority of northern and central California. In October, 2021, the proclamation expanded again to include the rest of the State's counties, including Los Angeles County. This proclamation granted authority to the Water Board to prohibit certain practices that waste water and directed local water suppliers to execute Water Shortage Contingency Plans and Drought Plans.[12] Los Angeles reached a state of "extreme drought" in 2021, the second most severe of five drought distinctions

[11] Office of Governor Edmund G. Brown Jr., *Governor Brown Lifts Drought Emergency, Retains Prohibition on Wasteful Practices, April 7, 2017.*
[12] Office of Governor Gavin Newsom, Governor Gavin Newsom Expands Drought Emergency Statewide, Urges Californians to Redouble Water Conservation Efforts, October 19, 2021.

identified by the U.S. Drought Monitor. Following above-average rainfall in the beginning of 2023, Los Angeles County, amongst many other counties, are no longer affected by drought conditions. However, surface and groundwater supplies may remain below normal levels. This previous drought history is indicative of historical cycles of drought and heavy rain. Exhibit 4-2, *Historical Drought and Rain Cycles in California*, shows the cyclical droughts and precipitation that have occurred in California from 2000 through the present.

Exhibit 4-2
Historical Drought and Rain Cycles in California



Source: National Integrated Drought Information System, California, https://www.drought.gov/states/california#historical-conditions, accessed February 28, 2024.

Drought conditions in southern California have subsided due to above average rainfall over the past year. Impacts to the City of South Gate from previous droughts have typically been limited to water supply restrictions. Physical damages due to drought have not been recorded during past occurrences.

No federally declared disasters relating to drought have occurred including the planning area within the last five years; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area*.

4.6.4 Probability of Future Occurrences

California weather is classified by a typical dry and wet season. During the wet season, the state relies on heavy precipitation events to constitute the majority of the annual total rainfall, so the absence of any event can significantly impact water availability. Certain atmospheric circulation patterns define California's temperature and precipitation extremes. Examining these patterns, researchers discovered that atmospheric conditions associated with extreme drought have become increasingly common in recent decades.[13]

[13] Stanford News, *Rise of the 'Ridiculously Resilient Ridge': California drought patterns becoming more common, Stanford scientists say*, https://news.stanford.edu/2016/04/01/drought-patterns-change-040116/, published April 1, 2016, accessed March 4, 2024.

The U.S. Seasonal Drought Outlook indicates no drought will likely occur within the City of South Gate or California through May 2024.[14] The absence of drought conditions expected in the near future are largely the result of the wet winter seasons of 2022-2023 and 2023-2024. Additionally, the City water district and GSWC take measures to conserve and replenish groundwater and maintain water shortage contingency plans. These measures ensure resiliency and avoid overuse of water supplies during drought conditions. Although the area received high levels of precipitation over the past two years, drought is a known reoccurring hazard within the southern California region. Based available and historical data, drought is considered to have a medium probability for reoccurrence within the planning area.

4.6.5 Climate Change Considerations

Climate change is a phenomenon that will likely exacerbate drought hazards. In Governor Brown's 2014 drought emergency declaration, it was noted that droughts could occur more regularly in the future. The experiences faced by water supply agencies during the 2012-2017 drought prompted actions to examine water storage, distribution, management, conservation, and use policies more closely. Water districts drafted administrative drought actions and implemented mechanisms allowing for administrative consistency in water conservation and drought regulations. This interagency coordination and heightened awareness regarding drought helped to mitigate the effects, but the challenges of climate change and drought are ever-present.

According to the 2018 State Hazard Mitigation Plan, climate scientists studying California found that drought conditions are likely to become more frequent and persistent over the twenty-first century due to more frequent and extended periods of high temperature conditions. Decreasing snowmelt, reduced precipitation, and higher temperatures are all expected effects of climate change. As the City may need to supplement water supplies with imported water, climate change impacts on areas outside of the area could affect water supplies within the City. Furthermore, the California Adaptation Planning Guide states that the pressure climate change places on ground water reliance during times of drought is not sustainable.[15] The sustainability of groundwater is critical for water supplies in the City. When coupled with increasing populations and increasing demand for water in southern portions of California, these conditions may result in future challenges associated with climate change for South Gate and the water purveyors that supply the City.

4.6.6 Vulnerability Assessment

Drought conditions would affect the entirety of the City, and therefore all critical facilities, infrastructure systems, structures, residents, and businesses are considered vulnerable to drought hazards. Droughts do not typically result in physical damage to buildings and infrastructure, thus critical facilities are not at risk of destruction or structural failure.

[14] NOAA, *U.S. Seasonal Drought Outlook*, https://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.php, published June 30, 2023, accessed July 19, 2023.
[15] California Governor's Office of Emergency Services, *California Adaptation Plan*, https://www.caloes.ca.gov/HazardMitigationSite/Documents/CA-Adaptation-Planning-Guide-FINAL-June-2020-Accessible.pdf, published June 2020, accessed May 10, 2023.

Instead, drought could potentially limit the availability of water supplies to City residents and businesses. Most of the City receives water from the City-owned network and a small portion receives water from the private GSWC Hollydale System. The majority of water supplied by the City and GSWC is local groundwater from the Central Groundwater Basin. As most of South Gate's water supply comes from local groundwater sources, extended drought conditions have the greatest potential to impact to the community's water supply.

A long-term lack of precipitation within southern California would reduce available groundwater supplies. The most likely drought impacts to residents as a result of reduced groundwater supplies would include water conservation requirements and potentially increased water service rates. Other effects of drought could be sustained by parks, landscaping, and grounds around commercial and residential facilities, as well as by various plant and animal species, which depend on a delicate meteorological balance to survive. The risk of damage to landscaping and the natural ecosystem, and potential economic impacts from increased water prices or an insufficient supply of water can be mitigated by water purveyors and constituents.

In addition to groundwater, the City and GSWC may rely on imported or recycled water if needed. Water purveyors also maintain urban water management plans and water shortage contingency plans to ensures that water supplies are more to drought. The efforts of the City and other water suppliers are ensuring that these impacts are reduced to the greatest extent possible through groundwater replenishment, water conservation, and additional projects that reduce groundwater vulnerability in the region. Although the City is less dependent on imported water supplies and therefore less vulnerable to droughts in other areas, such droughts may still pose challenges during times when South Gate must supplement its water supply with imported water.

The entire City is vulnerable to drought. However, through active management the local groundwater basin has proven to be resilient to the most recent drought; groundwater elevations have increased over the past couple of years. Since droughts are not likely to cause physical or structural damage to critical facilities, potential losses were not quantified.

As discussed in Section 3.6, the population within the planning area has decreased during the last five years, representing a population decline of 2.1 percent. Therefore, the number of vulnerable individuals located within the planning area has decreased by the same percentage when compared to the previous 2018 LHMP. No major changes in land use or development occurred while the 2018 was active, that affected risk or vulnerability associated with drought.

At the time of this LHMP preparation, the City anticipates future residential development and redevelopment within the planning area, as outlined in the recently adopted Housing Element. While it is unlikely that all planned residential growth will be constructed within the five-year period of this LHMP, the City anticipates some level of population growth to occur. As the entirety of the planning area would be vulnerable to drought, any projected population growth within the city would increase the number of vulnerable individuals. At this time, no proposed projects under the purview of the City are expected to substantially

increase drought vulnerability. Therefore, no substantial changes in vulnerability are anticipated due to changing land use patterns or development.

4.6.7 SVP Vulnerability and Risk Assessment

Drought hazards would apply to the entirety of the planning area, including Socially Vulnerable Populations (SVPs) and other high-risk individuals located throughout the City. SVPs and other high-risk individuals may experience cost burdens associated with potable water surcharges during drought conditions and may need additional outreach and communication for drought awareness purposes. Therefore, Mitigation Action #24 was specifically crafted for the City to engage underserved or vulnerable populations, who would be most impacted by water surchargers or other drought-related water utility fee increases.

4.7 Extreme Heat

4.7.1 Description

Extreme heat conditions refer to temperatures that are significantly higher than average for a particular regional location and time of year. Extreme or excessive heat can be a combination of high heat and high humidity, leading to heat-related illness. The heat index, or the apparent temperature, is what the temperature feels like to the human body when relative humidity and air temperature are both considered. Relative humidity can significantly increase the heat index and contribute to dangerous health conditions.[16] High heat and humidity can cause heat-related illness, including heat cramps, heat exhaustion, and heat stroke.[17]

Extreme heat is location specific and determined based on average temperature for a given location. While there is no universal definition for an extreme heat event, a common definition for planning in California identifies an extreme heat day as a day where the high temperature exceeds the average high temperatures of 98 percent of the historic days between April and October. For Los Angeles County, an extreme heat event would generally be temperatures over 95 degrees Fahrenheit. Five extreme heat days in a row is considered a heat wave. The threat of extreme heat can be higher in urban areas, where dark-colored roofs and paving materials cause the air temperature to be hotter than in less developed areas; this is known as the urban heat island effect.

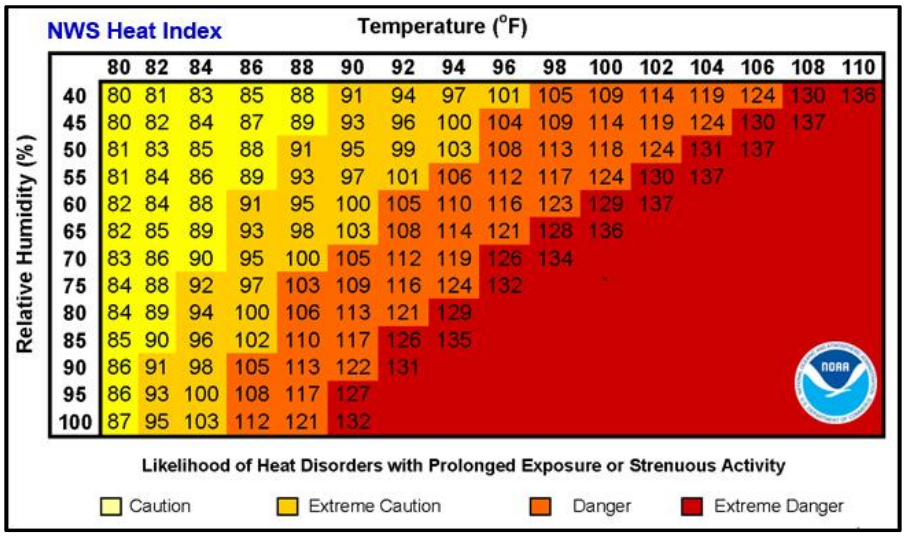
4.7.2 Location/Extent

Extreme heat events are widespread regional occurrences that would affect the entire City, and likely the larger southern California region. The geographic extent of extreme heat conditions would extend to every resident in South Gate. The National Weather

[16] National Weather Service, *What is the Heat Index?*, https://www.weather.gov/ama/heatindex#:~:text=The%20heat%20index%2C%20also%20known,sweat%20to%20cool%20itself%20off., accessed March 4, 2024.
[17] National Weather Service, *Excessive Heat Conditions*, https://www.weather.gov/phi/heatcond#Overview, accessed March 4, 2024.

Service (NWS) uses heat index, or apparent temperature, to help identify extreme heat events and predict extent of potential impacts. The dangers of extreme heat increase with time and exposure meaning that a prolonged period of extreme heat of even a number of days can be particularly dangerous. Exhibit 4-3, *Heat Index*, shows the likelihood of heat disorder with prolonged exposure or strenuous activity associated with temperature and relative humidity.

Exhibit 4-3
Heat Index



Source: National Weather Service, What is the Heat Index?, https://www.weather.gov/ama/heatindex#:~:text=The%20heat%20index%2C%20also%20known,sweat%20to%20cool%20itself%20off., accessed May 11, 2023.

The greatest risks from extreme heat events are health related. Although some heat-related illnesses are often minor and/or temporary such as heat rash, heat cramps, and heat exhaustion; extreme heat can overwhelm the body's ability to maintain a safe internal temperature, which can cause a person's body temperature to reach dangerous levels. If a person's internal temperature rises to 104 degrees Fahrenheit or above, heatstroke can occur.[18] Heatstroke can cause fainting, seizures, and mental impairment. If left untreated, it may lead to permanent organ damage, coma, or death.

Extreme heat would not likely result in physical damage to structures; however, infrastructure-related complications can also result from extreme heat. Power lines can become stressed during extreme heat, due to a combination of equipment being less efficient in high temperatures and increased demand for electricity during extreme heat (generally to run air conditioners). This combination of factors can overwhelm electricity infrastructure and make it more likely to fail, which can cause power outages and in turn result in increased health risks. In particularly extreme heat events, roads and railways may be damaged by the high temperatures, creating transportation delays or closures.

[18] Mayo Clinic, *Heat Exhaustion*, https://www.mayoclinic.org/diseases-conditions/heat-exhaustion/symptoms-causes/syc-20373250, accessed March 4, 2024.

4.7.3 Previous Occurrences

Although there have not been any federally declared disasters for extreme heat that affected the area, southern California has seen multiple significant extreme heat and heat wave events. Many record-breaking extreme heat events and heat waves have been recorded in the Los Angeles area and surrounding southern California region throughout the 20th century. Various sources note the 1955 heat wave in Los Angeles as one of the worst in California history to impact the area. Temperatures exceeded 100 degrees Fahrenheit for eight days in a row making it the longest 100 degree Fahrenheit or higher stretch on record.[19] Since then, record-breaking highs for single-day temperatures have been reported at an increasing rate and other significant heat waves have occurred. The NOAA Storm Events Database lists five excessive heat events for Los Angeles County during the summers of 2007 and 2008.[20] Record high temperatures were recorded in Los Angeles in 2010 at 113 degrees, then again in 2020 at 121 degrees. Significant heat waves occurred in southern California in 2022 and 2023 for back-to-back years, indicating an increased frequency of extreme heat events.

No federally declared disasters relating to extreme heat have occurred including the planning area within the last five years; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area*.

4.7.4 Probability of Future Occurrences

The risk of extreme heat events is likely to rise in South Gate and throughout California and will likely be exacerbated by climate change. Coastal areas and central Los Angeles will experience three times as many days of temperatures over 95 degrees Fahrenheit in the future.[21] An increase in extreme heat events is one of the primary threats posed by climate change. Future extreme heat events are likely to be more frequent and more intense, and potentially longer lasting.

Cal-Adapt, which provides data and tools for climate adaptation planning in California, notes a historical average of five extreme heat days per year from 1961-1990. Comparatively, the 30-year average predicted for 2035-2064 is 25 extreme heat days per year.[22] This shows a significant increase in the predicted number of extreme heat days per year over the coming decades. The LHMP planning team noted a likely probability for future extreme heat events and assigned a medium hazard planning consideration.

[19] The Washington Post, *Los Angeles has Worst Heat Wave in 25 Years*, https://www.washingtonpost.com/news/capital-weather-gang/wp/2015/10/12/los-angeles-has-worst-heat-wave-in-25-years/, accessed March 5, 2024.
[20] NOAA, *Storm Events Database*, https://www.ncdc.noaa.gov/stormevents/, accessed March 5, 2024.
[21] County of LA Public Health, *Extreme Heat and Climate Change*, www.publichealth.lacounty.gov/eh/climatechange/ExtremeHeatNClimateChange.htm, accessed May 11, 2023.
[22] Cal-Adapt, *Extreme Heat Days & Warm Nights*, https://cal-adapt.org/tools/extreme-heat/, accessed March 5, 2024.

4.7.5 Climate Change Considerations

Climate change is understood to have a direct impact on temperature. As global temperatures rise, there will be an increased occurrence and prolonged duration of extreme heat events. By the end of the century (2070-2099), Cal-Adapt predicts the planning area will experience an average of 35 extreme heat days per year, many times greater than the historical average.[23] Although the greatest increases are likely to occur in more inland areas, scientists have identified moderate-temperature areas, such as South Gate, as being at an elevated risk because people in these areas are not used to extreme heat. There is a wide range of potential frequency and severity of extreme heat events as a result of climate change, but scientific consensus is that extreme heat will pose a greater risk in future years than it currently does due to climate change.

4.7.6 Vulnerability Assessment

Extreme heat is not a localized hazard and would impact the entire City. Therefore, all critical facilities, infrastructure systems, residents and businesses are considered vulnerable to extreme heat. Additionally, South Gate is at an elevated risk of extreme heat because urbanized areas experience higher temperatures than rural communities due to the heat island effect. Health concerns are the primary risk to residents from extreme heat. Heat rash, heat cramps, heat exhaustion and heat stroke are notable potential health risks. Additionally, although extreme heat does not typically result in structural damage, there is a risk for some physical damages. Power lines, roads, bridges, private property and vehicles have elements that may be susceptible to extreme heat. Power grids may also struggle to supply power with an increased demand for air conditioning potentially resulting in outages. Prolonged extreme heat events may also impact landscaping, open space, parks and the urban environment, particularly if coupled with drought conditions. This may deteriorate the quality of landscaped areas, and result in a lack of shade in public spaces, furthering the risks of extreme heat. The entire City and all critical facilities would be vulnerable to these risks.

As discussed in Section 3.6, the population within the planning area has decreased during the last five years, representing a population decline of 2.1 percent. Therefore, the number of vulnerable individuals located within the planning area has decreased by the same percentage when compared to the previous 2018 LHMP. No major changes in land use or development occurred while the previous 2018 LHMP was active, that affected risk or vulnerability associated with extreme heat.

At the time of this LHMP preparation, the City anticipates future residential development and redevelopment within the planning area, as outlined in the recently adopted Housing Element. While it is unlikely that all planned residential growth will be constructed within the five-year period of this LHMP, the City anticipates some level of population growth to occur. As the entirety of the planning area would be vulnerable to extreme heat, any projected population growth would increase the number of vulnerable individuals. At this

[23] Cal-Adapt, *Extreme Heat Days & Warm Nights*, https://cal-adapt.org/tools/extreme-heat/, accessed March 5, 2024.

time, no proposed projects under the purview of the City are expected to substantially increase extreme heat vulnerability. Therefore, no substantial changes in vulnerability are anticipated due to changing land use patterns or development.

4.7.7 SVP Vulnerability and Risk Assessment

Extreme heat would potentially affect all residents including SVPs and other at-risk individuals throughout the City. However, the risks of extreme heat are higher for some individuals, including the elderly, lower-income individuals, and outdoor workers. Elderly persons are more likely to suffer potentially fatal respiratory and cardiovascular complications during heat events. Heat related health risks may also be worse for people with obesity, cardiovascular disease and respiratory disease. These groups may also be less capable of taking care of themselves during emergency situations. Lower-income and overcrowded households may lack adequate cooling capacity, such as an air conditioner, which can make them more vulnerable to heat-related illnesses. Additionally, minority ethnic/racial groups and individuals with limited English proficiency may be particularly vulnerable to heat and associated risks. They may lack access to or awareness of effective transportation that allows them to reach cooling centers, seek medical help, or obtain other assistance as needed. The City has a large population of minority ethnic/racial individuals and individuals who have limited English proficiency. As such, Mitigation Actions #2, #4, #6, #7, #33, #36 and #37 have been identified to ensure SVPs are prepared and informed of heat related risks and available resources.

4.8 Flood

4.8.1 Description

Flooding occurs when a waterway, either a natural one or an artificial drainage channel, receives more water than it is capable of conveying, causing the water level in the waterway to rise. Depending on how long these conditions last and the amount of water the waterway receives in proportion to its capacity, the rising water level may eventually overtop the waterway's banks or any other boundaries to the drainage area, resulting in flooding in the surrounding area.

Floods often occur during heavy precipitation events, when the amount of rainwater exceeds the capacity of storm drains or flood control channels. Floods can also happen when infrastructure such as levees, dams, or culverts fail, or when a section of drainage infrastructure fails, and water cannot be drained from an area fast enough. These failures can be linked to precipitation events (e.g., when water erodes away a levee, allowing water to escape and flood nearby areas), or can be a consequence of other emergency situations (e.g., a dam collapsing due to an earthquake).

FEMA defines flood or flooding as a general and temporary condition of partial or complete inundation of normally dry land areas from:[24]

- The overflow of inland or tidal waters;

[24] FEMA, *Glossary: Flood*, https://www.fema.gov/glossary/flood, accessed March 5, 2024.

- The unusual and rapid accumulation or runoff of surface waters from any source; or,
- Mudslides which are proximately caused by flooding and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.
- Collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above.

Floods can be caused by a number of factors, including:

- Weather and climate patterns (e.g., El Niño, La Niña, Pineapple Express, Atmospheric River, etc.)
    - El Niño and La Niña are complex weather patterns resulting from variations in ocean temperatures in the equatorial Pacific. Warmer or colder than average ocean temperatures in one part of the world can influence weather around the globe. El Niño and La Niña episodes typically last 9 to 12 months, but some prolonged events may last for years.[25]
    - Pineapple Express is a name given to an atmospheric river on the West Coast. It is a channel in the atmosphere that moves vast amounts of moisture and can result in massive rain showers.
- Hydrologic features such as reservoirs, ponds, lakes, rivers, etc., can have a large impact on the amount of flooding.
- The absorption capacity of the ground depends on the composition of soil and bedrock of the area. Less absorbent soil conditions in addition to lack of proper storm infrastructure can result in flooding.
- Type and density of vegetation is related to moisture absorption affecting the flow of water.
- Patterns of land use/urbanization relates to the pervious and impervious nature of the ground.
- Expected level, age, and condition of flood management infrastructure can impact flooding conditions.
- Large-scale wildfires dramatically alter the terrain and ground conditions. Vegetation absorbs rainfall, reducing runoff. However, wildfires leave the ground charred, barren, and unable to properly absorb water, creating conditions ripe for flash flooding and debris flow. Flood risk remains significantly higher until vegetation is restored – up to five years after a wildfire.[26]

The force of a flood is sufficient to carry away large objects and smash them into structures, causing considerable damage to buildings and infrastructure. In severe instances, floodwaters themselves can destroy structures or move them off their foundation. Floods can saturate and weaken soil, potentially making structures built on

[25] NOAA, *What are El Nino and La Nina?,* https://oceanservice.noaa.gov/facts/ninonina.html, accessed May 2, 2023.
[26] FEMA, *Flood Risk Increases After Fires Are Out – Buy Flood Insurance Now*, https://www.fema.gov/fact-sheet/4562/flood-risk-increases-after-fires-are-out-buy-flood-insurance-now, October 21, 2020.

them more susceptible to damage or collapse. Flooding can also affect water quality, as large volumes of water can transport contaminants into water bodies and overload storm/wastewater systems. Additionally, large increases in water volume can cause water body erosion and loss of aquatic habitat. Flooding can also cause economic loss to people and government due to the destruction of property and/or infrastructure. Flood events may be particularly destructive when they create conditions conducive to geologic hazards including landslides or debris flows.

4.8.2 Location/Extent

Floods generally impact areas surrounding streams and rivers, natural drainage channels, low-lying areas, storm drains, culverts and urban areas with inadequate stormwater drainage. The Los Angeles River and the Rio Hondo, a tributary of the Los Angeles River, are the only major water features within the City. These waterways run south through the City of South Gate, entering from the northeast and converging before exiting south alongside I-710. The Los Angeles River and the Rio Honda are the only areas within the City that are identified as FEMA flood zones; refer to Exhibit 4-4, *FEMA Flood Zones*. FEMA flood maps indicate that the Los Angeles River and Rio Hondo are within the 100-year floodplain with a 1% chance of annual flooding (also referenced as Zone A). However, both of these waterways have been channelized and paved to manage stormwater and prevent flooding. Based on the FEMA flood maps, flooding from significant storms would be contained by the Los Angeles River and Rio Hondo channels. No other areas within the City are included in the mapped flood hazard zones, indicating a low risk of flooding throughout the City.

Localized flooding can occur outside of mapped flood hazard zones. In urban areas, localized flooding may impact low-lying areas, storm drains, culverts, and streets with inadequate stormwater capacity or damaged stormwater drainage features. Localized flooding occasionally impacts areas throughout the City of South Gate due to drainage issues. Specific areas of concern for localized flooding have not been identified throughout the City.

The extent of flooding is determined by percent annual chance of flood, or the percent chance in any given year that the location will be flooded. Flood zones are classified as 1 in 100 (one percent) or high risk, and 1 in 500 (0.2 percent) or moderate risk of flooding.[27] These flood zones are also referred to as the 100-year flood and 500-year flood zones respectively. Areas having a chance of less than 0.2 percent are classified as low risk areas; refer to Table 4-9, *Flood Zone Definitions*. Floods are measured by stream gages that are installed in bodies of water near populated areas. They are installed and operated by the United States Geological Survey (USGS) and continuously monitor water levels.

[27] FEMA, *FEMA Flood Maps and Zones Explained,* https://www.fema.gov/blog/fema-flood-maps-and-zones-explained, accessed March 12, 2024.

THE CITY OF SOUTH GATE

Legend

- Critical Facility
- South Gate City Limit

Flood Zone

- A
- AH

Exhibit 4-4
FEMA Flood Zones

November 8, 2023

Coordinate System: California State Plane - Zone 6

Source: FEMA 2021

N

0 0.3 0.6 1.2 Miles

Table 4-9
Flood Zones Definitions

Zone	Risk
Floodplain – 100-year flood zone (A, AE, AH, AO, VE)	1% annual flood risk
Floodway – 100-year flood zone (AE)	1% annual flood risk
500-year flood zone	0.2% annual flood risk
Area with reduced flood risk due to levee	Reduced flood risk

Source: FEMA, *FEMA Flood Maps and Zones Explained,* https://www.fema.gov/blog/fema-flood-maps-and-zones-explained, accessed March 12, 2024.

The magnitude and severity of flooding depends on the duration and quantity of rainfall, as well as many other factors related to the topography of the watershed and runoff conditions. Heavy rainfall events are typically correlated with high intensity, short duration runoff events. Floods usually occur during the season of highest precipitation events; in southern California the rainy season is between December and March. Heavy rain after long dry spells may also result in more severe floods. Given the topography of the City of South Gate and the stormwater capacity of the Los Angeles River and Rio Hondo channels, the magnitude and severity of flooding throughout the City would likely be mild.

4.8.3 Previous Occurrences

Floods are among the three most common types of disaster in California. According to the SHMP, there have been 34 state-proclaimed flood emergencies and 15 federally declared flood disasters in California from 1992 to February 2018. Of the 15 federally declared floods, Los Angeles County was impacted by 10 of the disasters.

Los Angeles County had 34 state and federal declared flood disasters from 1950 to February 2018, tied with San Bernadino County for the highest amount of flood disasters in California for this period. Historically, flooding in the Los Angeles area primarily occurred around the Los Angeles River, which runs through the City. The Los Angeles River and Rio Hondo are the main waterways in the City, which run south through the City from the northeast before converging and exiting the boundaries of South Gate along the I-710.

Los Angeles floods in the early 20th century triggered major civil engineering efforts to construct regional stormwater drainage systems, channelizing major waterways including the Los Angeles River and Rio Hondo within the City. The Los Angeles River and Rio Hondo were channelized, straightened, and deepened from the 1930s through the 1950s to control flooding. While local and regional drainage systems have decreased the frequency and likelihood of major flooding, risk for future flooding still exists.

Significant flooding has occurred historically in the wider Los Angeles area. Los Angeles County has one of the highest amount of flood disasters in California. In the 1800s and early 1900s, South Gate and other communities along the Los Angeles River were subject to frequent and often significant flooding. Major floods along the Los Angeles River and Rio Hondo in 1914 and 1938 caused significant damages throughout the Los Angeles area. These floods also resulted in widespread flood control efforts along the Los Angeles

River and its tributaries. In response to significant flooding, the Los Angeles River and other waterways in the area have since been channelized.

The City has been relatively free of major flood events in previous years, although small-scale flooding has occurred during intense precipitation. The City has experienced localized flooding throughout the planning area during heavy precipitation events. Most recently, heavy precipitation events during the winters of 2022 – 2023 and 2023 – 2024 resulted in instances of localized flooding. No specific flooding impacts occurred at critical facilities. While the planning area was included in several NOAA issued flood-watch and flood warnings, local storm drain infrastructure, including the Los Angeles River and Rio Hondo accommodated the increased precipitation.

Several federally declared flood disasters have occurred within the planning area since the adoption of the previous LHMP. A list of federally declared flood disasters is included below; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area* for further details regarding specific impacts (if any) to the City of South Gate.

- DR 4305, Severe Winter Storms, Flooding and Mudslides in California – March 16, 2017
- DR 3591, California Severe Winter Storms, Flooding and Mudslides – January 9, 2023
- DR 4683, California Severe Winter Storms, Flooding, Landslides, and Mudslides – January 14, 2023
- DR 3592, California Severe Winter Storms, Flooding, Landslides, and Mudslides – March 10, 2023

4.8.4 Probability of Future Occurrences

Southern California and the City of South Gate typically receive the most rainfall between December and March. Particularly rainy seasons, which are known to recur throughout southern California, may result in localized flooding throughout the City. South Gate has established stormwater management projects to mitigate flooding within the City. The Urban Orchard Project proposes a 30-acre passive park along the Los Angeles River and is underway at the time of this writing. The park aims to divert and treat stormwater run-off through passive features such as a community orchard, a constructed wetland, and native landscaping. [28]

Based on the capacity of existing stormwater facilities and the planned Urban Orchard Project, there is a medium probability of flooding occurring in the City of South Gate. Additionally, the majority of the City is located outside of any designated flood hazard zone, indicating a low probability of significant flood events. Localized flooding may occur, however, identifying target areas and drainage insufficiencies will lead to improvements

[28] City of South Gate, *Urban Orchard Project*, https://www.cityofsouthgate.org/Government/Departments/Public-Works/Capital-Improvement-Program-Projects/Urban-Orchard-Project, accessed May 23, 2023.

that can substantially decrease the probability of future localized flooding within the community.

4.8.5 Climate Change Considerations

Climate change is likely to have a direct effect on flooding. According to research conducted by the University of California, Los Angeles, California will experience extremely wet and extremely dry seasons by the end of the century. It is predicted that "over the next 40 years, the State will be 300 to 400 percent more likely to have a prolonged storm sequence as severe as the one that caused the legendary California flood more than 150 years ago."[29]

This research team confirmed the recent findings from a New York Times article titled "The Coming California Megastorm," predicting a future superstorm exacerbated by climate change. A warmer climate can carry atmospheric rivers in rapid succession to California, testing the capacity of dams and flood control infrastructure. The risk of a month-long megastorm as modeled and visualized by this article has a one in 50 chance of occurring annually. If global temperatures continue to climb, the likelihood of such a storm could increase to one in 30.[30] Thus, flood considerations should continue to remain a mitigation priority into the future.

4.8.6 Vulnerability Assessment

As shown in Exhibit 4-4, only the Los Angeles River and Rio Hondo channels are located in the mapped flood zone. As such, transportation bridges over the Los Angeles River and Rio Hondo channel, are the only critical facilities identified as vulnerable; refer to Table 4-10, *Critical Facilities in a Flood Hazard Zone*.

Table 4-10
Critical Facilities in a Flood Hazard Zone

Map ID	Name	Asset Type	Total Loss Potential
53	Bridge Number 53 0828 (I-710 over the LA River)	Transportation - Bridge	$60,420,000.00 (1)
59	Bridge Number 53C0166 (Southern Ave over Rio Hondo)	Transportation - Bridge	$11,448,000.00(1)
60	Bridge Number 53C0649 (Garfield Ave over Rio Hondo)	Transportation - Bridge	$13,356,000.00(1)
61	Bridge Number 53C0844 (Imperial Hwy over the LA River)	Transportation - Bridge	$27,348,000.00(1)
62	Bridge Number 53C1972 (Firestone Blvd over the LA River)	Transportation - Bridge	$36,252,000.00(1)
63	Bridge Number 53C1973 (Firestone Blvd over Rio Hondo)	Transportation - Bridge	$31,164,000.00(1)
[1] Replacement values generated using FEMA HAZUS estimations (HAZUS 6.0 Inventory Technical Manual).			

Significant flood events could result in inundation or damage to the bridges identified above. Damaged bridges may result in hindered transportation, access and evacuations, although, alternative routes would likely be available during flood events. Additionally,

[29] UCLA Newsroom, *Study forecasts a severe climate future for California*, https://newsroom.ucla.edu/releases/california-extreme-climate-future-ucla-study, accessed July 12, 2023.
[30] New York Times, *The Coming California Megastorm*, https://www.nytimes.com/interactive/2022/08/12/climate/california-rain-storm.html, published August 12, 2022, accessed July 12, 2023.

flooded or damaged bridges may hinder access to other critical facilities throughout the City.

Approximately 10,205 square feet of non-residential structures are located within a flood hazard zone. No residential units are located within a FEMA designated flood hazard zone; therefore, it is understood that no individuals reside in a flood hazard zone.

FEMA National Flood Hazard Maps account for areas susceptible to major or regional flooding; these hazard maps do not account for localized flooding incidents that could impact the City on a smaller scale. Localized floods could impede access to critical facilities, create impassable conditions for first responders, or damage/destroy structures. Access challenges can delay proper life safety response and increase the severity of impacts, depending on the location and extent of the flood. A significant rain event may result in localized flooding outside of mapped flood zones that may impact the City's ability to respond or evacuate.

As discussed in Section 3.6, the population within the planning area has decreased during the last five years, representing a population decline of 2.1 percent. The previous 2018 LHMP identifies 944 residents living within the 100-year flood zone. Estimates produced as part of this LHMP identify zero residential structures within the 100-year flood zone, and therefore overall vulnerability has decreased within the City. This change in vulnerability is likely related to updated data and improved GIS mapping, and not related to substantially changing population patterns, land use or development.

At the time of this LHMP preparation, the City anticipates future residential development and redevelopment within the planning area, as outlined in the recently adopted Housing Element. Due to the City's Floodplain Management Ordinance, it is unlikely that additional housing units or critical facilities will be constructed within the mapped 100-year flood zone. At this time, no proposed projects under the purview of the City are expected to substantially increase flood vulnerability. Future construction would be subject to the latest City Building and Safety Code and Floodplain Management Ordinance, including requirements that would decrease vulnerability associated with flood risk. Therefore, no substantial changes in vulnerability are anticipated due to changing land use patterns or development.

4.8.7 SVP Vulnerability and Risk Assessment

There are no SVPs and other high-risk individuals located throughout the mapped flood zone within the City. However, localized flooding could potentially impact SVPs throughout the entire City. Emergency communication and alerts in the case of human-caused hazards should consider cultural competence, including consideration for minority populations and individuals with limited English proficiency. Additionally, considerations for overcrowded households may be required as densely populated and overcrowded housing units put more individuals at risk to flooding. Mitigation Actions #2, #4, #6, and #7 include considerations for improved public awareness and safety campaigns, with

consideration for linguistic isolation and densely populated or overcrowded households. Additional mitigation actions categorized as "All Hazard" efforts include improvements to public outreach and emergency communication, that would directly benefit SVPs across the community in the case of localized flooding or a significant flood event.

4.9 Severe Weather

4.9.1 Description

Severe weather can be defined as any destructive weather event with the potential to damage property or cause loss of life. While the definition for what constitutes severe weather is highly localized by jurisdiction, the following types of weather events are categorized as severe weather for the planning area:

- Heavy Rain and Hailstorm
- High Winds and Windstorm
- Tornadoes
- Power Outage

This hazard profile will discuss each of the above-mentioned hazards more specifically in the sub-sections below. Other weather and climate-related hazards, including flooding, drought, and extreme heat, are discussed in their respective sections.

Heavy Rain/Hailstorm

Heavy rains refer to events during which the amount of rainfall in a location substantially exceeds normal or typical rainfall conditions. Establishing a threshold to define periods of heavy rain varies greatly, depending on location and season. Heavy precipitation is not necessarily an indicator that the total amount of precipitation has increased, rather that precipitation is occurring in more intense events. Changes in the intensity of precipitation, coupled with changes in the interval between events, can affect overall precipitation totals.[31] One method for determining heavy rain events is to consider what percentage of a location's total annual precipitation has come from extreme, one-day events. Potential impacts of heavy rains include property damage, soil erosion, and increased flood risk (refer to Section 4.8, *Flood*). The contribution of heavy rains to other hazards has the potential to cause significant property damage and loss of life within the City of South Gate.

Hailstorms are another type of severe weather which may affect the City. Hail is a type of precipitation consisting of solid ice, which form when water droplets are forced back up into clouds by strong winds called updrafts. As the droplets rise, the air temperature drops below freezing, causing the drops to freeze and stick together. Eventually the weight of the hailstone becomes too heavy for the updraft to hold it up, and it falls to the surface.[32] Typically, hailstones range between 1 inch to 1.75 inches in diameter; at this size hail falls

[31] U.S. EPA, *Climate Change Indicators: Heavy Precipitation,* https://www.epa.gov/climate-indicators/climate-change-indicators-heavy-precipitation, accessed April 18, 2023.
[32] NOAA National Severe Storms Laboratory, *Severe Weather 101 – Hail*, https://www.nssl.noaa.gov/education/svrwx101/hail/, accessed March 14, 2024.

at a speeds between 25 and 40 miles per hour. Larger hailstones can be as many as 4 to 8 inches in diameter which can fall at over 100 miles per hour.

High Winds/Windstorm

High winds are defined as those that last longer than one hour and are greater than 39 miles per hour (mph) or for any length of time at greater than 57 mph. High winds that affect the City are usually the Santa Ana winds. Santa Ana winds push dry air from the inland deserts of California and the Southwest over the mountains that lie between these desert areas and coastal California. Santa Ana winds are created when high pressure over the high desert of the Great Basin region causes winds to blow from the east, toward the Pacific Ocean and the lower air pressure offshore. The phenomenon is most common during the cooler months, occurring from the fall through late spring (September through May), and is usually accompanied by warmer than average temperatures.[33]
Severe windstorms pose a significant risk to life and property by creating conditions that disrupt essential systems such as public utilities, telecommunications, and transportation routes. High winds can and do occasionally cause damage to homes and businesses. The winds are not considered major widespread threats to population and property, but do involve responses from emergency service crews. Severe windstorms can present a very destabilizing effect on the dry brush that covers local hillsides and wildland-urban interface areas and can increase wildfire threat. Destructive impacts to trees, power lines, and utility services also are associated with high winds. Falling trees can occasionally cause fatalities and serious structural damage while fallen power lines could cause widespread power outages and fire. These incidents are rare and localized.

Tornado

Tornadoes are rotating columns of air reaching from the ground's surface to a cloud, usually a thundercloud. The part of a tornado that is visible is the condensation funnel made up of water droplets, dust and debris.[34] The threat caused by tornadoes is due to very high wind speeds, which can directly damage objects and structures. Additionally, tornadoes can pick up heavy objects and smash them into other objects or buildings, causing further damage. Tornadoes can happen any time of year and any time of day, although they are more common during certain months for different parts of the country. Tornadoes are rare in Los Angeles County and California, but not unprecedented.

Power Outage

Power outages are a major secondary effect of severe weather events in the City. An outage could result in damaged power equipment or equipment failures and can affect multiple jurisdictions for hours. This type of event can range from a moderate event to a catastrophic regional event that may threaten human life, safety, and health, or interferences with vital services.

[33] NOAA National Weather Service, *Mountain and Valley Winds,* https://www.weather.gov/safety/wind-mountain-valley, accessed March 14, 2024.
[34] NOAA National Severe Storms Laboratory, *Severe Weather 101 – Tornadoes*, https://www.nssl.noaa.gov/education/svrwx101/tornadoes/, accessed March 14, 2024.

The City of South Gate receives electricity from Southern California Edison (SCE). During severe weather incidents such as high winds, extreme heat, or severe flooding, SCE may implement an operational practice called Public Safety Power Shutoffs (PSPS) to preemptively shut off power in high-risk areas during potentially dangerous conditions. This program is designed to proactively prevent SCE facilities from starting a wildfire in at-risk areas when winds and temperatures are high. Although, the City is not faced with the threat of wildfire, power outages may be triggered by severe weather and a PSPS in the surrounding area could impact the City of South Gate.

Strong Santa Ana winds, high temperatures, and low humidity are all severe weather conditions that could trigger a PSPS event. It is possible for extreme weather incidents outside of the City to trigger a PSPS that affects the service area (i.e., strong winds affecting regional infrastructure that powers SCE grids in Los Angeles County). The frequency of these events depends on the weather and environmental factors, and SCE makes decisions based on internal threat thresholds, assessment of real-time information, and situational awareness data. When possible, SCE notifies customers prior to a PSPS event. When weather forecasts indicate extreme fire conditions, SCE begins predictive modeling to assess the potential impacts while monitoring weather watch alerts from the National Weather Service. Three days prior to the forecasted PSPS, SCE would coordinate first with local governments, the emergency management community, first responders, and other critical infrastructure/service providers. Two days prior to the forecasted PSPS, notices would go out to SCE customers with a follow-up one day before a notice of power shut off. It is noted that actual or sudden onset of extreme weather conditions could impact the intended coordination and notification efforts.[35]

Outside of the PSPS events, there is the potential for unplanned power outages to occur within the City of South Gate. SCE defines a major outage as a large, unexpected outage caused by either accidents or natural disasters. While uncommon, loss of electrical power is a potential secondary effect of heavy rains, hail, tornadoes or strong winds. A mechanical power failure due to aging equipment is also a possibility.

4.9.2 Location/Extent

Heavy Rain/Hailstorm

When heavy rains or hailstorms occur, the entire City is susceptible to negative impacts. Generally, areas identified by FEMA as a floodplain are more likely to experience flooding impacts during severe heavy rains. Localized flooding may also occur outside of FEMA identified flood zones, due to inadequate, damaged or clogged stormwater infrastructure.

Hail tends to occur throughout the United States with the most hailstorms happening in the Midwest. However, with air temperatures dropping occasionally below freezing point during thunderstorms, the City of South Gate can receive hailstorms during the cold winter months. Hailstorms and heavy rains are regional events that could potentially impact any and all areas within the City.

[35] Southern California Edison, *Public Safety Power Shutoff*, https://www.sce.com/wildfire/psps, accessed April 18, 2023.

The magnitude and severity of heavy rains and hailstorms can vary due to the duration and intensity of each event. The most severe heavy rain events in the planning area have resulted in localized flooding, downed tree limbs/power lines, and limited power outages. Regionally, severe heavy rain events across the Los Angeles Metropolitan Area have resulted in substantial property damage, injuries and even death.

Hailstorms can also cause localized flooding; however, the main concern is physical damage to buildings, homes, cars, and people. The size of hailstones varies greatly, but small stones are typically less than an inch, and severe hailstones are between 1 inch and up to 4 inches or more. Most hailstorms are made up of a mix of different sizes, and larger hailstones pose serious risk to people and property caught in the open. The size of hailstones also affects the speed at which they fall, with larger hailstones falling significantly faster than smaller stones. Damage caused by hailstorms depends on the duration of the event, the size of the hail, and other factors of the storm. Severe hailstorms, especially if coupled with significant winds, can damage buildings, tear up siding on houses, break windows, damage vehicles and cause severe injury or death to people and animals.[36]

High Winds/Windstorm

Generally, the Santa Ana winds blow westward through the canyons and into the coastal areas of southern California, including the City of South Gate. While the City is not positioned in direct relation to mountains or canyons, Santa Ana winds broadly affect the Los Angeles area.[37] Specific neighborhoods in the City are not more vulnerable to Santa Ana winds due to geography or topography, thus high winds and windstorms could potentially impact the entirety of the City. High winds can directly damage property and may down trees and tree limbs indirectly damaging property or causing injury to people. High winds may also down power lines causing power outages or other damages. Table 4-11, *Beaufort Scale*, relates wind speed to observed conditions and is used to measure the intensity of wind events up to 74 miles per hour.

The Beaufort Scale shows that structural damages begin to occur at or above 39 mile per hour winds. Hurricane winds occur above 73 miles per hour and can cause significant damage. The severity and magnitude of hurricane winds are measured using the Saffir-Simpson Hurricane Wind Scale. Although hurricane events are not typical within the planning area, the scale can be used to measure strong winds that are not associated with a hurricane event. The scale uses measurements in pressure, wind speed, and damage potential to identify the types of damage associated with sustained wind events; refer to Table 4-12, *Saffir-Simpson Hurricane Wind Scale*. The specific magnitude, severity and actual impacts from a Santa Ana wind events can vary greatly due to the sustained windspeed and duration of the event.

[36] NOAA National Severe Storms Laboratory, *Severe Weather 101 – Hail*, https://www.nssl.noaa.gov/education/svrwx101/hail/, accessed March 14, 2024.
[37] City of Los Angeles, *2018 local Hazard Mitigation Plan*, January 2018.

Table 4-11
Beaufort Scale

Beaufort Scale	Wind Speed	Description
0: Calm	Less than 1 mph	Smoke rises vertically.
1: Light air	1 to 3 mph	Direction shown by smoke drift but not by wind vanes.
2: Light breeze	4 to 7 mph	Wind felt on face; leaves rustle; wind vane moved by wind.
3: Gentle breeze	8 to 12 mph	Leaves and small twigs in constant motion; light flags extended.
4: Moderate breeze	13 to 18 mph	Raises dust and loose paper; small branches moved.
5: Fresh breeze	19 to 24 mph	Small trees in leaf begin to sway; crested wavelets form on inland waters.
6: Strong breeze	25 to 31 mph	Large branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty.
7: Near gale	32 to 38 mph	Whole trees in motion; inconvenience felt when walking against the wind.
8: Gale	39 to 46 mph	Twigs break off trees; generally impedes progress.
9: Strong gale	47 to 54 mph	Slight structural damage (chimney pots and slates removed).
10: Storm	55 to 63 mph	Seldom experienced inland; trees uprooted; considerable structural damage.
11: Violent storm	64 to 72 mph	Very rarely experienced; accompanied by widespread damage.
12: Hurricane	73 mph and above	Devastation.

Source: National Weather Service, *Beaufort Wind Scale*, https://www.weather.gov/mfl/beaufort, accessed March 14, 2024.

Table 4-12
Saffir-Simpson Hurricane Wind Scale

Category	Sustained Wind Speed	Description of Damage
1	74–95 mph	**Very dangerous winds will produce some damage:** Well-constructed frame homes could have damage to roof, shingles, vinyl siding, and gutters. Large branches of trees will snap, and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96–110 mph	**Extremely dangerous winds will cause extensive damage:** Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3	111–129 mph	**Devastating damage:** Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4	130–156 mph	**Catastrophic damage:** Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5	157 mph or higher	**Catastrophic damage:** A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

Source: National Hurricane Center, *Saffir-Simpson Hurricane Wind Scale*, https://www.nhc.noaa.gov/aboutsshws.php, accessed April 21, 2023.

Tornado

While California has tornadoes, such storms represent a relatively low risk compared to areas in the Midwestern and Southern United States. However, the south coastal region of California has the greatest incidence of tornadoes in the State.[38] Specific neighborhoods in the City of South Gate are not more vulnerable to tornadoes due to geography or topography, and a tornado could form anywhere within the planning area.

The magnitude and severity of tornado impacts can vary on location, wind speed, and duration of the event. Tornadoes are categorized using the Enhanced Fujita Scale or EF Scale based on estimated wind speeds and related damage. The EF Scale replaced the original Fujita Scale in 2007 to better categorize tornadoes by more closely estimating wind speeds based on associated storm damage. Refer to Table 13, *Enhanced Fujita Tornado Scale*, which shows the EF Rating and associated wind speeds for tornadoes.

Table 4-13
Enhanced Fujita Tornado Scale

EF Rating	3 Second Gust
0	65-85 mph
1	86-110 mph
2	111-135 mph
3	136-165 mph
4	166-200 mph
5	Over 200 mph

Note: The EF scale still is a set of wind estimates (not measurements) based on damage. It uses three-second gusts estimated at the point of damage based on damage indicators. These estimates vary with height and exposure.
Important: The 3 second gust is not the same wind as in standard surface observations. Standard measurements are taken by weather stations in open exposures, using a directly measured, "one minute mile" speed.
Source: NOAA/National Weather Service, *The Enhanced Fujita Scale (EF Scale)*, https://www.weather.gov/oun/efscale, accessed February 6, 2024.

Historically, tornadoes in Los Angeles County remain at the EF0 category and rarely exceed into the EF1 tornado category. Despite tornadoes in the Los Angeles area being low in intensity and short-lived, the frequency of occurrences and density of the Los Angeles urban area makes tornadoes a relevant hazard for the City of South Gate. Wind speeds in tornadoes range from below that of hurricane speeds to more than 300 miles per hour. The maximum winds are often confined to very small areas and vary substantially over very short distances, even within the tornado funnel. Tornadoes can occur throughout the year at any time of day but are most frequent from November through March, specifically in the spring during the late afternoon. Tornadoes may result in property damage, agricultural and landscape destruction, injuries, and even deaths.

Power Outage

SCE designates High Fire Risk Areas as areas with circuits within California Public Utilities Commission's (CPUC) Tier 2 (elevated risk) and Tier 3 (extreme risk) Fire Threat Areas. The CPUC Fire-Threat Map was developed with input from the U.S. Forest Service, California Department of Forestry and Fire Protection, and the State's investor-

[38] City of Los Angeles, *2018 Local Hazard Mitigation Plan*, January 2018.

owned utilities, including SCE. SCE uses their own thresholds prior to initiating a PSPS event. When evaluating weather and environmental conditions, SCE considers a variety of factors which include but are not limited to:

- National Weather Service Red Flag Warnings;
- SCE meteorological assessments;
- SCE Fire Potential Index;
- SCE Fire Scientist assessments;
- Real-time situational awareness information;
- SCE Fire Management/Office of Emergency Management input;
- Concerns from local or State fire authorities;
- Mandatory or voluntary evacuation orders in place;
- Expected impact of de-energizing circuits on essential services (including public safety agencies, water pumps, traffic controls, etc.); and
- Other operational considerations to minimize wildfire ignitions.

The magnitude or extent of impacts to the City would depend on the duration of the outage and the size of the impacted area. Prolonged or widescale power shutoffs across the City or Los Angeles region could significantly disrupt City operations and emergency response.

4.9.3 Previous Occurrences

Heavy Rain/Hailstorm

The City of South Gate and the surrounding Los Angeles area has a history of heavy rain during the wet season, and sometimes significant impacts. The rainy season in the City of South Gate traditionally occurs between November and April; although, severe rains have occurred during other times of the year.[39] The most significant storms in the area occurred in the first half of the 20th century before major rivers throughout Los Angeles were channelized. For five days from February to March of 1938, at least a foot of rain drenched most of Southern California.[40] The heavy storm rains caused all the region's rivers to flood, resulting in an estimated $1 billion (current-day value) in damages. Los Angeles experienced heavy destruction from the rains and floods, and fear of future overflow spawned flood control measures to be put in place along the Los Angeles River and Rio Honda during the subsequent decades. The Los Angeles River and Rio Hondo were channelized, straightened, and deepened from the 1930s through the 1950s to control flooding.

Most recently, between December 2022 to March 2023, the City experienced an unusually rainy winter due to a series of several storms fueled by an atmospheric river over the Pacific Ocean. Los Angeles received over 28 total inches of rainfall over the 2022/2023 season (July 1 to June 30) – over 13 inches above the overall season

[39] USA Facts, *Climate in Los Angeles County, California*, https://usafacts.org/issues/climate/state/california/county/los-angeles-county#climate , accessed May 4, 2023.
[40] LA Times, *How the deluge of 1938 changed Los Angeles – and its river*, https://www.latimes.com/california/story/2023-02-28/explaining-l-a-with-patt-morrison-the-legacy-of-the-1938-los-angeles-flood, published February 28, 2023, accessed May 4, 2023.

average.[41] No specific damage or losses were reported by the City other than localized flooding due to overwhelmed local storm drainage infrastructure. Heavy precipitation events occurred again during the 2023 – 2024 winter, which also resulted in instances of localized flooding. No specific flooding impacts occurred at critical facilities.

Hail is a relatively uncommon event in the Los Angeles region, and do not usually cause damages. However, a few rare significant hail events with impacts in the area have occurred.

- In 1960, hail 2.75 inches in diameter fell in Riverside County, the largest size hail to hit Southern California.
- In 1986, a series of thunderstorms created hail that caused traffic accidents in Pasadena and caused classes to be cancelled at California State University, Northridge.
- In November 2003, a freak storm hit Los Angeles and deposited more than a foot of hail in some areas of the city.[42]
- A 2008 hailstorm in the San Jacinto Mountains injured two people and forced a helicopter to make an emergency landing.
- Amid a winter storm in February of 2023, pea-sized hail fell across Los Angeles and Orange Counties. Approximately an inch of hail accumulated in Pasadena.[43] Pea-sized hail fell across the two counties again in February 2023, with hail being reported in Pasadena and Long Beach and on the sand at a Santa Monica beach.[44]

The City of South Gate has experienced minor impacts from hail and hailstorms in the past, however, these events have been rare and do not typically result in significant damages to buildings and property, nor do they cause injuries to residents.

Several federally declared heavy rain disasters have occurred within the planning area since the adoption of the previous LHMP. A list of federally declared heavy rain disasters is included below; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area* for further details regarding specific impacts (if any) to the City of South Gate.

- DR 4305, Severe Winter Storms, Flooding and Mudslides in California – March 16, 2017
- DR 3591, California Severe Winter Storms, Flooding and Mudslides – January 9, 2023
- DR 4683, California Severe Winter Storms, Flooding, Landslides, and Mudslides – January 14, 2023
- DR 3592, California Severe Winter Storms, Flooding, Landslides, and Mudslides – March 10, 2023

[41] Los Angeles Almanac, *Total Seasonal Rainfall (Precipitation) vs. Historical Seasonal Average*, Total Seasonal Rainfall 1877-Present for Downtown Los Angeles, California (laalmanac.com), accessed March 15, 2024.
[42] The New York Times, *Freak Storm Leaves Los Angeles Under a Foot of Hail*, https://www.nytimes.com/2003/11/13/national/freak-storm-leaves-los-angeles-under-a-foot-of-hail.html, published November 13, 2003, accessed May 18, 2023.
[43] OC Register, *Southern California gets rain, hail, lightning and "thundersnow"*, https://www.ocregister.com/2022/02/15/southern-california-gets-rain-hail-lightning-and-thundersnow/, published February 15, 2022, accessed May 18, 2023.
[44] ABC7, *Hail storm moves in through parts of SoCal as brunt of powerful system still ahead*, https://abc7.com/hail-storm-los-angeles-beaches-california-winter-why-does-it-instead-of-snow/12868241/, published February 23, 2023, accessed May 18, 2023.

High Winds/Windstorm

Santa Ana winds occur annually between October and March in the City and surrounding Los Angeles area, with winds at varying speeds and frequencies. Santa Ana wind events have toppled trees and knocked out power multiple times in the region in recent years. In November and December of 2011, Santa Ana winds throughout southern California damaged buildings and over 200,000 people without power.[45] These were some of the strongest winds recorded for the area. More recently, the City and the surrounding Los Angeles area experienced strong winds accompanying the heavy rains experienced during the 2022 – 2023 rainy season. Additionally, strong Santa Ana winds have impacted areas of Los Angeles into 2024, causing downed trees and power outages. Generally, the City receives less significant Santa Ana winds compared to other areas in Los Angeles County, such as the Santa Monica Mountains, Santa Clarita Valley, or San Gabriel Valley. Typically, the City experiences minor damages associated with strong winds, including downed tree limbs and power outage as a secondary effect.

No federally declared disasters relating to windstorms have occurred including the planning area within the last five years; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area*.

Tornado

Tornadoes are most common in the Great Plains and Midwest regions of the United States, between the Rocky and Appalachian Mountain ranges. However, tornado events can occur in all parts of the United States, including California. The state has seen two F3 tornadoes in recorded history: one in Riverside County in 1973, and one in Orange County in 1978 that injured three people. There have only been three F2 tornadoes reported for Los Angeles County since 1970. The most recent event occurred on March 1, 1983: the tornado touched down in south-central Los Angeles which resulted in $25 million in damages, including damage to 50 homes and 7 businesses and 30 injuries.

The south coastal region of California, including the Los Angeles Basin, has the greatest incidence of tornadoes in the state. From 1970 to April 2023, Los Angeles County experienced 37 confirmed tornadoes.[46] The majority of these tornadoes were assigned a F0 magnitude (refer to Table 4-13). None of these tornado events occurred within South Gate, but, in 2004, a weak tornado caused minor damage to trees and rooftops in nearby Inglewood. The cause of many, if not most, of the Los Angeles Basin tornadoes seem to be linked to the terrain layout of the basin. Tornadoes in the Los Angeles Basin are typically less severe than those in other parts of the country.

There is no record of a tornado-caused fatality in Los Angeles nor has there been a State emergency or federal disaster as the result of a tornado. No federally declared disasters relating to tornadoes have occurred including the planning area within the last five years;

[45] ABCNews, *Powerful Santa Ana Winds Blast Southern California*, https://abcnews.go.com/US/fierce-santa-ana-winds-hit-southern-california/story?id=15065048, access March 17, 2024.
[46] NOAA, *Storm Events Database*, https://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=6,CALIFORNIA, accessed May 18, 2023.

refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area*.

Power Outage

There have been various power outages throughout Los Angeles due to severe weather and PSPS in the past. Power outages can be caused by different severe weather events including heavy rains high winds. However, the City has never experienced a citywide power outage due to severe weather or an SCE PSPS. One of the most significant power outages of recent history occurred in the area following Santa Ana winds in November, 2011. This event left over 200,000 people in Los Angeles without power. More recently, in November 2021, SCE announced a PSPS in the region due to gusting Santa Ana winds and low humidity. At least 6,882 customers in Los Angeles County outside of the planning rea lost power.[47] During heavy rains and storm conditions in February 2023, thousands of LADWP and SCE customers lost power; up to 78,000 LADWP customers were without power at one point and nearly 8,000 SCE customers in the County.[48] Despite rare instances of large-scale outages, short-term power losses have primarily occurred as isolated incidents, without major impacts to the City.

No federally declared disasters relating to power outages have occurred including the planning area within the last five years; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area*.

4.9.4 Probability of Future Occurrences

Heavy Rain/Hailstorm

Based on previous occurrences and weather trends in the City of South Gate and Los Angeles County, there is a medium probability that storms and heavy rains will continue to occur in the City.

Hailstorms are expected to remain a more uncommon event, and ones capable of causing substantial damage are still likely to be more uncommon.

High Winds/Windstorm

High winds, including Santa Ana wind events, are expected to continue to be the primary type of severe weather in the City. Given the severity of these events and the frequency at which they occur, most damage associated with severe weather is likely to be the result of high winds including downed trees and tree limbs and power outages.

[47] The Press-Enterprise, *Thousands lose power in Southern California because of wildfire worries*, https://www.pressenterprise.com/2021/11/24/dry-weather-high-winds-on-thanksgiving-day-raise-threat-of-wildfire-spread/, published November 24, 2021, accessed April 21, 2023.

[48] LAist, *Thousands remain without power, dozens of roads closed including Grapevine overnight*, https://laist.com/news/climate-environment/forecasters-say-the-heaviest-rain-is-behind-us-but-power-outages-and-closed-roads-are-still-very-much-here, published February 25, 2023, accessed April 21, 2023.

Tornado

While rare, tornadoes have historically occurred within Los Angeles County. It is assumed tornadoes will continue to infrequently occur, with a probability of future occurrences in the planning area is considered low.

Power Outage

The probability of power outages as a secondary impact is considered medium, based on the continued Santa Ana wind and other severe weather conditions in the southern California region.

4.9.5 Climate Change Considerations

Heavy Rain/Hailstorm

Climate change will affect the frequency and intensity of heavy rain and events and hailstorms. Heavy rain and hailstorms are associated with colder weather, whereas climate change is typified by increasing global temperatures. However, as global temperatures increase on average the amount of moisture in the air will increase; this leads to more severe storms including winter storms. According to research conducted by UCLA, California will experience both extremely wet and extremely dry seasons by the end of the century. Climate scientists predict that "over the next 40 years, the State will be 300 to 400 percent more likely to have a prolonged storm sequence as severe as the one that caused the legendary California flood more than 150 years ago."[49] This will likely increase secondary effects, such as flooding, erosion, or power outages.

High Winds/Windstorm

It is anticipated that climate change will alter wind patterns and windstorm development. However, climate change may exacerbate some contributing factors of high winds and mitigate other contributing factors. As global temperatures and moisture in the air rise, there may be more frequent and severe tropical storms and hurricanes which bring high winds. Alternatively, increases in global temperatures, and particularly ocean temperatures, may result in a smaller temperature differences between geographic regions leading to less intense winds. Santa Ana winds in particular are driven by the sharp pressure difference, or gradient, between the Great Basin and the Pacific Ocean off the California coast. As global temperatures increase, some climate scientists anticipate the gradient between the Great Basin and the Pacific to decrease resulting in less intense winds.[50]

The results of climate change on high winds and windstorms are not fully agreed upon. The impacts of climate change may make high winds and windstorms more common and more severe or less common and less severe depending on how rising global temperatures impact the various factors that lead to strong winds.

[49] Nature Climate Change, Vol. 8., *Increasing precipitation volatility in twenty-first-century California*. May 2018.
[50] Scripps Institution of Oceanography, *Climate Change May Suppress Santa Ana Winds, Particularly in Fall,* https://scripps.ucsd.edu/news/climate-change-may-suppress-santa-ana-winds-particularly-fall, accessed March 18, 2024.

Tornado

Scientists are uncertain how climate change will impact tornado occurrences.[51] However, the individual weather components, including moisture and wind shear, that can lead to the development of tornadoes are understood. As global temperatures rise, the atmosphere will hold more moisture thereby increasing atmospheric instability, but wind shear will likely decrease. These two forces counteract each other, making it difficult to predict how tornado formation may change.

Recent years have shown that tornado events are becoming more frequent. Research also suggests that the geographic patterns of tornadoes have shifted; fewer tornadoes are occurring in "Tornado Alley" while more tornadoes are beginning to occur in outlying states. Although there is a level of uncertainty in how climate change will impact tornadoes, it is understood that increasing global temperatures has the capability to increase or decrease the frequency and severity as well as the location of tornadoes.

Power Outage

SCE reports that increased power outages are directly related to climate change, and that Public Safety Power Shutoffs (PSPS) will become "the new normal during high fire/wind events". PSPS will become increasingly necessary to mitigate fire risk if increased severity and duration of extreme weather events continue to occur. Climate change may also increase the occurrence and severity of severe weather events that may cause power outages such as heavy rains, high winds and severe storms.

Additionally, climate change poses a heavily strain on the power grids in the coming decades. With the increase of severe weather such as heat waves, people will use more electricity for cooling which also increases the chances of blackouts and power disruptions. Increased temperatures not only alter how much electricity people consume, but also the efficiency of power generation.

4.9.6 Vulnerability Assessment

Severe weather includes heavy rains, hailstorms, high winds, windstorms (Santa Ana winds), tornadoes, and power outages as a secondary impact. These hazards are not location-specific and could impact the entire City of South Gate; therefore, all City critical facilities, infrastructure systems, structures, residents, and businesses are considered vulnerable to severe weather hazards. This would include the entire population of the City of Sonora (approximately 92,381 people).

Heavy rains, hail, windstorms, and tornadoes could cause direct damage to City buildings or infrastructure. The risks associated with severe weather include localized flooding, downed trees and power lines, damage to buildings and vehicles, and injury or harm to people. Generally, the impacts of severe weather in South Gate are not significant enough to damage critical facilities, substantially impact City operations or result in damage to

[51] National Geographic, *Tornadoes and Climate Change*, https://education.nationalgeographic.org/resource/tornadoes-and-climate-change/, updated May 19, 2022, accessed March 18, 2024.

personal property or injure individuals. Santa Ana wind events have been known to cause communication issues, which can disrupt technology infrastructure or result in response challenges. Heavy rains can result in physical access challenges to critical facilities if roads are flooded or otherwise unsafe for access. While rare, tornadoes can cause substantial damage depending on magnitude, location and duration. There is not a history of damages from tornadoes occurring within the City, and no previous impacts to City critical facilities.

Heavy rains, hails, windstorms, and tornadoes may result in power outages or power shutoffs. Power outages are more likely to occur during a severe weather event, primarily Santa Ana wind events. Proactive power outages are becoming more common from utility providers during predicted strong Santa Ana wind conditions due to the risk of wildfires. The associated power outages impact the City's ability to provide services and respond to emergencies. The City may need to rely on generators while SCE power is unavailable.

As discussed in Section 3.6, the population within the planning area has decreased during the last five years, representing a population decline of 2.1 percent. Therefore, the number of vulnerable individuals located within the planning area has decreased by the same percentage when compared to the previous 2018 LHMP. No major changes in land use or development occurred while the previously 2018 LHMP was active, that affected risk or vulnerability associated with severe weather hazards.

At the time of this LHMP preparation, the City anticipates future residential development and redevelopment within the planning area, as outlined in the recently adopted Housing Element. While it is unlikely that all planned residential growth will be constructed within the five-year period of this LHMP, the City anticipates some level of population growth to occur. As the entirety of the planning area would be vulnerable to severe weather hazards, any projected population growth within the City would increase the number of vulnerable individuals. At this time, no proposed projects under the purview of the City are expected to substantially increase severe weather vulnerability. Therefore, no substantial changes in vulnerability are anticipated due to changing land use patterns or development.

4.9.7 SVP Vulnerability and Risk Assessment

The location, extent and magnitude of severe weather hazards would apply to the entirety of the City, including Socially Vulnerable Populations (SVPs) and other high-risk individuals located throughout the City. SVPs and other high-risk individuals may need additional outreach and specialized communication to combat linguistic isolation or other awareness challenges. SVPs (particularly minority populations and limited English proficiency individuals) may be especially vulnerable during power outages and other severe weather events. These considerations were included in Section 5.0 as Mitigation Actions #2, #4, #6, #7, and #67.

4.10 Hazardous Materials Spills

4.10.1 Description

A hazardous material is a substance that, because of its quantity, concentration or physical or chemical composition, poses a significant present or potential hazard to human health and safety or to the environment if released. The term "release" means spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, unless permitted or authorized by a regulatory agency.[52] Hazardous materials can be in the form of explosives, flammable and combustible substances, poisons, and radioactive materials. Hazardous materials accidents can occur during production, storage, transportation, use, or disposal.[53]

Transportation accidents involving hazardous materials may pose a risk to people and property. Vehicles, trains, and (more rarely) aircraft are all used to transport these materials, and accidents involving these vehicles may involve the release of hazardous materials. Additionally, an unrelated disaster such as an earthquake or flood may damage storage tanks or pipes, causing the material to leak out. Even if buildings or containment structures suffer minimal damage, hazardous materials can be released. Accidents can also occur independently of other disasters, such as from human error or malfunctioning or broken equipment.

Potential impacts of a hazardous materials release can vary, depending on the type and amount of material released. Hazardous materials exposure can include the following effects: skin/eye irritation; difficulty breathing; headaches; nausea; behavior abnormalities; cancer; genetic mutations; physiological malfunctions (i.e., reproductive impairment, kidney failure); physical deformations; or birth defects.[54] Hazardous materials may also impact the environment and contaminate groundwater, soil, or air, which may result in further impacts to the local ecology, natural resources and people.

4.10.2 Location/Extent

Hazardous materials are generated, used, and stored by facilities throughout South Gate and in surrounding communities for a variety of purposes in service industries, businesses, schools, and households. Uses known to transport, store, use and/or dispose hazardous materials within the City involve construction, industry (both light and heavy), dry cleaning, landscaping, automotive maintenance and repair, and common residential/commercial maintenance activities. Some hazardous materials in South Gate are associated with low-risk, small-scale operations consistent with day-to-day activities. Additionally, hazardous materials are likely used in households throughout the City. Household hazardous materials are commonly found in paints, lawn and garden products, household cleaners, beauty products, medicine, automotive fluids and batteries.

[52] Health and Safety Code Division 20, Chapter 6.95, *Hazardous Materials Release Response Plans and Inventory*, Article 1.
[53] Department of Homeland Security, *Hazardous Materials Incidents*, https://www.ready.gov/hazardous-materials-incidents, accessed May 16, 2023.
[54] U.S. EPA, *Health and Ecological Hazards Caused by Hazardous Substances*, https://www.epa.gov/emergency-response/health-and-ecological-hazards-caused-hazardous-substances, accessed May 16, 2023.

Significant areas of light and heavy manufacturing are located within the City, but these are not major industry uses. There is a small pocket of light industry in the southwestern corner of the City, between Seminole Avenue and Wisconsin Avenue. Light ("Light Manufacturing") and heavy manufacturing ("Heavy Manufacturing") zones are consolidated in the northeastern and eastern portions of the City, according to the City Zoning Code. These areas include typical manufacturing uses such as automobile repair shops. Hazardous materials associated with these activities include various heavy metal and chemical wastes associated with vehicle maintenance.[55]

Hazardous materials are transported throughout California and Los Angeles County, primarily occurring along highways under the regulatory authority of the California Highway Patrol (CHP). Two freeways, the Interstate 710 and Interstate 105 traverse South Gate. The California Department of Transportation (CalTrans) operates both freeways. There is hazardous materials release risk in the event of traffic collisions. Disruption to a major freeway due to a hazardous materials release could result in significant safety and economic impacts to the region. The Union Pacific Railroad (UPRR) passes all the way through the eastern half of the City and has a track that follows along the western border of the City. In California, the railroad handles an array of commodities and is a hazardous materials transportation corridor. In 2022, the top five commodities shipped were intermodal-wholesale, auto parts, assembled autos, canned and paste, cement and miscellaneous mineral, and the top five commodities received were intermodal-wholesale, assembled autos, auto parts, grain, biofuels and sweeteners.[56]

The Department of Toxic Substances Control maintains the EnviroStor database, an online data management system for tracking cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known or suspected contamination issues. These locations have been mapped within the City of South Gate in Exhibit 4-5, *EnviroStor Hazardous Waste Sites*. Additionally, the California State Water Resources Control Board maintains the GeoTracker database, which is used to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks. Exhibit 4-6, *GeoTracker Hazardous Materials Cleanup Sites*, shows the leaking underground storage tanks (LUST) cleanup sites and other cleanup sites within the City. Many of the sites located in Exhibit 4-5 and Exhibit 4-6 are not confirmed hazardous materials release sites but may be investigations, evaluations or have already been corrected. As part of the vulnerability analysis for this LHMP, a 1,000-foot buffer zone was applied to each mapped site. The locations and critical facilities within the buffer zones are considered potentially vulnerable to hazardous materials release.

[55] U.S. EPA, *Typical Wastes Generated by Industry Sectors*, https://www.epa.gov/hwgenerators/typical-wastes-generated-industry-sectors#q13, accessed March 18, 2024.
[56] Union Pacific Railroad, *Union Pacific in California*, https://www.up.com/aboutup/usguide/index.htm, accessed May 17, 2023.

THE CITY OF SOUTH GATE

Legend

- Critical Facility
- South Gate City Limit

PROGRAM TYPE

- Federal Superfund
- State Response
- Voluntary Cleanup
- School Cleanup
- Evaluation
- School Investigation
- Military Evaluation
- Tierd Permit
- Corrective Action
- 1,000 Foot Buffer

Exhibit 4-5
EnviroStor Hazardous Waste Sites

November 8, 2023

Coordinate System: California State Plane - Zone 6

Source: State of California 2023

N

0 0.3 0.6 1.2 Miles

THE CITY OF SOUTH GATE

Legend

- Critical Facility
- South Gate City Limit

Geotracker Sites - Program

- LUST Cleanup
- Cleanup Program
- 1,000 Foot Buffer

Exhibit 4-6

GeoTracker Hazardous Materials Cleanup Sites

November 8, 2023

Coordinate System: California State Plane - Zone 6

Source: State of California 2023

N

0 0.3 0.6 1.2 Miles

The magnitude and severity would be dependent on the type of spill, location, and the extent to which hazardous materials are released. Hazardous materials can be flammable, radioactive, infectious, corrosive, toxic/poisonous, or otherwise reactive. For example, a radioactive material spill would have a much further-reaching extent when compared to a paint spill. Climate conditions can also affect the severity of hazardous materials spills. Heavy rains or winds could spread hazardous materials over a larger geographical area or create challenging cleanup conditions. Challenging cleanup conditions could allow for the contamination extent to grow. Additionally, natural hazards such as wildfires or earthquakes could cause hazardous materials releases as a secondary impact with requiring immediate response.

4.10.3 Previous Occurrences

The Comprehensive Environmental Response, Compensations, and Liability Act (CERCLA), Emergency Planning and Community Right-to-Know Act (EPCRA), and California law require responsible parties to report hazardous materials releases if certain criteria are met. All hazardous materials releases exceeding reportable quantities must be reported to the National Response Center. Spills reported within the last five years include petroleum (distillate oil, mineral oil, diesel, crude oil), vapor (unknown substance, natural gas), chemical (glycerin), and sewage. Spill amounts varied depending on the substance type but were generally categorized as minor spills with limited impacts on the community.[57] LACFD Health Haz-Mat is the administrative agency for reported spills within the City.

As shown in Exhibit 4-5 and Exhibit 4-6, there have been various confirmed and suspected hazardous materials incidents within the City of South Gate. The majority of historical hazardous materials releases in South Gate are relatively small in scale and are efficiently cleaned up. However, the City of South Gate has three Superfund sites within a quarter mile of each other south of Firestone Boulevard. A Superfund site is a location that has been contaminated by hazardous waste or other toxins, posing a threat to both the environment and human health. Superfund is a government funded environmental program to address hazardous waste sites. The three Superfund sites within the City are the Cooper Drum, Jervis B. Webb, and Southern Avenue Industrial Area, which are within a quarter mile of each other south of Firestone Boulevard.

There is no history of significant hazardous material-related emergency events in South Gate, although there have been a few substantial events in the vicinity. The 1994 Northridge earthquake led to over 15,000 natural gas leaks and 60 hazardous material releases that required an off-site response. More recently, an over pressurized piece of equipment at an oil refinery in Torrance caused an explosion that released particles of fiberglass and glass wool into the surrounding neighborhoods.

[57] California Governor's Office of Emergency Services, *Spill Release Reporting*, Spill Reporting Database https://www.caloes.ca.gov/office-of-the-director/operations/response-operations/fire-rescue/hazardous-materials/spill-release-reporting/, accessed May 17, 2023.

No federally declared disasters relating to hazardous materials release/spills have occurred including the City within the last five years; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area*.

4.10.4Probability of Future Occurrences

Hazardous materials use and transport throughout the planning area will continue into the future, and there is a moderate probability for future occurrences. Additionally, previously contaminated and potentially contaminated sites may continue to be a concern into the future.

The UPRR railways throughout the City and transportation of hazardous materials via the highways that pass through the City could be potential sources of hazardous material releases in the future. South Gate may also be at risk from sites previously contaminated with hazardous or potentially hazardous materials. However, many of these sites are closed and all cleanup activities have been completed. While some risk does remain, only a handful of sites are in a position that could result in hazardous materials release. Additionally, federal, State, and local governments implement applicable polices and regulations regarding the use, transport, storage, and disposal of hazardous materials in order to mitigate the risk of a hazardous materials release.

Both the federal government and the State require hazardous materials handling to be reported with the local Certified Unified Program Agency, a local agency certified by the California Environmental Protection Agency to implement and enforce hazardous materials management programs.[58] Many different industries handle hazardous materials as part of day-to-day operations, and each agency/company are responsible to follow policies and programs dictated by federal and State regulation to ensure that hazardous materials are not released. Because of the preventative action, the probability and likelihood for future hazardous materials spills is considered medium.

4.10.5 Climate Change Considerations

While climate change is not directly linked to the risk of hazardous material releases, it does pose an indirect risk. Climate change could cause an increase in destructive natural hazards in the City and surrounding region, and thus risk future hazardous materials spills. Climate change is expected to increase the number of intense storm events in and around South Gate, which may result in an increase in flooding and severe wind. Both types of events could damage hazardous material storage containers, increasing the risk of potential release. Further, hazardous materials releases during severe weather events could spread contamination to large geographic areas and amplify long-term impacts to human and ecological health. Spills or releases in challenging clean-up conditions can result in more severe damage or impacts compared to spills during normal conditions.

[58] Department of Toxic Substances Control, *Certified Unified Program Agencies (CUPA)*, https://dtsc.ca.gov/certified-unified-program-agencies-cupa/, accessed April 19, 2023.

4.10.6 Vulnerability Assessment

To identify the vulnerability of critical facilities, a 1,000-foot buffer zone was applied to each mapped hazardous materials site in Exhibit 4-5 and Exhibit 4-6. The locations and critical facilities within the 1,000-foot buffer zones are considered potentially vulnerable to hazardous materials release. Table 4-14, *South Gate Critical Facilities Located Adjacent to Hazardous Materials Sites*, identifies critical facility locations that could be exposed to hazardous materials releases. These locations only take into consideration the proximity to existing hazardous materials facilities and do not include potential exposure associated with the movement/transport of hazardous materials. This analysis considers the maximum vulnerability based on the assumption that all facilities within 1,000 feet of a hazardous materials facility would be impacted during a hazardous materials release/event. The actual vulnerability of hazardous materials would vary based on the location and magnitude of the event.

Table 4-14
South Gate Critical Facilities Located Adjacent to Hazardous Materials Sites

Map ID	Name	Asset Type	Total Loss Potential
3	L.A. County Fire Station #54	Government Building	$1,630,720.00 (1)
4	L.A. County Fire Station #57	Government Building	$1,630,720.00 (1)
5	Leland R Weaver Library	Government Building	Not Available
6	Parks & Recreation - Hollydale Community Resource Center	Government Building	$1,593,779.88 (2)
7	Parks & Recreation - South Gate Girls Clubhouse	Government Building	$3,395,818.88 (2)
8	Parks & Recreation - South Gate Golf Course	Government Building	$195,456.38 (2)
11	Public Works Corporate Yard	Government Building	$17,293,549.14 (2)
12	South Gate Park - Administration/Municipal Auditorium	Government Building	$7,409,329.70 (2)
14	AltaMed Medical and Dental Group	Health Care	$4,018,322.00(1)
15	Urgent Care South Gate and Brookdale Medical Center	Health Care	$3,182,041.00(1)
16	East Los Angeles College - South Gate Campus	Higher Education	$10,061,955.00(1)
17	Urban Orchard Project - Phase I	Park and Recreation	Not Available
18	Cesar Chavez Park	Parks and Recreation	$920,332.15 (2)
19	Circle Park	Parks and Recreation	$218,388.27 (2)
20	Gardendale Tot Lot	Parks and Recreation	$218,388.27 (2)
22	Parks Maintenance Yard	Parks and Recreation	$1,823,604.93 (2)
24	Triangle Park	Parks and Recreation	$231,879.05 (2)
26	St. Helen Elementary	Private School	Not listed in LAUSD LHMP
27	Aspire Academy Charter Elementary	Public School	Not listed in LAUSD LHMP
28	Bryson Avenue Elementary	Public School	$55,045,652.00 (3)
30	Independence Elementary	Public School	$59,605,646.00 (3)
31	KIPP Corazon Academy Elementary	Public School	Not listed in LAUSD LHMP
32	Legacy High School Complex	Public School	$143,991,551.00 (3)
33	Liberty Boulevard Elementary	Public School	$53,203,606.00 (3)
34	Madison Elementary	Public School	$54,182,887.00 (3)
35	Montara Avenue Elementary	Public School	$55,424,218.00 (3)

Table 4-14 (continued)
South Gate Critical Facilities Located Adjacent to Hazardous Materials Sites

Map ID	Name	Asset Type	Total Loss Potential
36	Odyssey Continuation School	Public School	Not listed in LAUSD LHMP
37	San Gabriel Avenue Elementary	Public School	$60,556,550.00 (3)
38	San Miguel Elementary	Public School	$71,152,920.00 (3)
40	South East High	Public School	$342,261,352.00 (3)
42	South Gate Senior High	Public School	$230,223,234.00 (3)
43	Southeast Middle	Public School	Not listed in LAUSD LHMP
44	Stanford Avenue Elementary	Public School	$50,295,994.00 (3)
45	Stanford Primary Center Elementary	Public School	$37,432,226.00 (3)
47	Tweedy Elementary	Public School	$66,084,050.00 (3)
48	Valiente College Preparatory Charter School	Public School	Not listed in LAUSD LHMP
50	Willow Elementary	Public School	$57,191,759.00 (3)
51	Azalea Shopping Center	Commercial with Surface Parking Lot	Not Available
52	El Paseo Shopping Center	Commercial with Surface Parking Lot	Not Available
53	Bridge Number 53 0828	Transportation - Bridge	$60,420,000.00 (1)
54	Bridge Number 53 0829	Transportation - Bridge	$6,105,600.00(1)
55	Bridge Number 53 0830	Transportation - Bridge	$6,105,600.00(1)
56	Bridge Number 53 0831	Transportation - Bridge	$13,691,808.00(1)
58	Bridge Number 53 2425	Transportation - Bridge	$24,168,000.00(1)
59	Bridge Number 53C0166	Transportation - Bridge	$11,448,000.00(1)
60	Bridge Number 53C0649	Transportation - Bridge	$13,356,000.00(1)
62	Bridge Number 53C1972	Transportation - Bridge	$36,252,000.00(1)

[1] Replacement values generated using FEMA HAZUS estimations (HAZUS 6.0 Inventory Technical Manual).
[2] Replacement values generated using previous LHMP with updated CPI applied.
[3] Replacement values generated using Los Angeles Unified School District 2018 LHMP.

As mentioned, hazardous materials exposure can include various health effects including skin/eye irritation; difficulty breathing; headaches; nausea; behavior abnormalities; cancer; genetic mutations; physiological malfunctions (i.e., reproductive impairment, kidney failure); physical deformations; or birth defects. Hazardous materials may also impact the environment and contaminate groundwater, soil, or air, which may result in further impacts to the local ecology, natural resources and people.

Analysis of the hazardous materials overlay shows 10,841 residential units within 1,000 feet of a hazardous materials site. Multiplied by the 3.86 persons per household persons per unit within the planning area, it is assumed 41,846 individuals reside within a potential liquefaction zone. Additionally, 11,276,735 square feet of non-residential structures are located within 1,000 feet of a hazardous materials site.

As discussed in Section 3.6, the population within the planning area has decreased during the last five years, representing a decline of 2.1 percent. The previous 2018 LHMP identified 48,288 residents living within a 1,000 foot radius of a hazardous materials site.

This represents a decrease in vulnerability, as this LHMP update estimates 41,846 vulnerable individuals or a reduction in vulnerability by 6,442 individuals. This change in vulnerability to hazardous materials could be generally related to the overall population decline within the planning area, along with active remediation at hazardous materials sites across the community. Updates data and improved GIS mapping may also play a factor. This change in vulnerability is not believed to be associated with changing land uses or development patterns.

At the time of this LHMP preparation, the City anticipates future residential development and redevelopment within the planning area, as outlined in the recently adopted Housing Element. While it is unlikely that all planned residential growth will be constructed within the five-year period of this LHMP, the City anticipates some level of population growth to occur. Due to the City's Building and Safety code, along with other state/Federal hazardous materials testing/regulations, developers would be required to mitigate ongoing hazardous materials pollution found on-site prior to future residential development. At this time, no proposed projects under the purview of the City are expected to substantially increase hazardous materials vulnerability. Future construction would be subject to the City Building and Safety Code and relevant hazardous materials regulations, that would decrease vulnerability associated with hazardous materials risk.

4.10.7 SVP Vulnerability and Risk Assessment

The location, extent and magnitude of hazardous material releases could potentially impact any population within the City, including SVPs and other high-risk individuals located throughout the City. No physical infrastructure or unique considerations elevate risk to SVPs specifically related human-caused hazards. The primary concern for SVPs and other high-risk individuals is outreach and communication. Emergency communication and alerts in the case of hazardous materials spill should consider groups, such as minority populations and individuals with limited English proficiency. Mitigation Actions #2, #4, #6, #7 and #50 include considerations for improved public awareness and safety campaigns, with consideration for cultural competence. Additional mitigation actions categorized as "All Hazard" efforts include improvements to public outreach and emergency communication, that would directly benefit SVPs across the community in the case of a hazardous materials spill.

4.11 Human Caused Hazards

4.11.1 Description

Terrorism/Active Shooter

Domestic terrorism is defined by the Federal Bureau of Investigation (FBI) as violent, criminal acts perpetuated by individuals and/or groups inspired by or associated with a primarily United States based movement that espouses extremist ideologies of a political, religious, social, racial, or environmental nature. International terrorism is perpetuated by individuals and/or groups inspired by or associated with designated foreign terrorist

organizations or nations (i.e., State sponsored).[59] The United States Federal Code states that terrorism must be intended to 1) intimidate or coerce a civilian population; 2) influence the policy of a government by intimidation or coercion; or, 3) affect the conduct of a government by mass destruction, assassination, or kidnapping.[60]

An active shooter is defined by the FBI as an individual actively engaged in killing or attempting to kill people in a populated area. Active shooters select victims at random, and the shooting event is unpredictable and often evolves quickly.[61] Active shooters select public gathering and community areas, often targeting schools, places of worship, and transportation centers. There may be one or more shooters involved in an event, and there is not one demographic profile of an active shooter. The FBI identify the pathway to active shooting as typically involving an unresolved real or perceived grievance and an ideation of a violent resolution.[62]

Terrorism and active shooter incidents can both result in mass casualties, and emergency response and resources may be overwhelmed by the number or severity of casualties.

Civil Unrest

The 2012 Los Angeles County Operational Area Emergency Response Plan (ERP) defines civil unrest as any incident intended to disrupt community affairs that requires intervention to maintain public safety, such as riots, mass demonstrations, and even terrorist attacks.[63] Civil unrest can also be referenced as civil disorder, civil disturbance, or social unrest. The ERP identified civil unrest as a "high risk" priority hazard for the County and notes that it often arises from underlying intergroup tensions or mob behavior at large gatherings, such as sporting events or political demonstrations. According to the County of Los Angeles, civil unrest is characterized by:

- Rioting
- Looting
- Arson fires
- Attacks on public safety personnel

A civil disturbance could be initiated by small gatherings or large crowds. Impacts can range from a passive disturbance where groups block roadways or buildings that interfere with public order, or full-scale riots where participants also commit crimes such as arson, theft, property damage, vandalism, assault, or other violence. Secondary impacts from civil disturbance can vary significantly, and potentially include urban fire, utility failure, transportation, and environmental hazards. While rare, the most significant impact is the interruption of the continuity of government.

[59] Federal Bureau of Investigation, *Terrorism,* https://www.fbi.gov/investigate/terrorism, accessed April 12, 2023.
[60] U.S. Federal Code Title 18, Chapter 113B, Section 2331.
[61] Federal Bureau of Investigation, *OPS Active Shooter Guide*, https://www.fbi.gov/file-repository/active-shooter-508.pdf/view, accessed April 12, 2023.
[62] Federal Bureau of Investigation, *Addressing the Problem of the Active Shooter*, https://leb.fbi.gov/articles/featured-articles/addressing-the-problem-of-the-active-shooter, published March 7, 2013, accessed April 12, 2023.
[63] Los Angeles County, *Los Angeles County Operational Area Emergency Response Plan*, June 2012.

In the City of South Gate, responses to civil unrest include a coordinated response from agencies within the Los Angeles County operational area.

4.11.2 Location/Extent

Terrorism/Active Shooter

The specific location of terrorism and active shooter incidents are difficult to predict. Generally, locations most vulnerable to terrorism and active shooters are places where people gather, places of political importance, infrastructure, and destinations. Examples include but are not limited to:

- Schools
- Hospitals
- Churches/religious centers
- Employment centers
- City Hall
- Community centers
- Libraries
- Transit operations and stops
- Shopping malls/large retail centers
- Highways and other transportation infrastructure
- Power plants and utility infrastructure
- Event/entertainment centers

The City of South Gate, located in the Los Angeles County, includes land uses pertaining to this list such as parks, commercial buildings, residence, manufacturing, and transportation.

The severity of impacts of terrorism and/or active shooter are difficult to predict, and would depend on the nature of the attack and target. The impacts vary in size and severity depending on the specific event, but typically results in loss of life, psychosocial damage, and service/industry disruptions. The effects of psychosocial damage, and service/industry disruptions would likely be experienced by the entire community in the event of an active shooter or terrorist attack. Further, the City could experience secondary effects due to terrorism incidents located outside of the City. The City is located adjacent to the City of Los Angeles, in close proximity to major urbanized areas. The highly populated and developed nature of the City of Los Angeles and surrounding areas present a potential target for terrorism. Depending on the type and size of an attack in a neighboring jurisdiction, impacts could extend to the City.

Civil Unrest

Similar to terrorism and active shooter threats, the specific location of civil unrest is difficult to predict. Politically motivated civil unrest may target government facilities like City Hall, public libraries, schools, and parks. Commercial corridors are scattered throughout the

City and could serve as a starting point for civil unrest, along with other localized opportunities for citizens to gather. Civil unrest has the potential to migrate from a specific starting point (including outside of City of South Gate) and impact multiple public facilities, businesses and private property throughout the City.

The extent and severity of damages is highly dependent on various factors including the motivation behind the civil disturbance, the number of participants, and level of law enforcement response. The aftermath of civil disturbance is usually measured by number of injuries, deaths, and property damage/losses in U.S. dollars. Less severe civil disturbance may occur in small geographic areas, involve limited individuals, and result in minor property damage. Severe civil disturbance can occur citywide, involve significant numbers of people, resulting in injuries or deaths, and result in significant property damage from mass rioting, looting, or arson. Financial impacts to residents and business owners who are insured or without comprehensive insurance policies would experience the most severe impacts. Most comprehensive insurance policies include coverage for civil disturbance, riots and other vandalism causes, but payment and repairs may be delayed due to the nature of the unrest incident. Depending on the extent and severity of damages, significant downtime may be required to cleanup and/or rebuild after an event. Generally, extended duration of civil disturbance would be associated with greater extent of impacts and damages compared to shorter durations.

4.11.3 Previous Occurrences

Terrorism/Active Shooter

The City of South Gate does not have a history of significant terrorist or active shooter incidents. However, the surrounding areas including the City of Los Angeles and Los Angeles County have experienced terrorism in the past. Los Angeles County contains numerous sites of regional importance and has been targeted for terrorist attacks before, though most were thwarted. The California State Hazard Mitigation Plan (SHMP) lists 14 terrorism events, both attempted and successful, in Los Angeles County and nearby areas since 2006; refer to Table 4-15, *Terrorist Events in Los Angeles County*.[64, 65]

According to the Federal Bureau of Investigation, there were seven reported active shooter incidents in Los Angeles County between 2000 to 2021.[66] These incidents occurred in Los Angeles communities including two incidents at Los Angeles International Airport (July 2002, November 2013) and one at Santa Monica College (June 2013). The other incidents occurred at a Kenyon Press facility in Signal Hill (May 2007), Thousand Oaks bar (November 2018), the Redondo Beach Pier (August 2021), and various unspecified locations (October 2021). There were two active shooter incidents in Los Angeles County in January of 2023; the first occurring in Monterey Park and the second

[64] Cal OES, *California State Hazard Mitigation Plan*, August 2023.
[65] Cal OES, *California State Hazard Mitigation Plan – Appendix K: Hazard Events History*, August 2023.
[66] Federal Bureau of Investigation, *Active Shooter Incidents in the United States in 2021*, May 2022 and *Active Shooter Incidents in the United States from 2008-2018*, April 2019.

occurring in the Beverly Glen neighborhood.[67] No incidents occurred in the City of South Gate.

Table 4-15
Terrorist Events in Los Angeles County

Date	Location	Description
June 30, 2006	Los Angeles	Attempted firebombing of private home
June 24, 2007	Los Angeles	Attempted firebombing of private home
October 20, 2007	Los Angeles	Flooding of private home
February 5, 2008	Los Angeles	Arson at private home
March 7, 2009	Los Angeles	Firebombing of private vehicle
November 16, 2010	Los Angeles	Razor blade booby trap mailed to private home
November 1, 2013	Los Angeles	Active shooter targeting Transportation Security Administration (TSA) at Los Angeles Airport
December 7, 2014	Los Angeles	Arson at apartment complex
September 30, 2015	Thousand Oaks	Arson at a Planned Parenthood facility
November 6, 2015	Inglewood	Racially motivated assault of a man
February 28, 2016	Los Angeles	Racially motivated attack of three people
November 2018	Thousand Oaks	12 people were killed during a mass shooting at the Borderline Bar and Grill
September 12, 2020	Los Angeles	Ambush shooting of two police officers sitting in a vehicle
May 3, 2022	Los Angeles	Police officer attached and injured at a protest of projected Supreme Court decision on abortion

Source: Cal OES, *California State Hazard Mitigation Plan*, August 2023.

The City of South Gate has not previously experienced any major terrorism or active shooter incidents. A notable recent incident occurred on October 27, 2023, where an active shooter response was prompted at Legacy High School in the City. After the high school's football game, a suspect allegedly attempted to run over a Los Angeles Unified School District police officer causing another officer to open fire on the suspect. The gunfire occurred near Legacy High School campus activating the active shooter response and forcing the campus on lockdown. The suspect and two officers were treated for injuries. [68]

No federally declared disasters relating to terrorism or active shooters have occurred including the City within the last five years; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area*.

Civil Unrest

According to the SHMP, three major significant civil disturbances occurred within Los Angeles County from since 1965: the 1965 Watts Riots, the 1992 Los Angeles Riots and the 2020 George Floyd Protests. The Watts Riots did not affect the City of South Gate but resulted in multiple casualties and over $40 million dollars in damages in nearby South

[67] CNN, *3 killed and at least 4 wounded in overnight shooting in Los Angeles*, https://www.cnn.com/2023/01/28/us/los-angeles-fatal-shooting/index.html, updated January 28, 2023, accessed April 18, 2023.
[68] CBS News, *Investigation underway after police shooting at high school in South Gate*, https://www.cbsnews.com/losangeles/news/officers-investigate-police-shooting-at-legacy-high-school/ published October 27, 2023, accessed November 8, 2023.

Central Los Angeles. During the 1992 Los Angeles Riots, South Gate was left mostly untouched with approximately $4,000 in damages whereas the property damages throughout the Los Angeles area equated to about $1 billion.[69] All deaths and severe material damage for both the Watts Riots and Los Angeles Riots occurred outside of the planning area. In June 2020 George Floyd protests occurred throughout the greater Los Angeles area.[70] Various cities in Los Angeles County activated emergency responses, but no significant damages were reported in the City of South Gate during this time. During the November 2020 election, the L.A. County Sheriff's Department prepared for the possibility of civil unrest by planning on mobilizing thousands of officers while business owners boarded up their stores and restaurants.[71]

The 1992 Los Angeles Riots was a federally declared disaster categorized as fire and civil unrest. No federally declared disasters relating to civil unrest have occurred including the City within the last five years; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area*.

4.11.4 Probability of Future Occurrences

Terrorism/Active Shooter

The probability of a terrorist or active shooter in the City of South Gate is considered medium, due to the presence of potential targets within the planning area and within the greater Los Angeles area. According to the U.S. Government Accountability Office, terrorism-related cases have been increasing across the nation in recent years; domestic terrorism-related cases increased 357% from 2013 to 2021.[72] However, terrorism and active shooter threats are not necessary determined by the incidence of previous occurrences and are difficult to predict. Because of the dynamic nature of terrorist threat, terrorism can occur without much warning and may occur in any area within the City.

Civil Unrest

Civil unrest incidents occur throughout the nation for varying reasons and causes. In the current political and social climate, it is reasonable to assume that lawful protests and lawful assembly will continue. However, lawful assembly can quickly erupt into civil unrest making it difficult to predict when intervention from law enforcement will be necessary. The presence of law enforcement at protests is a standard preemptive measure to mitigate civil unrest. Additionally, increased vigilance and increased intelligence gathering methods can be used by law enforcement in City of South Gate to better prepare for gatherings that may result in civil disturbance/civil unrest. Because of the nature of civil

[69] Patch, *Crime & Safety: Local Police Remember LA Riots*, https://patch.com/california/southgate-lynwood/local-police-remember-la-riots, published May 14, 2021, accessed November 8, 2023.
[70] NBC, *Live Updates: Thousands Protest Across Southern California*, https://www.nbclosangeles.com/news/local/protests-los-angeles-george-floyd-justice-police-marches/2375892/, published June 6, 2020, accessed November 8, 2023.
[71] Los Angeles Times, *Boarded-up stores across L.A. reflect an anxious, unprecedented election day*, https://www.latimes.com/california/story/2020-11-03/boarded-up-stores-across-l-a-reflect-an-anxious-unprecedented-election-day published November 3, 2020, accessed November 8, 2023.
[72] U.S. Government Accountability Office, *Violent Extremism and Terrorism: Agencies Can Take Additional Steps to Counter Domestic Threats*, GAO-23-106758, June 2023.

unrest and the linkages to political, social, racial and or environmental movements, the probability and likelihood of future occurrences is considered medium.

4.11.5 Climate Change Considerations

Terrorism/Active Shooter

As terrorism and active shooter events are human caused, these types of hazards are not directly tied to climate change impacts. However, significant and prolonged climate change impacts can cause conflicts regarding natural resources and livelihood insecurity, as well as food insecurity or water scarcity. Terrorist organizations could operate more easily in fragile and conflict-affected environments, according to the Climate Diplomacy Organization.[73]

Civil Unrest

Civil unrest is also not directly tied to climate change impacts. However, environmental concerns and climate change implications could drive conflict on a local, regional, or global scale. Academic research has connected climate change influenced droughts to periods of societal unrest over the course of many centuries. Most recently, research from Colombia University links climate change and unprecedented drought as they key societal stressor that led to uprisings that initiated the Syrian Civil War.[74] Vulnerability associated with limited resources can make periods of civil unrest more likely to occur in the future. As climate change continues, protests and demonstrations may become more extreme, escalating to civil unrest.

4.11.6 Vulnerability Assessment

Human-caused hazards have the potential to affect the entire City, and therefore all critical facilities**,** infrastructure systems, structures, residents, and businesses within the City are considered vulnerable. The extent of harm or injury is highly dependent upon the nature of the actual incident. Terrorism, active shooter and civil unrest could damage physical buildings and property or impact human health. The effects of human-caused hazards could involve costly long-term clean-up actions and recovery measures.

Terrorism and active shooter incidents may also occur anywhere within the City, and thus the entirety of the City is considered vulnerable. Active shooters specifically target people, and attacks usually occur at places or events where large numbers of people congregate. Comparatively, terrorism attacks may either focus on places where people gather or target schools, municipal facilities or public utility or transportation infrastructure. Depending on the nature of the attack, impacts could be widespread throughout the planning area or highly localized.

[73] Climate Diplomacy Organization, *Insurgency, Terrorism and Organized Crime in a Warming Climate*, https://www.climate-diplomacy.org/publications/insurgency-terrorism-and-organised-crime-warming-climate, accessed April 12, 2023.
[74] Columbia University, *Can studying climate change help predict civil unrest,* https://giving.columbia.edu/can-studying-climate-change-help-predict-civil-unrest, accessed April 12, 2023.

Civil disturbance could also occur anywhere within the City, but generally would be more likely to occur at public spaces where people gather or targeted locations (specific businesses, City Hall, police stations). As public spaces are distributed throughout the City, the entirety of the City is considered vulnerable to civil disturbance. The effects could be widespread throughout the City or be highly localized, depending on the nature of the actual incident. For this reason, all critical facilities are considered susceptible to damages.

As discussed in Section 3.6, the population within the planning area has decreased during the last five years, representing a population decline of 2.1 percent. Therefore, the number of vulnerable individuals located within the planning area has decreased by the same percentage when compared to the previous 2018 LHMP. No major changes in land use or development occurred while the previous 2018 LHMP was active, that affected risk or vulnerability associated with human-caused hazards (terrorism, active shooter, and civil disturbance).

At the time of this LHMP preparation, the City anticipates future residential development and redevelopment within the planning area, as outlined in the recently adopted Housing Element. While it is unlikely that all planned residential growth will be constructed within the five-year period of this LHMP, the City anticipates some level of population growth to occur. As the entirety of the planning area would be vulnerable to human-caused hazards, any projected population growth within the City would increase the number of vulnerable individuals. At this time, no proposed projects under the purview of the City are expected to substantially increase human-caused hazards vulnerability. Therefore, no substantial changes in vulnerability are anticipated due to changing land use patterns or development.

4.11.7 SVP Vulnerability and Risk Assessment

The location, extent and magnitude of human-caused hazards would apply to the entirety of the planning area, including SVPs and other high-risk individuals located within the City. No physical infrastructure or unique considerations elevate risk to specific human-caused hazards. The primary concern for SVPs and other high-risk individuals is outreach and communication. Emergency communication and alerts in the case of human-caused hazards should consider cultural competence, including consideration for minority populations and individuals with limited English proficiency. Additionally, considerations for overcrowded households may be required as densely populated and overcrowded housing units put more individuals at risk to hazards. Mitigation Actions #2, #4, #6, and #7 include considerations for improved public awareness and safety campaigns, with consideration for linguistic isolation and densely populated or overcrowded households. Additional mitigation actions categorized as “All Hazard” efforts include improvements to public outreach and emergency communication, that would directly benefit SVPs across the community in the case of a human-caused hazard.

4.12 Pandemic & Disease/Pest Management

4.12.1 Description

Pandemic

The Centers for Disease Control and Prevention (CDC) defines an epidemic as an increase, often sudden, in the number of cases of a disease above what is normally expected in a population. The CDC makes the distinction that a pandemic refers to an epidemic that has spread over several countries or continents, usually affecting signification proportions of the population.[75] This definition of pandemic refers specifically to infectious diseases. Non-infectious diseases, such as asthma or diabetes, may exist in "pandemic proportions" but do not readily spread throughout a population and thus do not constitute a pandemic. Pandemics also exclude vector-borne diseases, categorized by transmission through a vector (rats, mosquitos, etc.).

Pandemics require two components, an agent (disease or virus) and a susceptible host population. The host population, usually humans, is the primary mode that agents are spread under this definition of pandemic. Pandemic agents are spread from person to person through direct or indirect contact, so humans are understood to be the causal element of pandemics.

Viruses of special concern in pandemics are novel: a new viral strain not previously identified in humans. Novel viruses present public health challenges, as limited information about transmission, prevention and treatment is available. Further, the human body does not have natural immune defenses prepared to fight novel viruses.[76] In recent history, novel viruses originated as zoonotic diseases; the virus beginning in animals evolves to transfer from human to human. Examples of zoonotic diseases becoming human pandemics include COVID-19 (theorized to originate in bats), H1N1 influenza (originated in pigs), and H5N1 influenza (originated in birds).[77]

Disease/Pest Management

Disease and pest management hazards are caused by an undesirable organism (insects, bacteria, viruses, etc.) that causes serious harm to plants, animals, or humans. These organisms can threaten human health by infecting people with a number of diseases, some of which are potentially fatal. The World Health Organization (WHO) defines vector-borne diseases as human illnesses caused by parasites, viruses and bacteria that are only transmitted by vectors.[78] In this context, a vector is "any arthropod, insect, rodent or

[75] CDC, *Lesson 1: Introduction to Epidemiology,* Section 11, https://www.cdc.gov/csels/dsepd/ss1978/lesson1/section11.html#:~:text=Epidemic%20refers%20to%20an%20increase,a%20more%20limited%20geographic%20area., accessed April 12, 2023.
[76] GoodRX Health, *The Novel Coronavirus: What are Novel Viruses, and How do they Impact Public Health?,* https://www.goodrx.com/conditions/covid-19/what-does-novel-coronavirus-mean-science-medical-definition, published April 30, 2020, accessed November 9, 2023.
[77] CDC, *Lesson 1: Introduction to Epidemiology,* Section 11, https://www.cdc.gov/csels/dsepd/ss1978/lesson1/section11.html#:~:text=Epidemic%20refers%20to%20an%20increase,a%20more%20limited%20geographic%20area., accessed April 12, 2023.
[78] World Health Organization, *Vector-Borne Diseases*, https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases, accessed October 14, 2022.

other animal of public health significance capable of harboring or transmitting the causative agents of human disease to humans".[79] Pathogenic or disease-carrying organisms may also cause widespread devastation to forests, creating safety hazards and causing environmental damage in addition to economic impacts. When an organism causes costly and irreparable harm to natural resources, they are considered a pest. Pests can include disease, insects, or weeds. Many vectors could also be considered pests, depending on impacts and circumstances.

Specific vectors of concern in Los Angeles County are mosquitos, rats, and flies. Mosquitos are one the highest concerns for the county because they transmit diseases to humans. One disease of concern is West Nile virus. Birds are often a host for the virus, which can be spread when a mosquito bites an infected bird and then later bites a person. As a result, many agencies will test the blood of wild or domestic birds to look for the presence of West Nile virus.[80] Additionally, Zika, yellow fever and dengue can be transmitted through mosquitos, but there have been no recent cases of these diseases being transmitted locally in California.[81]

For many urban areas, pests that impact street trees are a concern, as most types of street trees are susceptible to diseases. Various insects such as aphids and beetles can be particularly detrimental to trees and landscaping throughout urban areas and parks. The Invasive Shot Hole Borer (ISHB), an invasive beetle, has posed threats to Southern California's native and urban trees. The Polyphagous Shot Hole Borer (PSHB) and Kuroshio Shot Hole Borer are known to transmit a fatal fungal disease in 64 species of trees across Southern California, where as the gold spotted oak borer has killed tens of thousands of drought-stressed oak trees from San Diego County to Los Angeles County. It is believed that ISHB was introduced into southern California via products or shipping material from southeast Asia. However, the specific origin is unclear.[82]

4.12.2 Location/Extent

Pandemic

By definition, a pandemic is understood to have a significant geographic range with impacts extending to the global level. Effects of a pandemic would impact the entirety of the City of South Gate, depending on the disease and the susceptible population. While the entirety of the City would be at risk, specific subsets of the population may be more

[79] Greater Los Angeles County Vector Control District, *What is a Vector?*, https://www.glamosquito.org/what-is-a-vector, accessed March 19, 2024.
[80] CDC, West Nile Virus: Symptoms, Diagnosis, & Treatment, https://www.cdc.gov/westnile/symptoms/index.html, accessed May 23, 2023.
[81] Orange County Mosquito and Vector Control District, *Zika, Yellow fever and dengue*, https://www.ocvector.org/zika-yellow-fever-and-dengue, accessed August 24, 2022.
[82] University of California, Agriculture and Natural Resources, *Invasive Shot Hole Borers*, https://ucanr.edu/sites/pshb/, accessed November 21, 2023.

susceptible than others, including vulnerable populations, the very young (those under 1 year), elderly and immune-compromised individuals, depending on the disease.[83, 84]

The extent to which a pandemic would impact the City of South Gate would depend on the disease type and symptoms. Some diseases may be extremely transmissible and would affect a significant portion of the population, however, the symptoms might be mild. On the other hand, a disease might be very deadly but not be easily transmitted. The worst-case pandemic scenario is a disease that is both highly transmissible and highly deadly, such as Covid-19. The severity and extent of a pandemic may also depend on the ability to respond by developing and administering vaccinations, or other methods for mitigating the spread of the disease.

Disease/Pest Management

A public health crisis involving vector-borne diseases can either originate in the City or neighboring communities before spreading into the City. Vector-borne diseases and pests could potentially impact any areas throughout the City. Outdoor spaces are most likely to be areas of vector congregation, but specific vectors prefer different environments. Vectors such as rats may thrive in unmaintained structures or other areas with trash and food sources. Mosquitos require standing water to reproduce and prefer warmer environments. As such, the Los Angeles River is a known location for vector risk.

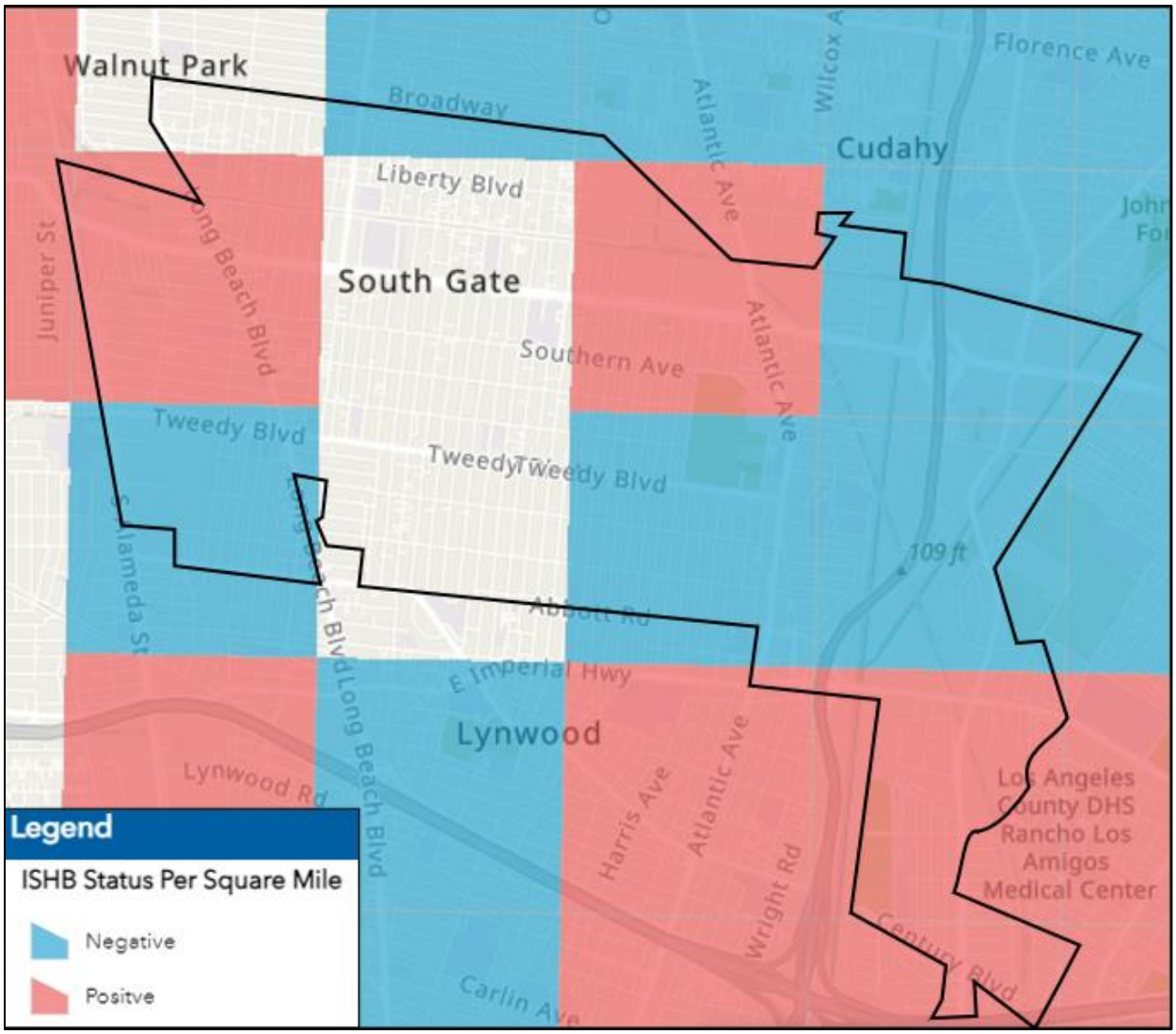
The magnitude and severity of diseases and pests rely on many factors such as the range and distribution of the vector or pest population. A crisis can quickly occur if an area with dense populations of vectors carrying disease is located at a popular congregation place, such as a City park. Vector-borne disease could spread quickly among residents, including vulnerable populations. The severity of impacts from vector-borne diseases is highly variable. Some diseases may have relatively minor health impacts while others could be highly deadly. A worst-case scenario would be a vast vector population that transmits a highly deadly disease. In this scenario impacts would be severe and could extend to much of the population of the City.

Pests can also impact any areas throughout the City, however, pests such as the ISHB would particularly impact trees and landscaping along streets and buildings as well as parks and open space. The magnitude and severity of pests, particularly pests that impact trees and landscaping also varies depending on the distribution of the pest population. As of 2017, an estimated 27 million trees were at risk of infestation of the shot hole borer across Los Angeles, Orange, Riverside and San Bernardino counties. That is roughly 38 percent of the 71 million trees in the 4,244-square-mile urban region with a population of about 20 million people.[85] Particularly susceptible to ISHB infestations include California

[83] Mayo Clinic, *Covid-19 in babies and children*, https://www.mayoclinic.org/diseases-conditions/coronavirus/in-depth/coronavirus-in-babies-and-children/art-20484405, published October 21, 2022, accessed April 12, 2023.
[84] University of Michigan, *Which Populations are Most Vulnerable to the Coronavirus Pandemic?*, https ://sph.umich.edu/news/2020posts/which-populations-are-most-vulnerable-to-coronavirus.html, published April 6, 2020, accessed April 12, 2023.
[85] LA Times, *Insects and disease are ravaging the Southland's urban trees. Who's going to stop them?* https://www.latimes.com/local/california/la-me-trees-change-20170427-story.html, published May 5, 2017, accessed November 21, 2023.

sycamore, oak, willow, cottonwood, and maple. The ISHB tunnels into host trees and spreads Furasrium Dieback (FD), a fungus that disrupts the transport of water and nutrients, ultimately leading to tree death. Infested tree material must be removed and properly disposed to prevent ISHB from infecting nearby trees. The University of California Agriculture and Natural Resources has mapped the distribution of Furasrium Dieback spread by ISHB populations. Exhibit 4-7, *ISHB-FD Distribution*, shows the presence of the ISHB and FD fungus throughout the City. Red areas represent spaces with ISHB present and blue areas represent spaces with no ISHB presence detected. Impacted areas of the City include areas in the north and northwest as well as areas in the southeast.

Exhibit 4-7
ISHB-FD Distribution



Source: University of California, Agriculture and Natural Resources, ISHB-FD Distribution Map, https://ucanr.edu/sites/pshb/pest-overview/ishb-fd-distribution-in-california/, accessed March 19, 2024.

4.12.3 Previous Occurrences

Pandemic

The Centers for Disease Control and Prevention have identified two recent pandemics and two major historical pandemics in roughly the past 100 years:[86]

- 2019 Covid-19 Pandemic (SARS-CoV-2 virus)
- 2009 H1N1/"Swine Flu" Pandemic (H1N1pdm09 virus)
- 1968 Pandemic (H3N2 virus)
- 1918 Pandemic (H1N1 virus)

The City of South Gate experienced significant impacts from the ongoing Covid-19 Pandemic. A novel coronavirus disease, SARS-CoV-2 or Covid-19 was identified in Wuhan, China in December 2019. By March 2020, the Governor issued the first statewide stay at home order, closing non-essential businesses.

At the time this document was prepared, there have been over three million total confirmed cases and tens of thousands of total confirmed deaths in the County. [87, 88] Covid-19 has significantly affected every city within Los Angeles County, including the City of South Gate. As part of the response to slow the spread of the virus, non-essential businesses and schools were closed or transitioned to remote environments, if feasible. The City followed guidelines and safety standards set by Los Angeles County Public Health Department, particularly regarding the reopening of non-essential business and schools. A significant milestone and improvement against the pandemic came in December of 2020 with the release of the Covid-19 vaccine. Generally, the pandemic resulted in significant economic and public health impacts that are still reverberating throughout the City.

Before Covid-19, the most recent pandemic experienced was in 2009, the (H1N1)pdm09, "swine flu" pandemic.[89] H1N1pdm09 primarily affected children and young/middle-aged adults, atypical from most influenza pandemics. Between April 2009 and April 2010, the CDC estimates over 60 million cases, nearly 275,000 hospitalizations and over 12,000 deaths in the United States. The World Health Organization declared an end to the global pandemic in August 2010; however, the virus continues to circulate as a seasonal influenza virus.[90]

Both the 1968 and 1918 pandemics were caused by avian flu outbreaks. The 1968 pandemic was caused by an influenza H3N2 virus. The estimated number of deaths in the United States was 116,000 and the worldwide total is estimated at 1.1 million.[91] Medical advances in the 1960s including antiviral medications and expanded influenza

[86] CDC, *Past Pandemics*, https://www.cdc.gov/flu/pandemic-resources/basics/past-pandemics.html, accessed April 18, 2023.
[87] LA County Department of Public Health, *LA County Daily COVID-19 Data*, http://publichealth.lacounty.gov/media/Coronavirus/data/index.htm, accessed November 8, 2023.
[88] Covid19 California State Dashboard, *Tracking Covid-19 in California*, https://covid19.ca.gov/state-dashboard/#location-los_angeles, accessed November 8, 2023.
[89] CDC, *Origin of 2009 H1N1 Flu (Swine Flu): Questions and Answers,* https://www.cdc.gov/h1n1flu/information_h1n1_virus_qa.htm, published November 25, 2009, accessed April 18, 2023.
[90] CDC, *Past Pandemics*, https://www.cdc.gov/flu/pandemic-resources/basics/past-pandemics.html, accessed April 18, 2023.
[91] CDC, *Past Pandemics*, https://www.cdc.gov/flu/pandemic-resources/basics/past-pandemics.html, accessed April 18, 2023.

vaccine options significantly helped combat this pandemic. The 1918 pandemic was an outbreak of influenza caused by an H1N1 virus. The virus spread worldwide from 1918-1919. It is estimated that one third of the worldwide population at the time, about 500 million people, became infected with the virus. The pandemic resulted in an estimated 675,000 deaths in the United States alone and over 50 million total world-wide.[92]

The Covid-19 pandemic resulted in two federally declared disasters within the City since the adoption of the previous LHMP. A list of federally declared disasters is included below; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area* for further details regarding specific impacts (if any) to the City of South Gate.

- DR 3428, Biological, California Covid-19 – March 13, 2020
- DR 4482, Biological, California Covid-19 Pandemic – March 22, 2020

Disease/Pest Management

There is a history of vector-borne disease and pests throughout the City, however, incidents that are specific to the City of South Gate are difficult to track. The number of West Nile virus cases varies substantially from year to year. The virus first appeared in California in 2002 and had been observed in all counties in the state by 2004. As of the end of 2021, California had reported 7,391 cases of West Nile virus.[93] Although the number of cases in South Gate is unavailable, in July 2015, one swimming pool in South Gate had tested positive for mosquitoes infected with West Nile virus.

In South Gate, the predominant type of street tree is sycamore, which is vulnerable to various diseases and pests. A fungal disease called anthracnose or sycamore blight can affect California sycamores, as well as a number of other trees. Although it generally does not kill the tree or cause permanent damage on its own, it does cause the trees to shed leaves, which can weaken the tree and make it more susceptible to other diseases or pests. The disease has infected trees throughout the Los Angeles area and appears to be more common in years with a wet late winter or spring.

No federally declared disasters relating to vector borne-diseases or pests have occurred including the City within the last five years; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area*.

4.12.4 Probability of Future Occurrences

Pandemic

The likelihood of pandemics has increased over the last hundred years due to increased globalization, urbanization, and changes in land use. Another potential key contributor to an increased likelihood of pandemics is factory farming. The shift from small scale animal agriculture to large factory farming operations may be a driving factor in recent pandemic diseases and may cause the next pandemic. For these reasons, the probability of future occurrences is considered medium. However, the exact time and location that another

[92] CDC, *Past Pandemics*, https://www.cdc.gov/flu/pandemic-resources/basics/past-pandemics.html, accessed April 18, 2023.
[93] CDC, *West Nile Virus: Statistics & Maps*, https://www.cdc.gov/westnile/statsmaps/cumMapsData.html, accessed May 23, 2023.

virus with the potential to create a global pandemic would occur is difficult to predict. Future pandemic occurrences would likely result from a mutation of a virus that results in a new virus to which the population has no immunity. With medical technology, it is possible to anticipate new viruses and develop vaccines to prepare for the next outbreak; however, preventing a pandemic through preemptive measures is unlikely.

Disease/Pest Management

Considering the nature of diseases and pests, it is likely that they will continue to affect South Gate and surrounding communities. A number of preventative actions can reduce the risk of diseases such as West Nile virus. Similarly, individuals can reduce the risk of mosquito bites (and by extension, the risk of West Nile virus) by draining pools of stagnant water, using screens and protective clothing, and wearing insect repellant. However, eradicating these diseases is extremely unlikely in the short term. It is difficult to say to what extent South Gate specifically may be at risk from any future vector-borne diseases.

It is also likely that ISHB and anthracnose will continue to infect trees in South Gate. Fungicides are available to control the spread of the disease, but they can be very toxic and may not be the best choice in all instances. While the City and property owners may not be able to eradicate tree diseases or pests, basic preventative measures such as inspections, quarantines, and monitoring, in coordination with the Los Angeles County Agricultural Commissioner's office, can help to minimize their impact.

4.12.5 Climate Change Considerations

Pandemic

While pandemics can originate for reasons outside of climate change, it is possible that the impacts of climate change will make pandemics more severe. According to the National Science Foundation, climate change will likely require humans to relocate and wild animals to find new habitats, dramatically increasing the risk of viral jumps/transmissions. For example, rising temperatures are expected to have a major impact on bats – a species known for novel virus sharing, most recently with Covid-19 or the Ebola virus.[94] Furthermore, the Harvard T.H. Chan School of Public Health, increases in climate change and development such as rising temperatures and deforestation for agricultural purposes contribute to habitat loss worldwide.[95] Consequently, the loss of habitat forces animals to migrate and potentially come in more contact with other animals or people, sharing diseases and infections along the way. When coupled with increased urbanization and globalization, pandemics could continue to spread as quickly or more quickly than the Covid-19 pandemic. While the full effects of climate change on pandemics are not fully known, it is reasonable to assume the risk for future pandemics continues to exist.

[94] National Science Foundation, *Study finds that climate change could spark the next pandemic,* https://beta.nsf.gov/news/study-finds-climate-change-could-spark-next, accessed April 12, 2023.
[95] Harvard T.H. Chan School of Public Health, *Coronavirus and Climate Change*, https://www.hsph.harvard.edu/c-change/subtopics/coronavirus-and-climate-change, accessed November 8, 2023.

Disease/Pest Management

Climate change can have significant impacts on public health and has the potential to facilitate the spread of vector-borne diseases. Warming trends could facilitate higher rates of vector-borne infections and diseases previously rare in Los Angeles County. Environmental disasters related to changing weather patterns such as heavy rainfall and flooding can be breeding grounds for disease-causing insects, especially mosquitos leading to disease.[96] It is generally thought that most vectors survive and thrive in warmer temperatures, and impacts from climate change could potentially create advantageous environments for the spread of vectors and vector-borne diseases.

The distribution and population of pests and ISHB is not directly related to climate change. However, the changes in temperature and precipitation brought on by climate change may make conditions more favorable for certain pests. For example, decreases in precipitation linked to climate change are making pine trees drought-stressed throughout wide areas of the western United States, increasing their vulnerability to pests such as the ISHB. It is possible that trees in South Gate and the wider Los Angeles area may become more susceptible to diseases or pest infestations as a result.

4.12.6 Vulnerability Assessment

Pandemic has no defined hazard area within the City and would potentially affect all populations within South Gate. Physical structures are not typically vulnerable to pandemics; thus, a failure of a critical facility due to pandemics is unlikely. The main concern for pandemic vulnerability is the impact on human health, and critical facilities support in minimizing this impact. Health and medical community lifelines may be strained in response to a pandemic. Health impacts may be widespread throughout the City and impact a significant percentage of the population. Additionally, pandemics may result in significant economic impacts to the City, businesses, and residents. As impacts from pandemic disease is not confined to specific geographic area or zone, the City population is vulnerable. Depending on the size and scale of the disease outbreak, the City or other emergency responders may experience staffing challenges to continue services.

The entire City of South Gate is vulnerable to vector-borne disease, pests and certain tree diseases. South Gate does not have any unique conditions that make the community more or less vulnerable to the impacts of these diseases. Physical structures are not susceptible to damages from these hazards and therefore critical facilities are generally not considered vulnerable. The health impacts associated with disease could potentially affect residents throughout the City. The impacts to residents would depend on the nature of the disease and the distribution of the vectors. Health impacts could be minimal or severe depending on the disease.

[96] University of Nevada, Reno, *The Public Health Response to Climate Change*, https://onlinedegrees.unr.edu/blog/the-public-health-response-to-climate-change/, accessed November 21, 2023.

Additionally, impacts from pests such as the ISHB could affect any trees and landscaping or parks within the City. The likely impacts would be diseased ad dying trees that would need to be removed. These impacts could be exacerbated by drought and/or severe weather which may further compromise trees leading to broken tree limbs or felled trees.

As discussed in Section 3.6, the population within the planning area has decreased during the last five years, representing a population decline of 2.1 percent. Therefore, the number of vulnerable individuals located within the planning area has decreased by the same percentage when compared to the previous 2018 LHMP. No major changes in land use or development occurred while the previous 2018 LHMP was active, that affected risk or vulnerability associated with both pandemic and disease/pest management.

At the time of this LHMP preparation, the City anticipates future residential development and redevelopment within the planning area, as outlined in the recently adopted Housing Element. While it is unlikely that all planned residential growth will be constructed within the five-year period of this LHMP, the City anticipates some level of population growth to occur. As the entirety of the planning area would be vulnerable to both pandemic and disease/pest management, any projected population growth within the City would increase the number of vulnerable individuals. At this time, no proposed projects under the purview of the City are expected to substantially increase pandemic and disease/pest management vulnerability. Therefore, no substantial changes in vulnerability are anticipated due to changing land use patterns or development.

4.12.7 SVP Vulnerability and Risk Assessment

As seen with Covid-19, pandemics may have a wide range of health impacts that can affect the nervous system, respiratory system or multiple other systems of the body. The health impacts of pandemics can be particularly problematic for vulnerable populations such as elderly people and people with underlying health conditions or compromised immune systems. The primary concern for SVPs and other high-risk individuals in the City would be mitigating the spread of a pandemic and access to health care. Considerations for overcrowded households may be required as densely populated and overcrowded housing units are a major contributing factor for spreading contagious pandemics. Additionally, minority populations and individuals with limited English proficiency may be unaware of or reluctant to utilize health care options. Mitigation Actions #2, #4, #6, #7 and #57 include considerations for improved public awareness and safety campaigns, with consideration for linguistic isolation and densely populated or overcrowded households.

Disease and pests carrying disease may have a wide range of health impacts. These health impacts could be significantly worse for vulnerable populations; however, tree mortality would not be linked to populations. The primary concern for SVPs and other high-risk individuals in the City would be exposure to pests and vectors harboring disease. Considerations for overcrowded households may be required as densely populated and overcrowded housing units may be at a higher risk for vectors. Additionally, minority populations and individuals with limited English proficiency may be unaware of or

reluctant to utilize health care options. Mitigation Actions #2, #4, #6, and #7 include considerations for improved public awareness and safety campaigns, with consideration for linguistic isolation and densely populated or overcrowded households.

4.13 Seismic Hazards

4.13.1 Description

Seismic hazards occur when accumulated stress between portions of the earth's crust is released, resulting in the sudden ground movement that is perceived as an earthquake. The US Geological Survey (USGS) defines an earthquake as a sudden slip on a fault and the resulting ground shaking and radiated seismic energy caused by the slip (or any other sudden stress changes in the earth).[97] Faults are fractures along the earth's crust between two blocks of earth, and can be further defined as a strike slip, normal, or thrust faults. Earthquakes occur without warning, and result in primary and secondary seismic hazards. Primary seismic hazards are the direct result of the release of this accumulated stress and are typically characterized as earthquake fault rupture and seismic shaking. Earthquakes can also cause secondary seismic hazards such as liquefaction and earthquake-induced landslides.

Fault Rupture

Fault rupture or surface faulting is the differential movement of two sides of a fracture, where the ground breaks apart. The length, width, and displacement of the ground characterize surface faults, which occur based on the type of underlying fault. Faults occur at boundaries between large sections of the earth's surface, called tectonic plates. The deformation of the plates and the accumulated stress between them causes faults in a wider area than the precise boundary between the plates. In California, the Pacific and North American plates are sliding horizontally past each other, creating what is known as a "strike-slip fault." The boundary between the two plates is known as the San Andreas Fault, although the stress caused by this movement has created thousands of fault areas throughout the state, up to 200 miles away. Most of California lies on the North American plate, although the coastal areas of Central and Southern California, including South Gate, sit on the Pacific plate. The presence of the San Andreas Fault and other regional faults is the reason for frequent seismic activity in California.

The California Department of Conservation maintains maps known as Alquist-Priolo maps that identify areas of potential fault surface rupture in the state. A regulatory zone, which is a 500-foot buffer, is then created around the mapped Alquist-Priolo fault zone.[98] If an active fault has a potential for surface rupture, a structure for human occupancy cannot be placed over the fault and must be a minimum distance from the fault (generally fifty feet). The intent of the Alquist-Priolo Act is to reduce losses from surface fault rupture, and to prevent the construction of buildings used for human occupancy on the surface

[97] USGS, *The Science of Earthquakes*, https://www.usgs.gov/programs/earthquake-hazards/science-earthquakes, accessed May 2, 2023.
[98] California Department of Conservation, *Alquist-Priolo Earthquake Fault Zones*, https://www.conservation.ca.gov/cgs/alquist-priolo, accessed May 2, 2023.

trace of active faults. Before a new development is permitted, cities and counties require a geologic investigation to demonstrate that proposed buildings will not be constructed on active faults. [99] The Department of Conservation also provides maps identifying the potential severity of ground shaking hazards in California, based on proximity to major active faults and the geology of the region.

Ground Shaking

Ground motion is the movement of the earth's surface from earthquakes. Ground motion is produced by seismic waves that are generated by sudden slip on a fault or sudden pressure at the explosive source and travel through the earth and along its surface.[100] Seismic waves produce ground vibrations above the surface. The severity of the vibration increases with the amount of energy released and decreases with distance from the causative fault or epicenter. Soft soils can further amplify ground motion.[101]

Seismic shaking can be strong enough to result in widespread devastation or be virtually undetectable by the average person. The intensity of seismic shaking is a result of the release by the fault rupture (how much of the accumulated stress was released), the length of the rupture (the longer the slip along the fault line, the greater the shaking), and the depth at which the rupture occurs (ruptures that occur closer to the surface often cause stronger shaking). Usually, areas closest to the site of the rupture experience the greatest shaking, although differences in geology and soil can also have an impact. Seismic shaking can damage or destroy buildings and structures, and may cause partial or total collapse. Ground movement can damage or destroy infrastructure on or beneath the surface, such as roads, rail lines, and utility lines and pipes. This in turn, can cause hazardous materials releases, water main breaks, and other dangerous situations resulting from infrastructure failure. Falling debris and structures also create a risk of injury or death.

Liquefaction

Beyond the direct damage from the ground shaking posed by an earthquake, these events can also result in a seismic hazard called liquefaction, which occurs when the force of an earthquake's shaking causes groundwater to mix with the soil. This mixture temporarily becomes a fluid and loses its strength and acts like a viscous fluid, which may in turn cause buildings and other structures built on or in it to tilt, collapse, or otherwise suffer damage. According to FEMA, liquefaction causes three types of ground failure, as described below:

- Lateral spreads involve the lateral movement of large blocks of soil as a result of liquefaction of an underlying layer. They generally develop on gentle slopes, most commonly between 0.3 and 3 degrees. Horizontal movements commonly are as much as 10 to 15 feet. However, where slopes are particularly favorable, and the duration of ground shaking is long, lateral movement may be as much as 100 to

[99] USGS, *Alquist-Priolo Faults*, https://earthquake.usgs.gov/education/geologicmaps/apfaults.php, accessed May 2, 2023.
[100] USGS, *What are the Effects of Earthquakes?*, https://www.usgs.gov/programs/earthquake-hazards/what-are-effects-earthquakes, accessed May 2, 2023.
[101] FEMA, *Multi-Hazard Identification and Risk Assessment - Subpart D: Seismic Hazards*, January 1, 1997.

150 feet. Lateral spread usually breaks up internally, forming numerous fissures and scarps.

- Flow failures consist of liquefied soil or blocks of intact material riding on a layer of liquefied soil and are the most catastrophic type of ground failure caused by liquefaction. They commonly move several feet and up to dozens of miles under certain conditions. Flow failures usually form in loose saturated sands or silts on slopes greater than three degrees.
- Loss of bearing strength occurs when the soil supporting buildings or other structures liquefies. When large deformations occur, structures settle and tip. The general subsurface geometry required for liquefaction-caused bearing failures is a layer of saturated, cohesionless soil that extends from near the ground surface to a depth equal to about the width of the building.

Liquefaction can also occur independently of an earthquake, if any other sudden and significant stress causes the mixing of groundwater and soil. The risk of liquefaction depends on many different factors, including the height of the groundwater table and the types of soil in an area. Certain soils are more susceptible to liquefaction, particularly younger and looser sediment closer to the water table.

Seismically Induced Landslides

Landslide is a generalized term for a falling mass of soil or rocks. When a hillside or slope becomes unstable, downslope movement of rock and soil occurs under the direct influence of gravity. Landslides are often sudden, although some occur very slowly over a long period of time. Loose and fractured materials are more likely to slide than compact materials or solid rock, and steep slopes are at greater risk than gentle rises.

Landslides are usually induced by either earthquakes or moisture. The shaking of an earthquake can decrease slope stability, or in a more severe instance, can fracture the earth material enough that the material slides. Moisture-induced landslides can occur when the ground soaks up enough water that the soil becomes loose and unstable. This is often the result of intense or long-lasting rainfall but can also result from a pipeline burst or overwatering landscapes. In some cases, hillside erosion from rainfall can cause instability and result in landslides. Regardless of the cause or specific form, a landslide can damage or destroy structures built on the sliding material or in its path. Underground infrastructure, such as pipelines or telecommunication lines, may be severed during a landslide. This could lead to infrastructure induced flooding if water pipes or sewage lines burst. In addition to property damage, landslides can crush or bury people, creating a risk of serious injury or death.

4.13.2 Location/Extent

Fault Rupture/Ground Shaking

South Gate is located in a seismically active area. The Alquist-Priolo Act requires that the California Geologic Survey identify faults in the state that may pose a risk of fault rupture. These faults, known as Alquist-Priolo faults, are also capable of creating a significant ground shaking event, and include most of the major faults present in California. While

there are no Alquist-Priolo faults within the City, there are a number of these faults in the surrounding area. Table 4-16, *Local Earthquake Faults*, lists each active and potentially active fault near the planning area, their distance from the planning area, and estimated magnitude. The following faults are located within 60 miles of the community and are capable of producing significant earthquakes.

Table 4-16
Local Earthquake Faults

Fault Name	Category	Distance[1] (miles)	Estimated Magnitude[2]
Newport-Inglewood	Active	Within City boundaries	6.0-7.4
Palos Verdes	Active	10	6.0-7.0
Sierra Madre	Active	16	6.0-7.0
Whittier	Active	22	6.0-7.2
Elsinore	Active	22	6.5-7.5
San Andres	Active	40	6.8-8.0
San Jacinto	Active	60	6.5-7.5

1.Estimated Distance; 2. In Mw (Moment Magnitude)
Source: Southern California Earthquake Data Center, *Earthquake Information*, https://scedc.caltech.edu/earthquake/faults.html, accessed May 3, 2023.

- The Newport-Inglewood Fault Zone is made up of three distinct segments and several faults and fractures, running approximately from the Santa Monica Mountains near Beverly Hills to Newport Beach. It passes approximately 4 miles from South Gate at its closest point. The last major event along this fault was the 1933 Long Beach earthquake. The Southern California Earthquake Center estimates that a future major event along this fault could measure 6.0 to 7.4 on the moment magnitude scale.[102]

- The Palos Verdes Fault Zone extends from the Palos Verdes peninsula south into the Pacific Ocean, running approximately 12 miles from South Gate at its closest point. It has not produced a significant earthquake in recorded history. While not a major Alquist-Priolo fault, The Southern California Earthquake Center estimates that substantial activity from the fault has occurred within the past 10,000 years, and that this fault is capable of producing an earthquake measuring 6.0 to 7.0 or more on the moment magnitude scale.[103]

- The Sierra Madre Fault Zone runs along the southern edge of the San Gabriel Mountains from La Cañada-Flintridge to Claremont, approximately 15 miles from South Gate at its closest point. It is made up of five segments; scientists are unclear if any event along this fault could be limited to one segment or if events along multiple segments are possible. The Southern California Earthquake Center estimates that the last major event along the fault zone happened within the past 10,000 years (although no specific event is known), and suggests that it is capable

[102] Southern California Earthquake Data Center, *Earthquake Information*, http://scedc.caltech.edu/significant/newport.html, accessed March 19, 2024.
[103] Southern California Earthquake Data Center, *Earthquake Information*, http://scedc.caltech.edu/significant/palosverdes.html, accessed March 19, 2024.

of producing an event measuring 6.0 to 7.0 on the moment magnitude scale. It is not a major Alquist-Priolo fault.[104]

- The Whittier-Elsinore Fault Zone runs from the Chino Hills region to the California-Mexico border and is approximately 8 miles from South Gate at its closest point. Near Chino Hills it splits into two separate segments, the Chino Fault and the Whittier Fault. The last major event along this fault was a 1910 earthquake measuring an estimated 6.0 on the moment magnitude scale. This fault is believed to cause a major event approximately every 250 years with a probable magnitude of 6.5 to 7.5 on the moment magnitude scale.[105]

- The San Andreas Fault, the largest and most well-known of California's faults, runs from Cape Mendocino to the Salton Sea. It is approximately 40 miles from South Gate at its closest point. It has caused numerous major earthquakes throughout California's history, including the 1857 Fort Tejon earthquake, which had an estimated moment magnitude of 7.9 and is the strongest earthquake in California's recorded history. Approximately 225 miles of the fault ruptured during this event, including areas near the Los Angeles region. The Southern California Earthquake Center estimates that a future major event along the southern part of the San Andreas Fault, including a potential repeat of the 1857 earthquake, could measure 6.8 to 8.0 on the moment magnitude scale.[106] The recent third Uniform California Earthquake Rupture Forecast estimates that there is at least a 19 percent chance of the southern portion of the San Andreas Fault causing a major earthquake by 2044.[107]

- The San Jacinto Fault Zone runs from San Bernardino to the Superstition Mountains south of the Salton Sea, and is approximately 45 miles from South Gate at its closest point. The last major event along this fault was the Borrego Mountain earthquake on April 9, 1968, which measured 6.8 on the moment magnitude scale. The Southern California Earthquake Center estimates that major events along this fault could measure 6.5 to 7.5 on the moment magnitude scale.[108]

The list above describes the faults most likely to produce a significant earthquake near or in South Gate. Additionally, there is a risk of earthquakes from faults that have not yet been discovered. The 1994 Northridge earthquake, which caused more property damage than any other earthquake in the United States and was the ninth most damaging earthquake in history, occurred along a then-undiscovered fault. A major earthquake along any of these faults could cause significant damage to South Gate.

[104] Southern California Earthquake Data Center, *Earthquake Information*, http://scedc.caltech.edu/significant/sierramadre.html, accessed March 19, 2024.
[105] Southern California Earthquake Data Center, *Earthquake Information*, http://scedc.caltech.edu/significant/elsinore.html, accessed March 19, 2024.
[106] Southern California Earthquake Data Center, *Earthquake Information*, http://scedc.caltech.edu/significant/sanandreas.html, accessed March 19, 2024.
[107] United States Geological Survey, UCERF3: A New Earthquake Forecast for California's Complex Fault System, http://pubs.usgs.gov/fs/2015/3009/pdf/fs2015-3009.pdf, accessed March 19, 2024.
[108] Southern California Earthquake Data Center, *Earthquake Information*, http://scedc.caltech.edu/significant/sanjacinto.html, accessed March 19, 2024.

Ground motion would be particularly damaging to residential buildings constructed of wood or reinforced masonry construction, and to mobile homes. Other buildings that do not typically perform well in earthquakes are soft-story buildings. These types of buildings have a story (typically the first floor) that lacks adequate strength or toughness due to too few shear walls.

There are two scales commonly used by scientists to measure earthquakes: the Moment Magnitude Scale and the Modified Mercalli Intensity Scale. The moment magnitude scale is based on the now largely unused Richter scale and measures the amount of energy released by the earthquake. The Modified Mercalli Intensity Scale (MMI Scale) measures the effects of the earthquake and is based on qualitative observations rather than a mathematical basis. The intensity scale consists of a series of certain key responses such as people awakening from sleep, movement of furniture, damage to chimneys, and destruction. Although numerous scales have been developed to evaluate earthquake effects, the scale currently used in the United States is the Modified Mercalli Intensity Scale. This scale, composed of twelve increasing levels of intensity ranging from imperceptible shaking to catastrophic destruction, is designated by Roman numerals I through XII. Table 4-17, *Modified Mercalli Intensity Scale*, shows the different categories of the Mercalli intensity scale.

Table 4-17
Modified Mercalli Intensity Scale

Category	Description	Possible Impacts
I	Non felt	Not felt except by a very few under especially favorable conditions.
II	Weak	Felt only by few persons at rest, especially on upper floors of buildings.
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Very Strong	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Violent	Damage considerable in specifically designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Extreme	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.

Source: USGS, *The Modified Mercalli Intensity Scale*, https://www.usgs.gov/natural-hazards/earthquake-hazards/science/modified-mercalli-intensity-scale?qt-science_center_objects=0#qt-science_center_objects, accessed May 3, 2023.

Magnitude and intensity measure different characteristics of earthquakes but often correlate. Magnitude measures the energy released at the source of the earthquake, determined by measurements on seismographs. Intensity measures the strength of shaking produced by an earthquake at a certain location and is determined by effects on people, structures, and the natural environment. Refer to Table 4-18, *Approximate Comparison of Moment Magnitude and Mercalli Intensity Scales*, which lists the intensities that are typically observed at locations near the epicenter of earthquakes of different magnitudes.

Table 4-18
Approximate Comparison of Moment Magnitude and Mercalli Intensity Scales

Moment Magnitude	Mercalli Intensity
1.0 to 3.0	I
3.0 to 3.9	II to III
4.0 to 4.9	IV to V
5.0 to 5.9	VI to VII
6.0 to 6.9	VII to IX
7.0 and greater	VIII and greater

Source: USGS, *Magnitude/Intensity Comparison*, http://earthquake.usgs.gov/learn/ topics/mag_vs_int.php, accessed August 11, 2015.

Liquefaction

The potential for liquefaction exists in areas susceptible to ground shaking with loose soils and/or shallow groundwater. The California Department of Conservation identifies the entire City as an area of elevated liquefaction risk; refer to Exhibit 4-8, *Liquefaction Potential Zone*. The entire City of South Gate is located within a mapped liquefaction zone. While the likelihood of liquefaction occurring in a future seismic event is dependent on several factors, there is a possibility for widespread and damaging liquefaction in the community.

Liquefaction can be a significant contributor to earthquake losses. The magnitude of liquefaction depends on the location where it occurs. Liquefaction occurring beneath buildings and other structures can cause major damage. Buildings may sink into the ground and tilt, cars can be swallowed into the ground, and roads and bridges can crack and fail.[109] Homes may be damaged beyond repair. Liquefaction may also threaten underground utilities, such as damaging underground water pipes.

[109] National Academics, *Can earthquakes liquify soil?*, https://www.nationalacademies.org/based-on-science/can-earthquakes-liquefy-soil#:~:text=Liquefaction%20can%20trigger%20landslides%2C%20cause%20embankments%20to%20slump%2C,and%20roads%20and%20bridges%20to%20crack%20and%20fail., accessed May 3, 2023.

THE CITY OF SOUTH GATE

Legend

- Critical Facility
- South Gate City Limit
- Liquefaction Zone

Exhibit 4-8
Liquefaction Potential Zone

November 8, 2023

Coordinate System: California State Plane - Zone 6

Source: CA DOC, CGS 2017

N

0 0.3 0.6 1.2 Miles

Seismically Induced Landslides

The California Department of Conservation does not identify landslides as a risk to the City, nor are there landslide zones in immediately neighboring cities. Seismically induced landslides' predictability and velocity levels depend upon the nature and location of the event and earthquake. Slow landslides may damage structures and infrastructure and are difficult to stabilize due to their large size. However, slow landslides allow people to evacuate before there is the danger of loss of life. Landslides with high velocity can destroy structures or other lifeline utilities and can cause significant loss of life or injury. The severity of a landslide is often measured by the amount of material that slides (e.g., in cubic feet).

4.13.3 Previous Occurrences

Fault Rupture/Ground Shaking

As discussed above, a variety of faults are located near South Gate. Table 4-19, *Major Earthquake Faults of Particular Concern*, identifies faults of concern within the region and their last major ruptures.

Table 4-19
Major Earthquake Faults of Particular Concern

Fault Name	Type of Faulting	Last Major Rupture	Slip Rate	Interval Between Major Ruptures	Probable Magnitudes
Whittier	Right-lateral strike-slip	Holocene	2.5 to 3.0 mm/yr	Unknown	6.0 - 7.2 Mw
Elsinore	Right-lateral strike-slip with some reverse slip	18th century A.D.	Roughly 4.0 mm/yr	Roughly 250 years	6.5 - 7.5 Mw
Palos Verdes	Right-reverse	Holocene	0.3 to 3.0 mm/yr	Unknown	6.0 to 7.0 Mw
Sierra Madre	Reverse	Holocene	0.36 to 4.0 mm/yr	Several thousand years	6.0 to 7.0 Mw
Newport/Inglewood	Right lateral; local reverse slip associated with fault steps	March 10, 1933, Magnitude 6.4	0.6 mm/yr	Unknown	6.0 - 7.4 Mw
San Jacinto	Right-lateral strike-slip; minor right-reverse	April 9, 1968, Magnitude 6.5	7 to 17 mm/yr	Varies; between 100 and 300 years	6.5 - 7.5 Mw
San Andreas	Right lateral strike-slip	April 18, 1906, Magnitude 7.9	20 to 35 mm/yr	Varies; average 140 years	6.8 – 8.0 Mw

Notes: Mm = millimeters, yr = year, Mw = Moment Magnitude

Source: Southern California Earthquake Center, *Significant Earthquakes and Faults*, http://scedc.caltech.edu/significant/fault-index.html, accessed May 2, 2023.

Four large regional earthquakes have occurred in recent history that had impacts within or in proximity to the City:

- In 1933, an earthquake off the coast of Long Beach measured an estimated 6.4 on the moment magnitude scale with an estimated Mercalli intensity of VIII. This earthquake killed 115 people, largely in southern Los Angeles and Long Beach,

although five people were killed in South Gate and multiple buildings were destroyed.

- The 1971 San Fernando earthquake in the San Gabriel Mountains measured 6.5 on the moment magnitude scale and XI on the Mercalli intensity scale, killing 64 people and causing extensive damage to freeway structures and buildings.
- In 1987, an earthquake near Rosemead in the San Gabriel Valley, with a moment magnitude of 5.9 and a Mercalli intensity of VIII, killed three people and was widely felt throughout Southern California.
- The Northridge earthquake in 1994 measured 6.7 on the moment magnitude scale with a Mercalli intensity of IX. It killed 57 people, caused over 5,000 injuries, and spawned multiple strong aftershocks. This earthquake caused an estimated $20 billion or more in damages.

No federally declared disasters relating to fault rupture or ground shaking have occurred including the City within the last five years; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area*.

Liquefaction

The California Department of Conservation has not definitively noted historic instances of liquefaction in South Gate. However, such events were observed in the nearby City of Compton during the 1933 Long Beach earthquake. It is possible that some of the damage that occurred in South Gate and other nearby communities during the 1933 earthquake was linked to liquefaction. Liquefaction has caused significant damage as part of many earthquakes in California history, including the 1971 San Fernando earthquake and the 1994 Northridge earthquake.

No federally declared disasters relating to liquefaction have occurred including the City within the last five years; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area*.

Seismically Induced Landslides

There are no historic instances of landslides in South Gate or in the immediate vicinity. No federally declared disasters relating to seismically induced landslides have occurred including the City within the last five years; refer to Table 4-23, *Summary of Federally Declared Disasters Affecting the Planning Area*.

4.13.4 Probability of Future Occurrences

Fault Rupture/Ground Shaking

The southern California region is known to be seismically active, and thus there is a moderate probability for future seismic hazard occurrences. There are several faults and fault systems within 60 miles of the City, and as discussed above, the Southern California Earthquake Center estimates that a future major event along any of these faults (Newport-

Inglewood Fault Zone; Palos Verdes Fault Zone; Sierra Madre Fault Zone; Whittier-Elsinore Fault Zone; San Andreas Fault Zone; and San Jacinto Fault Zone) could cause significant damage to the area. The USGS Uniform Earthquake Rupture Forecast Version 3 released in 2017 provides a perspective of the likelihood each California region will experience a magnitude 6.7 or larger earthquake in the next 30 years; refer to Table 4-20, *Likelihood of One or More Earthquakes Occurring in the Next 30 Years in Los Angeles Region by Fault*.

Table 4-20
Likelihood of One or More Earthquakes Occurring in the Next 30 Years in Los Angeles Region by Fault

Magnitude	Whittier Fault	Elsinore Fault	Newport/Inglewood	San Jacinto	San Andreas
M ≥ 6.7	1.17%	3.66%	0.95%	5.41%	19.21%
M ≥ 7.0	1.07%	1.82%	0.81%	5.39%	12.86%
M ≥ 7.5	0.58%	0.90%	0.42%	5.28%	10.21%
M ≥ 8.0	< 0.01%	<0.01%	--	2.75%	3.24%

Notes:
1. M≥6.7 means magnitude greater than or equal to 6.7, and likewise for the other magnitude thresholds.
2. The 30-year period measured by this report is 2014 to 2044; a 30-year period is the typical duration of a homeowner mortgage.
3. Percentages for fault sections closest to the City.
4. Data was unavailable for Palos Verdes and Sierra Madre faults

Source: U.S. Department of the Interior and U.S. Geological Survey, *The Third California Earthquake Rupture Forecast (UCERF3)*, March 2015.

The impact and potential losses of such an event reveal significant risk and would be devastating to not only the City and Los Angeles County, but the entire Southern California region. With the highly concentrated county population of almost 10 million and the heavy use of the transportation infrastructure, a major earthquake could virtually shut down large portions of Southern California.

Liquefaction

The soil under South Gate is alluvial deposits, which is material (often sand, silt, or gravel) deposited by a river. This soil type can be susceptible to liquefaction. The California Department of Conservation identifies all of South Gate being at an elevated risk for liquefaction due to these soil types and a high water table (less than 40 feet below the surface). However, South Gate City staff identifies the water table as being 80–100 feet below the surface, and does not consider liquefaction as a substantial risk in the community. The LHMP Planning Team determined the risk of liquefaction to be low.

Seismically Induced Landslides

The generally flat topography of South Gate means that there are no designated zones at an elevated risk of landslides. However, there is a possibility of small landslides along the Los Angeles River, drainage channels, or other areas where steep slopes occur. Small landslides can occur during grading and other earth-moving activities if appropriate mitigation techniques are not taken. Additionally, areas such as South Gate that are at an elevated risk of liquefaction may experience a phenomenon called lateral spreading when the liquefied soil spreads out across shallow slopes and behaves very much like a low-

angle landslide. The LHMP Planning Team determined the risk of seismically induced landslide to be low.

4.13.5 Climate Change Considerations

Climate change is not expected to have any direct influence on the likelihood, size, and/or severity of any future seismic-related event. Climate change may have an impact on seismically induced liquefaction, but it is unlikely that climate change would significantly impact the frequency or severity of liquefaction impacts. Similarly, there is no climate change link to seismically induced landslides. Climate change is expected to increase the frequency of drought and the intensity of rainfall events. Drought can dry out soils, reducing the ability for soils to absorb precipitation. Heavier rainfall events combined with reduced moisture absorption can cause hillside destabilization and increase the probability of a landslide occurring after an earthquake. However, given the lack of steep slopes, climate change is not expected to contribute to seismic-induced landslides in South Gate.

4.13.6 Vulnerability Assessment

Fault Rupture/Ground Shaking/Seismically Induced Landslides

Fault rupture, ground shaking and seismically induced landslides could affect the entirety of the planning area and therefore all critical facilities**,** infrastructure systems, structures, residents, and businesses within the City are considered vulnerable. This is particularly true for fault rupture and ground shaking, which can have large regional impacts. The extent of harm or injury is highly dependent upon the nature of the actual incident, including the magnitude and location. Fault ruptures, ground shaking and seismically induced landslides could physically and structurally impact the critical facilities, as well as other infrastructure, buildings, roadways. Significant injuries and serious bodily harm can also occur throughout the City in the event of a substantial seismic event.

As discussed in Section 3.6, the population within the planning area has decreased during the last five years, representing a population decline of 2.1 percent. Therefore, the number of vulnerable individuals located within the planning area has decreased by the same percentage when compared to the previous 2018 LHMP. No major changes in land use or development occurred while the previous 2018 LHMP was active, that affected risk or vulnerability associated with fault rupture, ground shaking and seismically induced landslides.

At the time of this LHMP preparation, the City anticipates future residential development and redevelopment within the planning area, as outlined in the recently adopted Housing Element. While it is unlikely that all planned residential growth will be constructed within the five-year period of this LHMP, the City anticipates some level of population growth to occur. As the entirety of the planning area would be vulnerable to fault rupture, ground shaking and seismically induced landslides, any projected population growth within the City would increase the number of vulnerable individuals. At this time, no proposed projects under the purview of the City are expected to substantially increase fault rupture,

ground shaking and seismically induced landslides vulnerability. Therefore, no substantial changes in vulnerability are anticipated due to changing land use patterns or development.

Liquefaction

The entire planning area is located within a mapped liquefaction hazard zone, and therefore all critical facilities and persons within this hazard zone is considered vulnerable. Table 4-21, *Critical Facilities Susceptible to Liquefaction* identifies the critical facilities located within a liquefaction hazard area. Liquefaction hazard zones are mapped by the California Department of Conservation, utilizing geological and groundwater data to establish zones that are potentially susceptible. The liquefaction hazard zone is mapped around the historic footprint of the Los Angeles River (pre-channelization).

Table 4-21
Critical Facilities Susceptible to Liquefaction

Map ID	Name	Asset Type	Total Loss Potential
1	City of South Gate Civic Center (includes Police Department)	Government Building	$26,935,687.72 (2)
2	Hollydale Library	Government Building	Not Available
3	L.A. County Fire Station #54	Government Building	$1,630,720.00 (1)
4	L.A. County Fire Station #57	Government Building	$1,630,720.00 (1)
5	Leland R Weaver Library	Government Building	Not Available
6	Parks & Recreation - Hollydale Community Resource Center	Government Building	$1,593,779.88 (2)
7	Parks & Recreation - South Gate Girls Clubhouse	Government Building	$3,395,818.88 (2)
8	Parks & Recreation - South Gate Golf Course	Government Building	$195,456.38 (2)
9	Parks & Recreation - South Gate Senior Center	Government Building	$1,839,715.21 (2)
10	Parks & Recreation - South Gate Sports Center	Government Building	$24,833,276.49 (2)
11	Public Works Corporate Yard	Government Building	$17,293,549.14 (2)
12	South Gate Park - Administration/Municipal Auditorium	Government Building	$7,409,329.70 (2)
13	State Street Park - Westside Community Resource Center	Government Building	Not Available
14	AltaMed Medical and Dental Group	Health Care	$4,018,322.00(1)
15	Urgent Care South Gate and Brookdale Medical Center	Health Care	$3,182,041.00(1)
16	East Los Angeles College - South Gate Campus	Higher Education	$10,061,955.00(1)
17	Urban Orchard Project - Phase I	Park and Recration	Not Available
18	Cesar Chavez Park	Parks and Recreation	$920,332.15 (2)
19	Circle Park	Parks and Recreation	$218,388.27 (2)
20	Gardendale Tot Lot	Parks and Recreation	$218,388.27 (2)
21	Hollydale Regional Park	Parks and Recreation	$2,392,923.93 (2)
22	Parks Maintenance Yard	Parks and Recreation	$1,823,604.93 (2)
23	Stanford Park	Parks and Recreation	$231,879.05 (2)
24	Triangle Park	Parks and Recreation	$231,879.05 (2)
25	Boom Squad Academy	Private School	Not Listed in LAUSD LHMP
26	St. Helen Elementary	Private School	Not listed in LAUSD LHMP
27	Aspire Academy Charter Elementary	Public School	Not listed in LAUSD LHMP
28	Bryson Avenue Elementary	Public School	$55,045,652.00 (3)

Table 4-21 (continued)
Critical Facilities Susceptible to Liquefaction

Map ID	Name	Asset Type	Total Loss Potential
29	Hollydale Elementary	Public School	Not listed in LAUSD LHMP
30	Independence Elementary	Public School	$59,605,646.00 (3)
31	KIPP Corazon Academy Elementary	Public School	Not listed in LAUSD LHMP
32	Legacy High School Complex	Public School	$143,991,551.00 (3)
33	Liberty Boulevard Elementary	Public School	$53,203,606.00 (3)
34	Madison Elementary	Public School	$54,182,887.00 (3)
35	Montara Avenue Elementary	Public School	$55,424,218.00 (3)
36	Odyssey Continuation School	Public School	Not listed in LAUSD LHMP
37	San Gabriel Avenue Elementary	Public School	$60,556,550.00 (3)
38	San Miguel Elementary	Public School	$71,152,920.00 (3)
39	Simon Rodia Continuation School	Public School	Not listed in LAUSD LHMP
40	South East High	Public School	$342,261,352.00 (3)
41	South Gate Middle	Public School	$146,971,549.00 (3)
42	South Gate Senior High	Public School	$230,223,234.00 (3)
43	Southeast Middle	Public School	Not listed in LAUSD LHMP
44	Stanford Avenue Elementary	Public School	$50,295,994.00 (3)
45	Stanford Primary Center Elementary	Public School	$37,432,226.00 (3)
46	State Street Elementary	Public School	$46,458,233.00 (3)
47	Tweedy Elementary	Public School	$66,084,050.00 (3)
48	Valiente College Preparatory Charter School	Public School	Not listed in LAUSD LHMP
49	Victoria Avenue Elementary	Public School	$19,951,316.00 (3)
50	Willow Elementary	Public School	$57,191,759.00 (3)
51	Azalea Shopping Center	Commercial with Surface Parking Lot	Not Available
52	El Paseo Shopping Center	Commercial with Surface Parking Lot	Not Available
53	Bridge Number 53 0828	Transportation - Bridge	$60,420,000.00 (1)
54	Bridge Number 53 0829	Transportation - Bridge	$6,105,600.00(1)
55	Bridge Number 53 0830	Transportation - Bridge	$6,105,600.00(1)
56	Bridge Number 53 0831	Transportation - Bridge	$13,691,808.00(1)
57	Bridge Number 53 0832	Transportation - Bridge	$2,271,156.00(1)
58	Bridge Number 53 2425	Transportation - Bridge	$24,168,000.00(1)
59	Bridge Number 53C0166	Transportation - Bridge	$11,448,000.00(1)
60	Bridge Number 53C0649	Transportation - Bridge	$13,356,000.00(1)
61	Bridge Number 53C0844	Transportation - Bridge	$27,348,000.00(1)
62	Bridge Number 53C1972	Transportation - Bridge	$36,252,000.00(1)
63	Bridge Number 53C1973	Transportation - Bridge	$31,164,000.00(1)

1 Replacement values generated using FEMA HAZUS estimations (HAZUS 6.0 Inventory Technical Manual).
2 Replacement values generated using previous LHMP with updated CPI applied.
3 Replacement values generated using Los Angeles Unified School District 2018 LHMP.

Liquefaction could cause structural damage to any of the critical facilities listed in the table above. However, the severity and likelihood of liquefaction events are considered to be low due to limited previous occurrences within the planning area. Additionally, analysis of the liquefaction zone shows 20,652 residential units within are at risk – all housing units located within the planning area. Therefore, it can be concluded that the entire population of 92,381 is vulnerable to liquefaction. Additionally, 12,560,184 square feet of non-residential structures are located within the liquefaction zone. It is reasonable to assume that all structures may be at risk.

As discussed in Section 3.6, the population within the planning area has decreased during the last five years, representing a population decline of 2.1 percent. The previous 2018 LHMP identifies 95,000 residents living within the liquefaction hazard zone, or the entire City population. As this LHMP update documented a population decline since the previous iteration of this plan, vulnerability to liquefaction has also declined by the 2.1 percent. This change in vulnerability is not otherwise related to substantial changes in land use or development.

At the time of this LHMP preparation, the City anticipates future residential development and redevelopment within the planning area, as outlined in the recently adopted Housing Element. While it is unlikely that all planned residential growth will be constructed within the five-year period of this LHMP, the City anticipates some level of population growth to occur. As the entirety of the planning area would be vulnerable to liquefaction, any projected population growth within the City would increase the number of vulnerable individuals. At this time, no proposed projects under the purview of the City are expected to substantially increase liquefaction vulnerability. All future development and redevelopment would be subject to the latest City Building and Safety Code, including requirements that would decrease vulnerability associated with liquefaction. Therefore, no substantial changes in vulnerability are anticipated due to changing land use patterns or development.

4.13.7 SVP Vulnerability and Risk Assessment

The location, extent and magnitude of a seismic hazards would apply to the entirety of the City, including SVPs and other high-risk individuals located within the City. No physical infrastructure or unique considerations elevate risk of SVPs to dam failure. The primary concern for SVPs and other high-risk individuals is outreach and communication. Emergency communication and alerts in the case of seismic hazards should consider cultural competence, including consideration for minority populations and individuals with limited English proficiency. Additionally, considerations for overcrowded households may be required as densely populated and overcrowded housing units put more individuals at risk to a potential seismic hazards. Mitigation Actions #2, #4, #6, #7, #60 and #61 include considerations for improved public awareness and safety campaigns, with consideration for linguistic isolation and densely populated or overcrowded households. Additional mitigation actions categorized as “All Hazard” efforts include improvements to public

outreach and emergency communication, that would directly benefit SVPs across the community in the case of a seismic hazards.

4.14 Summary of Vulnerability

Table 4-22, *Risk Assessment Summary Table*, shows a summary of critical facilities that intersect with hazard areas in the City. Those facilities that intersect with a hazard area are indicated with a “Y” and a red-shaded cell. Facilities that do not fall within the hazard area are designated with an “N” and a green-shaded cell. The risks of dam failure, drought, extreme heat, severe weather, human caused hazards, pandemic and disease/pest management, and seismic hazards are equal throughout the community.

Table 4-22
Risk Assessment Summary Table

No.	Facility	Hazard								
		Dam Failure	Drought	Extreme Heat	Flood	Severe Weather	Hazardous Materials Spill	Human Caused Hazards	Pandemic & Disease/Pest Management	Seismic Hazards
1	City of South Gate Civic Center (includes Police Department)	Y	Y	Y	N	Y	N	Y	Y	Y
2	Hollydale Library	Y	Y	Y	N	Y	N	Y	Y	Y
3	L.A. County Fire Station #54	Y	Y	Y	N	Y	Y	Y	Y	Y
4	L.A. County Fire Station #57	Y	Y	Y	N	Y	Y	Y	Y	Y
5	Leland R Weaver Library	Y	Y	Y	N	Y	Y	Y	Y	Y
6	Parks & Recreation – Hollydale Community Resource Center	Y	Y	Y	N	Y	Y	Y	Y	Y
7	Parks & Recreation – South Gate Girls Clubhouse	Y	Y	Y	N	Y	Y	Y	Y	Y
8	Parks & Recreation – South Gate Golf Course	Y	Y	Y	N	Y	Y	Y	Y	Y
9	Parks & Recreation – South Gate Senior Center	Y	Y	Y	N	Y	Y	Y	Y	Y
10	Parks & Recreation – South Gate Sports Center	Y	Y	Y	N	Y	N	Y	Y	Y
11	Public Works Corporate Yard	Y	Y	Y	N	Y	Y	Y	Y	Y
12	South Gate Park – Administration/Municipal Auditorium	Y	Y	Y	N	Y	Y	Y	Y	Y
13	State Street Park – Westside Community Resource Center	Y	Y	Y	N	Y	N	Y	Y	Y
14	AltaMed Medical and Dental Group	Y	Y	Y	N	Y	Y	Y	Y	Y
15	Urgent Care South Gate and Brookdale Medical Center	Y	Y	Y	N	Y	Y	Y	Y	Y
16	East Los Angeles College – South Gate Campus	Y	Y	Y	N	Y	Y	Y	Y	Y
17	Urban Orchard Project – Phase I	Y	Y	Y	N	Y	Y	Y	Y	Y
18	Cesar Chavez Park	Y	Y	Y	N	Y	Y	Y	Y	Y
19	Circle Park	Y	Y	Y	N	Y	Y	Y	Y	Y
20	Gardendale Tot Lot	Y	Y	Y	N	Y	Y	Y	Y	Y
21	Hollydale Regional Park	Y	Y	Y	N	Y	N	Y	Y	Y
22	Parks Maintenance Yard	Y	Y	Y	N	Y	Y	Y	Y	Y
23	Stanford Park	Y	Y	Y	N	Y	N	Y	Y	Y
24	Triangle Park	Y	Y	Y	N	Y	Y	Y	Y	Y

Table 4-22 (continued)
Risk Assessment Summary Table

No.	Facility	Hazard								
		Dam Failure	Drought	Extreme Heat	Flood	Severe Weather	Hazardous Materials Spill	Human Caused Hazards	Pandemic & Disease/Pest Management	Seismic Hazards
25	Boom Squad Academy	Y	Y	Y	N	Y	N	Y	Y	Y
26	St. Helen Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
27	Aspire Academy Charter Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
28	Bryson Avenue Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
29	Hollydale Elementary	Y	Y	Y	N	Y	N	Y	Y	Y
30	Independence Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
31	KIPP Corazon Academy Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
32	Legacy High School Complex	Y	Y	Y	N	Y	Y	Y	Y	Y
33	Liberty Boulevard Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
34	Madison Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
35	Montara Avenue Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
36	Odyssey Continuation School	Y	Y	Y	N	Y	Y	Y	Y	Y
37	San Gabriel Avenue Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
38	San Miguel Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
39	Simon Rodia Continuation School	Y	Y	Y	N	Y	N	Y	Y	Y
40	South East High	Y	Y	Y	N	Y	Y	Y	Y	Y
41	South Gate Middle	Y	Y	Y	N	Y	N	Y	Y	Y
42	South Gate Senior High	Y	Y	Y	N	Y	Y	Y	Y	Y
43	Southeast Middle	Y	Y	Y	N	Y	Y	Y	Y	Y
44	Stanford Avenue Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
45	Stanford Primary Center Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
46	State Street Elementary	Y	Y	Y	N	Y	N	Y	Y	Y
47	Tweedy Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
48	Valiente College Preparatory Charter School	Y	Y	Y	N	Y	Y	Y	Y	Y
49	Victoria Avenue Elementary	Y	Y	Y	N	Y	N	Y	Y	Y
50	Willow Elementary	Y	Y	Y	N	Y	Y	Y	Y	Y
51	Azalea Shopping Center	Y	Y	Y	N	Y	Y	Y	Y	Y
52	El Paseo Shopping Center	Y	Y	Y	N	Y	Y	Y	Y	Y
53	Bridge Number 53 0828	Y	Y	Y	Y	Y	Y	Y	Y	Y
54	Bridge Number 53 0829	Y	Y	Y	N	Y	Y	Y	Y	Y
55	Bridge Number 53 0830	Y	Y	Y	N	Y	Y	Y	Y	Y
56	Bridge Number 53 0831	Y	Y	Y	N	Y	Y	Y	Y	Y

Table 4-22 (continued)
Risk Assessment Summary

No.	Facility	Hazard								
		Dam Failure	Drought	Extreme Heat	Flood	Severe Weather	Hazardous Materials Spill	Human Caused Hazards	Pandemic & Disease/Pest Management	Seismic Hazards
57	Bridge Number 53 0832	Y	Y	Y	N	Y	N	Y	Y	Y
58	Bridge Number 53 2425	Y	Y	Y	N	Y	Y	Y	Y	Y
59	Bridge Number 53C0166	Y	Y	Y	Y	Y	Y	Y	Y	Y
60	Bridge Number 53C0649	Y	Y	Y	Y	Y	Y	Y	Y	Y
61	Bridge Number 53C0844	Y	Y	Y	Y	Y	N	Y	Y	Y
62	Bridge Number 53C1972	Y	Y	Y	Y	Y	Y	Y	Y	Y
63	Bridge Number 53C1973	Y	Y	Y	Y	Y	N	Y	Y	Y

4.16 Summary of Federally Declared Disasters Affecting the Planning Area

As required by the recent FEMA policy guidelines updated, a summary of federally declared disasters specifically affecting the planning area within the last five years is included below as Table 4-23. Specific effects are also outlined in the hazard profiles, previous occurrences sections (where applicable) within Sections 4.5 to 4.13, above.

Table 4-23
Summary of Federally Declared Disasters Affecting the Planning Area

Declaration Date	Disaster Number	Incident Subcategory	Incident Description	Effect on Planning Area
March 16, 2017	4305	Flood	**Severe Winter Storms, Flooding, and Mudslides in California**: On March 7, 2017, Governor Edmund G. Brown Jr. requested a major disaster declaration due to severe winter storms, flooding, and mudslides during the period of January 18-23, 2017. The Governor requested a declaration for Public Assistance) for 16 counties and Hazard Mitigation statewide. The Countywide per capita impact for Los Angeles County was reported $3.94.	Several series of moist systems moved through California and Nevada during January and February 2017 bringing abundant precipitation and flooding. The Southern California area and Los Angeles County experienced washed out roads, closed highways, downed trees, damaged cars and flooded creeks and rivers. The City experienced more localized flooding but no significant damage to infrastructure, buildings or property were reported.
September 2, 2017	5201	Fire	**California la Tuna Fire**: On September 2, 2017, Governor Edmund G. Brown Jr. declared a state of emergency for Los Angeles County and requested a federal emergency declaration for the La Tuna Fire which burned in the Verdugo Mountains.	The La Tuna Fire burned 7,194 acres in the Verdugo Mountains from September 1 to September 9, 2017. The fire did not have any impacts on the planning area, other than impacts to air quality. No major impacts to the City of South Gate were reported.
December 5, 2017	5225	Fire	**California Creek Fire**: On December 5, 2017, Governor Edmund G. Brown Jr. declared a state of emergency for Los Angeles County and Ventura County and requested a federal emergency declaration for the Creek Fire in Kagel Canyon and the Angeles National Forest.	The Creek Fire began on December 5, 2017 and ultimately burned 15,619 acres in Kagel Canyon and Angeles National Forest. The fire did not have any impacts on the planning area, other than impacts to air quality. No major impacts to the City were reported.
December 5, 2017	5226	Fire	**California Rye Fire**: On December 5, 2017, Governor Edmund G. Brown Jr. declared a state of emergency for Los Angeles County and requested a federal emergency declaration for the Rye Fire in Santa Clarita.	The Rye Fire began on December 5, 2017 in Santa Clarita, California. The fire burned 6,049 acres in Santa Clarita. Due to the distance away from the City, the fire did not have any impacts on the planning area.
December 6, 2017	5227	Fire	**California Skirball Fire**: On December 6, 2017, Governor Edmund G. Brown Jr. declared a state of emergency for Los Angeles County for the Skirball Fire in the Bel Air neighborhood of Los Angeles.	The Skirball Fire began on December 6, 2017 and burned 422 acres in the City of Los Angeles. The fire did not have any impacts on the planning area, other than impacts to air quality. No major impacts to the City were reported.

Table 4-23 (continued)
Summary of Federally Declared Disasters Affecting the Planning Area

Declaration Date	Disaster Number	Incident Subcategory	Incident Description	Effect on Planning Area
December 8, 2017	3396	Fire	**Wildfires in California**: On December 7, 2017, Governor Edmund G. Brown Jr. requested a Presidential Emergency Declaration for direct federal assistance to supplement the state and local emergency response to the Southern California wildfires.	Multiple wildfires throughout Southern California including the Creek, Rye, Skirball and Thomas fires began in December 2017. The fire did not have any impacts on the planning area, other than impacts to air quality. No major impacts to the City were reported.
January 2, 2018	4353	Fire	**California Wildfires, Flooding, Mudflows, and Debris Flows**: On December 20, 2017, Governor Edmund G. Brown Jr. requested a major disaster declaration due to wildfires beginning on December 4, 2017, and continuing. The Governor requested a declaration for Individual Assistance and Public Assistance, including direct Federal assistance for four counties and Hazard Mitigation statewide. The Countywide per capita impact for Los Angeles County was reported $1.89.	Multiple wildfires throughout Southern California including the Creek, Rye, Skirball and Thomas fires began in December 2017 and continued into January 2018. The fire did not have any impacts on the planning area, other than impacts to air quality. No major impacts to the City were reported.
November 9, 2018	3409	Fire	**California Wildfires**: On November 9, 2018, acting Governor Gavin Newsom issued an emergency proclamation for Los Angeles and Ventura counties due to the effects of the Hill and Woolsey fires, which have destroyed homes, threatened critical infrastructure and caused the evacuation of residents.	Wildfires across Southern California, including the Hill Fire and Woolsey Fire, began in November 2018. These fires impacted Ventura and Los Angeles counties. The fire did not have any impacts on the planning area, other than impacts to air quality. No major impacts to the City were reported.
November 9, 2018	5280	Fire	**California Woolsey Fire**: On November 9, 2018, it was announced that the President and Federal Emergency Management Agency (FEMA) have granted California's request, for a Presidential Emergency Declaration for direct federal assistance to supplement the state and local emergency response to major wildfires burning in Butte, Ventura and Los Angeles counties.	The Woolsey Fire began on November 8, 2018, and burned 94,949 acres destroying 1,643 structures throughout Ventura and Los Angeles counties. The fire did not have any impacts on the planning area, other than impacts to air quality. No major impacts to the City were reported.
November 12, 2018	4407	Fire	**California Wildfires**: On November 11, 2018, Governor Edmund G. Brown Jr. requested an expedited major disaster declaration due to wildfires during the period of November 8-25, 2018. The Governor requested a declaration for Individual Assistance and Public Assistance, including direct federal assistance for three counties and Hazard Mitigation	Multiple wildfires throughout California, including the Hill, Woolsey and Camp fires, began in November 2018. The Woolsey fire burned 96,949 acres in Los Angeles and Ventura counties, and the Camp Fire burned 153,336 acres in Butte County. The fire did not have any impacts on the planning area, other

			statewide. Federal assistance was determined to be necessary.	than impacts to air quality. No major impacts to the City were reported.

Table 4-23 (continued)
Summary of Federally Declared Disasters Affecting the Planning Area

Declaration Date	Disaster Number	Incident Subcategory	Incident Description	Effect on Planning Area
October 11, 2019	5293	Fire	**California Saddle Ridge Fire**: On October 11, 2019, Governor Gavin Newsom issued an emergency proclamation for Los Angeles and Riverside counties due to the effects of several fires, including the Saddle Ridge, Eagle, Sandalwood, Reche, and Wolf fires, which have destroyed structures, threatened homes and critical infrastructure, and caused the evacuation of tens of thousands of residents.	The Saddle Ridge Fire began October 10, 2019 and burned 8.799 acres in Los Angeles County. The fire began in the Sylmar neighborhood of Los Angles. The fire did not have any impacts on the planning area, other than impacts to air quality. No major impacts to the City were reported.
October 24, 2019	5296	Fire	**California Tick Fire**: On October 24, 2019, Governor Gavin Newsom issued an emergency proclamation for the counties of Sonoma and Los Angeles due to the effects of the Kincade and Tick fires, which have destroyed structures, threatened homes and critical infrastructure, and caused the evacuation of tens of thousands of residents.	The Tick Fire began on October 24, 2019 and burned 4,615 acres in Los Angeles County near Santa Clarita. The fire did not have any impacts on the planning area, other than impacts to air quality. No major impacts to the City were reported.
October 28, 2019	5297	Fire	**California Getty Fire**: On October 28, 2019, the California Governor's Office announced that the state has secured a Fire Management Assistance Grant from the Federal Emergency Management Agency (FEMA) to help ensure the availability of resources to fight the Getty Fire burning in Los Angeles County, which has threatened homes and caused the evacuation of residents.	The Getty Fire began on October 28, 2019 and burned 745 acres in the Brentwood neighborhood of Los Angeles. The fire caused power outages and evacuations north of the planning area. Additionally, the fire shutdown the I-405 north of the planning area. The fire did not have any structural impacts on the planning area, other than impacts to air quality. No major impacts to the City were reported.
March 13, 2020	3428	Biological	**California Covid-19**: On March 13, 2020, the President declared the ongoing Coronavirus Disease 2019 (COVID-19) pandemic of sufficient severity and magnitude to warrant an emergency declaration for all states, tribes, territories, and the District of Columbia pursuant to section 501 (b) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121-5207 (the "Stafford Act").	Similar to other jurisdictions across California, City of South Gate was affected by the COVID-19 pandemic. In April 2020, the City delegated public health duties and responsibilities to the Los Angeles County Public Health Officer. The City followed the Stay at Home Order between March and May 2020, and followed industry specific guidelines and checklists to ensure safety in reopening the local economy.

Table 4-23 (continued)
Summary of Federally Declared Disasters Affecting the Planning Area

Declaration Date	Disaster Number	Incident Subcategory	Incident Description	Effect on Planning Area
March 22, 2020	4482	Biological	**California Covid-19 Pandemic**: On March 22, 2020, Governor Gavin Newsom requested a major disaster declaration due to the Coronavirus Disease 2019 (COVID-19) pandemic beginning on January 20, 2020, and continuing. The Governor requested a declaration for Individual Assistance, including the Individuals and Households Program, Crisis Counseling Program, Disaster Unemployment Assistance, Disaster Case Management, and Disaster Legal Services statewide; Public Assistance, including direct Federal assistance statewide; and Hazard Mitigation statewide.	Similar to other jurisdictions across California, City of South Gate was affected by the COVID-19 pandemic. In April 2020, the City delegated public health duties and responsibilities to the Los Angeles County Public Health Officer. The City followed the Stay at Home Order between March and May 2020, and followed industry specific guidelines and checklists to ensure safety in reopening the local economy.
September 13, 2020	5374	Fire	**California Bobcat Fire**: On October 16, 2020, the President issued a major disaster declaration for damage in the State of California resulting from wildfires beginning on September 4, 2020, and continuing	The Bobcat Fire began on September 6, 2020, and burned over 115,000 acres in the San Gabriel Mountain, northeast of Los Angeles. The fire did not have any impacts on the planning area, other than impacts to air quality. No major impacts to the City were reported.
October 16, 2020	4569	Fire	**California Wildfires**: On September 28, 2020, Governor Gavin Newsom requested a major disaster declaration due to wildfires beginning on September 4, 2020, and continuing. The Governor requested a declaration for Individual Assistance and Public Assistance for seven counties and Hazard Mitigation statewide.	Multiple wildfires throughout California, including the Bobcat, Creek, and El Dorado fires, began in September, 2020. Most of these fires impacted northern California and areas outside of the City of South Gate area. The fire did not have any impacts on the planning area, other than impacts to air quality. No major impacts to the City were reported.
January 9, 2023	3591	Flood	**California Severe Winter Storms, Flooding, and Mudslides**: On January 9, 2023, FEMA Announced that a federal disaster assistance has been made available to the state of California to supplement state, local and tribal response efforts due to emergency conditions resulting from severe winter storms, flooding and mud slides beginning January 8, 2023, and continuing.	A series of storms hit Southern California in January 2023. On January 9th, a flash flood warning was extended to all of Los Angeles County. The City of South Gate experienced heavy rains but no significant damage to infrastructure, buildings or property were reported. No specific damage to the City's facilities was reported.

Table 4-23 (continued)
Summary of Federally Declared Disasters Affecting the Planning Area

Declaration Date	Disaster Number	Incident Subcategory	Incident Description	Effect on Planning Area
January 14, 2023	4683	Flood	**California Severe Winter Storms, Flooding, Landslides, and Mudslides**: On January 12, 2023, Governor Gavin Newsom requested an expedited major disaster declaration due to severe winter storms, flooding, landslides, and mudslides beginning on December 24, 2022, and continuing. The Governor requested a declaration for Individual Assistance and Public Assistance for 49 counties and Hazard Mitigation statewide. The Countywide per capital impact indicator was reported $4.44.	A series of storms hit Southern California in January 2023. On January 9th, a flash flood warning was extended to all of Los Angeles County. The City of South Gate experienced heavy rains but no significant damage to infrastructure, buildings or property were reported. No specific damage to the City's facilities was reported.
March 10, 2023	3592	Flood	**California Severe Winter Storms, Flooding, Landslides, and Mudslides**: On March 10, 2023, FEMA announced that federal disaster assistance has been made available to the state of California to supplement state, tribal and local response efforts due to emergency conditions resulting from severe winter storms, flooding, landslides and mudslides beginning March 9, 2023, and continuing.	A series of storms hit Southern California in January 2023 and extended into April 2023. In March, the City of South Gate experienced heavy rains but no significant damage to infrastructure, buildings or property were reported. No specific damage to the City's facilities was reported.
April 3, 2023	4699	Severe Storm	**California Severe Winter Storms, Straight-line Winds, Flooding, Landslides, and Mudslides**: On March 28, 2023, Governor Gavin Newsom requested a major disaster declaration due to severe winter storms, straight-line winds, flooding, landslides, and mudslides beginning on February 21, 2023, and continuing. The Governor requested a declaration for Individual Assistance for seven counties, Public Assistance for four counties, and Hazard Mitigation statewide. The Countywide per capital impact indicator was reported $4.44.	A series of storms hit Southern California in January 2023 and extended into April 2023. In April, the City of South Gate experienced heavy rains but no significant damage to infrastructure, buildings or property were reported. No specific damage to the City's facilities was reported.

Source: FEMA, *Disaster Declarations for States and Counties*, https://www.fema.gov/data-visualization/disaster-declarations-states-and-counties, accessed March 15, 2024.

SECTION 5.0: MITIGATION STRATEGY

Hazard mitigation strategies are used to reduce hazard impacts on critical facilities or other infrastructure identified by the City and LHMP Planning Team. This section is developed from an in-depth review of the vulnerabilities and capabilities described in the previous plan section. Overall, the actions represent the City's approach for reducing and/or eliminating potential losses as identified in Section 4.0.

5.1 Hazard Mitigation Overview

5.1.1 FEMA's National Flood Insurance Program

The National Flood Insurance Program (NFIP) provides affordable flood insurance to property owners, renters, and businesses by encouraging communities to adopt and enforce floodplain management regulations. Participation in the NFIP is optional; however, property owners who live in a non-participating community with flood-prone areas are not able to purchase flood insurance through the program. Communities with mapped floodplains cannot receive federal grants or loans for development activities in flood-prone areas and cannot receive federal disaster assistance to repair flood damaged buildings or structures in mapped floodplains if the jurisdiction is not a participant of the NFIP.

The City is a participant of the NFIP and implements the requirements of NFIP through the South Gate Municipal Code Chapter 7.47, Floodplain Management. Specific administration and enforcement regulations are outlined in Sections 7.47.010 to Sections 7.47.060. Section 7.47.020, General Provisions, states: "The areas of special flood hazard identified by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency (FEMA) in the Flood Insurance Study (FIS) dated October 30, 1991 and accompanying Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs), dated July 6, 1998, and all subsequent amendments and/or revisions, are adopted by reference and declared to be a part of this chapter." The latest FIRM maps adopted for the City are dated effective September 26, 2008.

The South Gate Municipal Code Section 7.47.040 designated the City building and safety official or designee responsible for administering and implementing the provisions of the NFIP. All development, including new construction and substantial improvements, within designated special flood hazard zones must be in full compliance with Chapter 7.47. The terms "new construction" and "substantial improvement" are defined in Section 7.47.030 of the Municipal Code. All new construction and substantial improvement are subject to the development standards outlined in Section 7.47, which implement NFIP requirements. Requirements for new construction and significant improvement would also apply after any event where the property has been substantially impacted by flood. No other specific regulations or requirements are outlined in the City code for implementation after any event where a property had substantial improvement or damage. Significant flood events

are rare within the City, even during heavy precipitation years. To date, the City does not have any repetitive loss properties or severe repetitive loss properties within the jurisdiction.

Additionally, it is noted that the City's General Plan Land Use Map identifies where specific land uses are allowed within the City. Both the Los Angeles River and Rio Hondo as major drainages are identified as "Water Bodies, Easements, and Public Works". This land use does not permit habitable development within either drainage, nor would other regulatory easements permit habitable development. The City will continue to use and implement General Plan land use designations to control development within flood hazard zones.

5.1.2 Hazard Mitigation Prioritization

The LHMP Project Management Team and the LHMP Planning Team discussed each mitigation action to identify priority, using the following as guidance:

- High Priority: Top organizational priority and is generally a well-detailed project idea. Protects population, resource, facility, or property at high risk. Uses feasible methods, techniques, or technology.
- Medium Priority: A good idea that needs more information or is an action that addresses a moderate hazard.
- Low Priority: An idea that needs a lot more information or will take a lot of preliminary action to build support.

The hazard ranking completed as part of LHMP Planning Team Meeting #1. Additional discussion during focus group meetings and the LHMP Planning Team Meeting #2 influenced the ultimate priority and timeline of each hazard. The LHMP Planning Team considered the frequency and severity of the hazard; the vulnerability of critical facilities or infrastructure; the impacts the mitigation action would avoid or reduce; the benefits of the action on the community; the critical facilities that would benefit; the environmental benefits of the action; and the capability of the City to implement the action. For example, some actions may require further study or information but were identified as a high priority because of current conditions (i.e., heightened risk of the hazard, probability of future occurrences, or lack of redundancy established in a specific portion of the community). Several actions were identified as high priority, while the nature and complexity of the action involves a "long-term" timeline of five or more years.

The LHMP Planning Team used the STAPLE/E (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) criteria, as described in Table 5-1, *STAPLE/E Review and Selection Criteria*, when considering and prioritizing the most appropriate mitigation alternatives for the City. This methodology, as endorsed by FEMA, requires that social, technical, administrative, political, legal, economic, and environmental considerations be considered when reviewing potential actions. This process was used to help ensure that the most equitable and feasible actions would be undertaken based on the City's unique capabilities.

Table 5-1
STAPLE/E Review and Selection Criteria

STAPLE/E Review	Selection Criteria
Social	• Is the proposed action socially acceptable to the jurisdiction and surrounding community? • Are there equity issues involved that would mean that one segment of the jurisdiction and/or community is treated unfairly? • Will the action cause social disruption?
Technical	• Will the proposed action work? • Will it create more problems than it solves? • Does it solve a problem or only a symptom? • Is it the most useful action in light of other jurisdiction goals?
Administrative	• Can the jurisdiction implement the action? • Is there someone to coordinate and lead the effort? • Is there sufficient funding, staff, and technical support available? • Are there ongoing administrative requirements that need to be met?
Political	• Is the action politically acceptable? • Is there public support both to implement and to maintain the project?
Legal	• Is the jurisdiction authorized to implement the proposed action? • Are there legal side effects? Could the activity be construed as a taking? • Will the jurisdiction be liable for action or lack of action? • Will the activity be challenged?
Economic	• What are the costs and benefits of this action? • Do the benefits exceed the costs? • Are initial, maintenance, and administrative costs taken into account? • Has funding been secured for the proposed action? If not, what are the potential funding sources (public, nonprofit, and private)? • How will this action affect the fiscal capability of the jurisdiction? • What burden will this action place on the tax base or local economy? • What are the budget and revenue effects of this activity? • Does the action contribute to other jurisdiction goals? • What benefits will the action provide?
Environmental	• How will the action affect the environment? • Will the action need environmental regulatory approvals? • Will it meet local and state regulatory requirements? • Are endangered or threatened species likely to be affected?

5.1.3 Hazard Mitigation Benefit – Cost Review

FEMA requires local governments to analyze the benefits and costs of a range of mitigation actions that can reduce the effects of each hazard within their communities. Benefit-cost analysis is used in hazard mitigation to show if the benefits to life and property protected through mitigation efforts exceed the cost of the mitigation activity. Conducting 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. The analysis is based on calculating the frequency and severity of a hazard, avoided future damages, and risk.

A hazard mitigation plan must demonstrate that a process was employed which emphasized a review of benefits and costs when prioritizing the mitigation actions. The benefit-cost review must be comprehensive to the extent that it can evaluate the monetary as well as the nonmonetary benefits and costs associated with each action. The benefit-cost review should at least consider the following questions:

- 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., which is more beneficial to protect, the fire station or the administrative building)?
- Environmentally, does it make sense to implement this project for the overall community?

More details regarding specific funding mechanisms (both internal funding and grant resources) are provided within Table 5-3, *Hazard Mitigation Actions*, below.

5.1.4 Status of Previous Plan Actions

The previous 2018 LHMP identified 46 mitigation actions for the City of South Gate. The status of previous plan actions are outlined in Table 5-2, *Status of Previous 2018 LHMP Mitigation Actions*, below. Several actions were identified as either completed or no longer relevant/logistically feasible for the City. If mitigation actions were eliminated, the reasoning behind the decision is documented. The remainder of the mitigation actions were carried over into the current plan update within Table 5-3, *Hazard Mitigation Actions*.

Table 5-2
Status of Previous 2018 LHMP Mitigation Actions

2018 Mitigation Action	Completed	Removed; No Longer Relevant or Feasible	Carried Over to Plan Update	Notes
Mitigation Action #1.1 Adopt, implement, and actively enforce the current state building code.			✓	***Included as New Mitigation Action #17***. Mitigation action text received minor edits/updates for clarity. Content and intent of mitigation action remains the same.
Mitigation Action #1.2 Adopt a policy to avoid siting new critical public facilities and infrastructure in areas of elevated vulnerability to flooding and seismic hazards. If siting such facilities in areas of elevated vulnerability is unavoidable, design facilities to remain operable during emergency situations to the greatest extent feasible.			✓	***Included as New Mitigation Action #18***. Mitigation action text received minor edits/updates for clarity. Content and intent of mitigation action remains the same.
Mitigation Action #1.3 Work with utility companies and non-city agencies, including Southern California Edison, Southern California Gas Company, Los Angeles Metro, and telecommunication providers, to harden infrastructure to be more resilient to hazard situations, helping to provide safe service during emergency situations and to quickly fix any service interruptions.		✓		***No longer applicable or feasible.*** The LHMP Planning Team found this action broad and lacking in specific actions to harden infrastructure. This mitigation action was removed in favor of more specific actions discussing capital improvement projects with partner agencies.
Mitigation Action #1.4 Expand participation in the NotifyMe program to notify the community in the event of an occurring or imminent hazardous situation, including a need to evacuate. The program should support all commonly spoken languages and can be advertised through multiple methods (door-to-door notifications, phone, television, radio, and online/social media). Coordinate with the Los Angeles County Operational Area for best practices and for consistency with notification systems for surrounding communities.			✓	***Included as New Mitigation Action #2***. Mitigation action text received minor edits/updates for clarity. Content and intent of mitigation action remains the same.
Mitigation Action #1.5 Conduct a comprehensive and ongoing education campaign to improve awareness of hazard threats and ways to reduce risks. The campaign should include mailings, in-person workshops and events, and media notifications (television, radio, online/social media, etc.). The campaign should be designed to reach all members of the community, and should include materials in commonly spoken languages in the community, including English and Spanish.		✓		***No longer applicable or feasible.*** The LHMP Planning Team replaced this action with more specific community outreach and engagement action, with consideration for socially vulnerable populations.
Mitigation Action #1.6 Update and expand the City's Street Tree Master Plan to cover the following topics: • Attaining "Tree City USA" designation • Tree maintenance including canopy and root maintenance with an emphasis on maintaining buffers between canopies and critical infrastructure. • Drought tolerant and shade-providing tree palettes. • Tree vulnerability to high winds, with direction to replace vulnerable trees with more resilient species. • Mitigating tree pest disease and impacts. • Actions and funding sources expand the City's shade tree stock. • Best practices for private property plant selection and tree maintenance.			✓	***Included as New Mitigation Action #19***. No changes were made to the previous mitigation action.
Mitigation Action #1.7 Coordinate with LA County Public Works to designate Firestone Boulevard as an official County Disaster Route.		✓		***No longer applicable or feasible.*** Firestone Boulevard is listed as an evacuation route within the City's Emergency Operations Plan; official County Disaster Route status is not required.
Mitigation Action #1.8 Update all emergency-related planning documents every five years to ensure consistency with state and federal law, best practices, local conditions, and recent science. Integrate the hazards research findings and actions in this Local Hazard Mitigation Plan with all City emergency planning efforts and programs.			✓	***Included as New Mitigation Action #1.*** Mitigation action text received minor edits/updates for clarity. Content and intent of mitigation action remains the same.
Mitigation Action #1.9 Monitor and pursue hazard mitigation funding opportunities.		✓		***No longer applicable or feasible.*** This LHMP identifies funding sources for each mitigation action, and opportunities to identify additional/future funding sources are included within each specific action.
Mitigation Action #2.1 Adopt and enforce the State Model Water Efficient Landscaping Ordinance.	✓			***Done.*** The City implements the Water Conservation Ordinance (Chapter 6.64) in the municipal code.
Mitigation Action #2.2 Work with regional partners, including the Los Angeles Unified School District and the Central Basin Water District, to develop a recycled water master plan, with the intention of identifying financially feasible approaches to expanding recycled water infrastructure throughout the city.	✓			***Done.*** The 2019 Water Master Plan identifies recycled water main retrofits as capital improvement projects and other approaches to expanding recycled water infrastructure. New mitigation actions outline future partnerships with relevant agencies on recycled water planning.

Table 5-2 (continued)
Status of Previous 2018 LHMP Mitigation Actions

2018 Mitigation Action	Completed	Removed; No Longer Relevant or Feasible	Carried Over to Plan Update	Notes
Mitigation Action #2.3 Amend the Municipal Code to require that water fixtures in new buildings be more efficient than otherwise required by state law.	✓			***Done.*** The City implements the Water Conservation Ordinance (Chapter 6.64) in the municipal code.
Mitigation Action #2.4 Construct additional water storage facilities.		✓		***No longer applicable or feasible.*** The LHMP Planning Team found this action broad and lacking in project details. This mitigation action was eliminated to include more specific actions detailing capital improvement projects related to potable water infrastructure.
Mitigation Action #2.5 Identify and pursue alternative sources of water to support potential shortages of deliveries from the Metropolitan Water District.			✓	***Included as New Mitigation Measure #27.*** Mitigation action text was merged with Mitigation Action #2.6, below, to reduce redundancy.
Mitigation Action #2.6 Work with the Golden State Water Company to help ensure a sufficient long-term supply of water to the southeast portion of the community.			✓	***Included as New Mitigation Measure #27.*** Mitigation action text was merged with Mitigation Action #2.5, above, to reduce redundancy.
Mitigation Action #2.7 Offer reduced-cost or free water audits for residents and businesses.			✓	***Included as New Mitigation Measure #24***. Mitigation action text was merged with Mitigation Action #2.8, below, to reduce redundancy.
Mitigation Action #2.8 Publicize available rebates and other financial incentives for equipment that reduces water use.			✓	***Included as New Mitigation Measure #24***. Mitigation action text was merged with Mitigation Action #2.7, above, to reduce redundancy.
Mitigation Action #2.9 Amend the Municipal Code to require new nonresidential buildings in a recycled water service area to include dual plumbing for potable and non-potable water sources.			✓	***Included as New Mitigation Measure #25.*** No changes were made to the previous mitigation action.
Mitigation Action #2.10 As part of discretionary review, encourage new residential buildings in a recycled water service area to include dual plumbing for potable and non-potable water sources.		✓		***No longer applicable or feasible.*** The LHMP Planning team found this action no longer relevant.
Mitigation Action #2.11 Continue retrofitting publicly landscaped areas with artificial turf or drought-tolerant landscaping.			✓	***Included as New Mitigation Action #26***. Mitigation action text received minor edits/updates for clarity. Content and intent of mitigation action remains the same.
Mitigation Action #2.12 Require Urban Water Management Plan updates to consider more severe and long-lasting drought scenarios.		✓		***No longer applicable or feasible.*** The LHMP Planning team found this action no longer relevant; current UWMP standards are sufficient for future planning purposes.
Mitigation Action #3.1 Conduct a seismic study for public buildings and infrastructure and retrofit facilities based on findings and available funding.			✓	***Included as New Mitigation Action #59***. Mitigation action text was revised to add further detail and specificity.
Mitigation Action #3.2 Conduct a seismically vulnerable private building inventory, with a focus on unreinforced masonry and "soft-story" buildings, and develop a prioritized list of recommended phasing for retrofits.			✓	***Included as New Mitigation Action #60***. Mitigation action text was revised to add further detail and specificity, including consideration for DACs and SVPs.
Mitigation Action #3.3 Adopt a phased ordinance for seismic retrofits to require existing unreinforced buildings to meet current seismic standards. Identify and secure to the extent possible funding to assist property owners with retrofit costs.		✓		***No longer applicable or feasible.*** This action was eliminated in favor of more specific seismic retrofit actions, including consideration for FEMA grant funding sources.
Mitigation Action #3.4 In coordination with state and regional agencies, conduct seismic evaluations of infrastructure owned by other agencies in the city, and identify funding sources to conduct seismic retrofits of vulnerable infrastructure.		✓		***No longer applicable or feasible.*** The LHMP Planning Team found this action broad and lacking in project details. This mitigation action was eliminated to include more specific actions regarding seismic retrofits between public and private infrastructure.
Mitigation Action #3.5 Retrofit City-owned facilities and infrastructure, including water storage tanks, to increase resiliency to seismic hazards and to remain operable immediately after seismic events.		✓		***No longer applicable or feasible.*** This action was eliminated in favor of more specific seismic retrofit actions, including consideration for FEMA grant funding sources.
Mitigation Action #4.1 On public facilities, conduct energy-efficiency audits, retrofit buildings to increase efficiency, and install solar panels to reduce demand on the electrical grid (increasing its resiliency during heat waves) and to save money and generate municipal revenue.			✓	***Included as New Mitigation Action #32***. Mitigation action text received minor edits/updates for clarity. Content and intent of mitigation action remains the same.
Mitigation Action #4.2 Encourage solar panels on new and existing developments by widely publicizing available incentives and financing options, working with local PACE providers to expand outreach to lower-income and non-English-speaking neighborhoods, and participating in programs to reduce the cost of solar panels for residents.			✓	***Included as New Mitigation Action #33***. Mitigation action text received minor edits/updates for clarity, including considerations for DACs and SVPs. Content and intent of mitigation action remains the same.

Table 5-2 (continued)
Status of Previous 2018 LHMP Mitigation Actions

2018 Mitigation Action	Completed	Removed; No Longer Relevant or Feasible	Carried Over to Plan Update	Notes
Mitigation Action #4.3 Work with community groups to identify and secure funding to install energy-efficient air conditioner units for homes without AC access, particularly for homes of lower-income residents, the elderly, and persons with disabilities.		✓		***No longer applicable or feasible.*** The LHMP Planning Team found this action broad and lacking in detail regarding relevant partners. After engagement with the American Red Cross, this mitigation action was eliminated in favor of more specific actions to assist DACs and SVPs.
Mitigation Action #4.4 Require new nonresidential and multifamily development to incorporate high-reflectivity roofing and surface materials, shade trees, shade structures, and/or other infrastructure features to reduce human exposure to extreme heat and to mitigate the urban heat island effect.			✓	***Included as New Mitigation Action #34***. Mitigation action text received minor edits/updates for clarity. Content and intent of mitigation action remains the same.
Mitigation Action #4.5 Upon discretionary review for significant remodels, require owners of existing parking lots to install infrastructure features to increase shade and reduce the urban heat island effect.	✓			***Done.*** Municipal Code Chapter 11.33 requires 10% of all parking lots in the City to be dedicated to landscaping.
Mitigation Action #4.6 Educate all outdoor City workers, including construction, landscaping, maintenance, and recreation staff, about the risks posed by extreme heat and how to reduce them.			✓	***Included as New Mitigation Action #35***. Mitigation action text received minor edits/updates for clarity. Content and intent of mitigation action remains the same.
Mitigation Action #4.7 Include extreme heat as a hazard in the City's Emergency Operations Plan with clear guidelines to: • Designate public buildings and other community facilities as cooling centers that are easily accessible by all residents in all parts of South Gate, including individuals with limited mobility. • Distribute information about cooling centers. • Establish a temperature threshold as a minimum standard for opening and operating cooling centers.	✓			***Done.*** Extreme heat is included as a hazard in both the City's Emergency Operations Plan and Safety Element.
Mitigation Action #5.1 As part of the development review process, require all hazardous material storage tanks meet or exceed all required and recommended safety standards, including resiliency to natural hazards such as flooding and seismic hazards.			✓	***Included as New Mitigation Action #47***. No changes were made to the previous mitigation action.
Mitigation Action #5.2 As part of the development review process, continue to require soil testing for hazardous materials prior to construction activity, and to deny permits if risks from any hazardous materials are not mitigated to a generally safe level.			✓	***Included as New Mitigation Action #48***. No changes were made to the previous mitigation action.
Mitigation Action #5.3 Review the zoning ordinance and map and amend allowed uses to prevent siting facilities which may manufacture, store, use, transport, or allow hazardous materials near residential areas or other sensitive uses.			✓	***Included as New Mitigation Action #49***. No changes were made to the previous mitigation action.
Mitigation Action #5.4 Consult with Union Pacific Railroad (UPRR) on potential land use issues and safety concerns associated with the railroad rights-of-way in the city. As part of the consultation, UPRR should provide the City with its emergency response and recovery plans for assets located in the city.	✓			***Done.*** The City conducts ongoing coordination with UPRR on potential land use issues and safety concerns. UPRR maintains their own emergency response and recovery plans for assets located within the planning area.
Mitigation Action #6.1 Monitor the effectiveness of current requirements for new developments to handle stormwater on-site, to the extent possible, through the use of permeable paving and other low-impact development strategies, and update the requirements as needed.		✓		***No longer applicable or feasible.*** The City finds existing low impact development standards regarding on-site stormwater storage to be sufficient. More specific mitigation actions relating to flood are included in this LHMP update.
Mitigation Action #6.2 Provide educational materials to existing property owners about the benefits of installing low-impact development stormwater components.				***Included as New Mitigation Action #39***. No changes were made to the previous mitigation action.
Mitigation Action #6.3 Upgrade storm drain infrastructure in areas that frequently pond during strong rains.			✓	***Included as New Mitigation Action #40***. Mitigation action text was revised to add further detail and specificity.
Mitigation Action #6.4 Retrofit public spaces to reduce stormwater runoff, including using permeable paving for sidewalks and parking lots.			✓	***Included as New Mitigation Action #41***. Mitigation action text was revised to add further detail and specificity.
Mitigation Action #6.5 Continue to participate in the National Flood Insurance Program and maintain an effective and up-to-date Flood Plain Management Ordinance.			✓	***Included as New Mitigation Action #42***. No changes were made to the previous mitigation action.
Mitigation Action #6.6 Continue and expand the regular cleaning and maintenance of City storm drains to ensure they are functioning at full capacity.			✓	***Included as New Mitigation Action #43***. No changes were made to the previous mitigation action.

Table 5-2 (continued)
Status of Previous 2018 LHMP Mitigation Actions

2018 Mitigation Action	Completed	Removed; No Longer Relevant or Feasible	Carried Over to Plan Update	Notes
Mitigation Action #6.7 Continue requiring new development projects to reduce potential and existing flooding hazards as part of the development process. Through the use of low-impact and nature-based solutions where feasible, require new developments to accommodate stormwater on site to the extent possible.			✓	***Included as New Mitigation Action #44***. No changes were made to the previous mitigation action.
Mitigation Action #6.8 Analyze the flood potential associated with elevated reservoir failure in the community.	✓			***Done.*** Elevated reservoir failure is profiled under the Dam/Reservoir Failure section. Additional mitigation actions have been included in this LHMP to address these hazards.
Mitigation Action #7.1 Design future key infrastructure to withstand severe weather events beyond minimum code specifications.		✓		***No longer applicable or feasible.*** The LHMP Planning Team found this action broad and lacking in project details. This mitigation action was eliminated to include more specific actions detailing capital improvement projects related to severe weather events.
Mitigation Action #7.2 Monitor trees and other vegetation near power lines, and promptly inform utility companies if any vegetation may threaten power service during severe weather and/or requires trimming.			✓	***Included as New Mitigation Action #65***. Mitigation action text received minor edits/updates for clarity. Content and intent of mitigation action remains the same.
Mitigation Action #8.1 Coordinate with the Los Angeles County Department of Public Health to ensure South Gate residents have access to affordable flu vaccinations, and that community members are notified about the availability of flu vaccines.			✓	***Included as New Mitigation Action #57***. Mitigation action text received minor edits/updates for clarity, including considerations for DACs and SVPs. Content and intent of mitigation action remains the same.
Mitigation Action #8.2 Work with the Greater Los Angeles County Vector Control District to implement pest management strategies to reduce health risks from disease vectors, to treat/reduce areas of standing water where mosquitoes may breed, and to support additional mosquito mitigation actions as needed.			✓	***Included as New Mitigation Action #55***. Mitigation action text received minor edits/updates for clarity. Content and intent of mitigation action remains the same.
Mitigation Action #9.1 Work with the US Army Corps of Engineers and the Metropolitan Water District to support retrofit activities for dams that may pose an inundation risk for South Gate.			✓	***Included as New Mitigation Action #20***. Mitigation action text received minor edits/updates for clarity. Content and intent of mitigation action remains the same.

5.2 Hazard Mitigation Actions

The LHMP Planning Team worked together to identify mitigation actions and establish the responsible department, priority level and timeline. The process used is outlined below:

- Review of the Vulnerability and Risk Assessment presented in Section 4.0, *Hazards Assessment*;
- Review of the Capabilities Assessment presented in Section 5.3, *Capabilities Assessment*;
- Review of the results of the community survey and feedback received as part of the community outreach; and,
- The LHMP Planning Team's discussion of concerns/issues that need to be addressed to reduce hazards to critical facilities and the community.

Table 5-3, *Hazard Mitigation Actions*, identifies the mitigation action, hazard(s) addressed, agency and/or department responsible for implementation, potential funding source(s), timeline for implementation, and priority. The timeline for implementation is defined as follows:

- Ongoing: currently in process; or 1-2 years and ongoing thereafter;
- Short-Term: 1 to 2 years;
- Medium-Term: 3 to 4 years; and
- Long-Term: 5+ years.

Mitigation actions below may be funded through the City budget, particularly mitigation actions identified as "ongoing". However, the City will also explore funding for specific mitigation actions through local, State, or federal grant programs. Potential grant programs or funding mechanisms are identified for specific mitigation actions as applicable, below.

The City maintains and annually updates a Capital Improvement Project (CIP) budget that identifies priority City projects and major equipment purchases for all City departments. Identified capital improvement projects were integrated into the LHMP mitigation actions where appropriate for projects with a nexus to resilience or natural hazards. In addition, as part of the annual review and update of the CIP budget, mitigation actions will be reviewed and integrated.

All mitigation actions considered for the City were ultimately included in the LHMP and Table 5-3, *Hazard Mitigation Actions*. There were no mitigation actions considered but ultimately excluded from the LHMP. The mitigation action development process is carefully documented in Appendix B, *LHMP Planning Team Documentation* and was a key area of focus during all focus group meetings and Stakeholder Meeting #2. Appendix B, *LHMP Planning Team Documentation* also documents revisions, comments, and feedback, from the LHMP Planning Team, Project Management staff and the City's consultant, Michael Baker International.

Table 5-3
Hazard Mitigation Actions

#	Mitigation Action	Hazard(s) Assessed	Responsible Department	Funding Sources	Priority	Timeline
1	Continue to update this Local Hazard Mitigation Plan every five years to ensure consistency with state and federal law, best practices, local conditions, and recent science. Integrate the hazards research findings and actions in this Local Hazard Mitigation Plan with all City emergency planning efforts and programs.	All Hazards	**City:** Police Department and identified departments in LHMP Section 6.0. **External Partners:** Identified external partners in LHMP Section 6.0.	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC).	Medium	Long-Term
2	Continue to expand participation in the NotifyMe, ReadyLA and ShakeAlertLA program to notify the community in the event of an occurring or imminent hazardous situation, including a need to evacuate. The program should support all commonly spoken languages and can be advertised through multiple methods (door-to-door notifications, phone, television, radio, and online/social media). Coordinate with the Los Angeles County Operational Area for best practices and for consistency with notification systems for surrounding communities.	All Hazards	**City:** Police Department **External Partners:** County of Los Angeles; Los Angeles County Fire Department	Staff time, City General Fund.	Medium	Ongoing
3	Integrate natural hazard information and mapping (e.g., flood, liquefaction, fault hazard zones) into the City General Plan, to ensure the most current information is reflected and updated as necessary. Incorporate new and/or revised goals and policies specific to reducing vulnerability to natural hazards. Integrate the adopted HMP into the City Safety Element by reference to ensure compliance with AB 2140.	All Hazards	**City:** Community Development Department – Planning Division	Staff time, City General Fund. **Office of Planning and Research (OPR):** Adaptation Planning Grant Program, Extreme Heat and Community Resilience Grant Program.	Low	Medium-Term
4	Explore funding opportunities to implement a City-wide mass notification system to notify community members in the event of an imminent threat or evacuation order. Promote emergency alert systems, and encourage residents, including DAC and vulnerable populations, to sign-up to receive alerts through their preferred notification approach.	All Hazards	**City:** Police Department	**FEMA**: Next Generation Warning System Grant Program (NGWSGP).	High	Medium-Term
5	Explore funding to purchase a mobile command unit or trailer (including supporting mobile generators, for public safety agencies to stage emergency operations and dispatch near the emergency incident. Include communication technology/radio dispatch, workstations, and storage compartments. Consider partnerships with external public safety agencies for cost sharing and maintenance.	All Hazards	**City:** Police Department **External Partners:** Los Angeles County Fire Department	**FEMA:** Emergency Management Performance Grant, Emergency Operations Center Grant Program. [*City may be required to submit grant as a subapplicant under the Los Angeles County OEM*]	Low	Long-Term
6	Conduct a comprehensive update of the South Gate Emergency Preparedness web content and outreach materials. Continue to include emergency preparedness information and promote relevant emergency notification and alert systems. Promote current American Red Cross emergency preparedness educational materials and documents on the webpage. Consider language translation or other accessible web content to ensure outreach to vulnerable or underserved communities. Ensure the LHMP update is linked on the webpage.	All Hazards	**City:** Police Department, Community Development Department **External Partners:** American Red Cross, Los Angeles County Fire Department	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC). **Office of Planning and Research (OPR):** Adaptation Planning Grant Program.	Medium	Ongoing
7	Develop an education and outreach program to distribute information on how to reduce hazard risk/vulnerability to all community members through mailings, printed notifications, television, and digital devices, and in-person events and workshops. Include focused outreach with underserved or vulnerable populations, and consider the unique communication needs of these groups to ensure culturally competent and meaningful engagement. Consult and solicit feedback for opportunities to improve communication/engagement procedures.	All Hazards	**City:** Police Department, Community Development Department **External Partners:** American Red Cross, Los Angeles County Fire Department, local school districts	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC). **OPR:** Adaptation Planning Grant Program.	Medium	Medium-Term
8	Continue to provide back-up power at critical facilities though permanent or portable generators. Identify critical facilities in need of new or expanded generator capacity, and identify funding sources for purchase of additional generator capacity. Explore funding opportunities to purchase or upgrade battery systems and generators for City traffic signals without backup power.	All Hazards	**City:** Police Department, Public Works Department, Utilities and Water Department, Community Development Department, Parks and Recreation **External Partners:** Los Angeles County Fire Department, local school districts	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC). **State Water Resources Control Board:** Backup Generator Funding Program. **SCE:** Microgrid Incentive Program.	High	Ongoing
9	Explore funding to update/replace aging traffic signal and electrical circuits throughout the City that have previously experienced interruptions during hazard events. Consider implementing solar panels for traffic lights as part of the update.	All Hazards	**City:** Public Works Department	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC). **California Office of Traffic Safety:** OTS Grant Funding.	Medium	Medium-Term
10	Continue to regularly conduct emergency preparedness trainings, exercises, and drills. Participate in emergency preparedness trainings hosted by external partners, such as local dam owners.	All Hazards	**City:** Police Department **External Partners:** Los Angeles County Fire Department	**FEMA:** Emergency Management Performance Grant, Emergency Operations Center Grant Program. [*City may be required to submit grant as a subapplicant under the Los Angeles County OEM*] **Department of Transportation (DOT):** Hazardous Materials Grants Program, Assistance for Local Emergency Response Training and Hazardous Materials Emergency Preparedness.	Medium	Ongoing
11	Continue regular bridge structural inspections in coordination with Los Angeles County Public Works and California Department of Transportation. If a bridge deficiency is found, identify a corrective plan of action and funding source (including grant funding).	All Hazards	**City:** Public Works Department **External Partners:** Los Angeles County Public Works and Caltrans	**FEMA**: Flood Mitigation Assistance; Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC); **Caltrans**: Bridge Preventive Maintenance Program (BPMP), Highway Bridge Program (HBP)	Medium	Ongoing

Table 5-3 (continued)
Hazard Mitigation Actions

#	Mitigation Action	Hazard(s) Assessed	Responsible Department	Funding Sources	Priority	Timeline
12	Encourage residents and community leaders to participate in Red Cross training programs, including basic shelter training and shelter supervisor training. Partner with local and County Community Emergency Response Teams (CERT) and Search and Rescue Teams to participate in Red Cross training programs, such as first aid and CPR.	All Hazards	**City:** Parks and Recreation, Administrative Services **External Partners:** American Red Cross	Staff time, City General Fund.	Medium	Ongoing
13	Prioritize completing capital improvement projects that enhance park facilities including the Urban Orchard Project, Circle Park Project, and Hollydale Community Park Project. Incorporate design features that will allow the park to be used for emergency response, staging of equipment/supplies, and as a congregation area during emergencies.	All Hazards	**City:** Parks and Recreation **External Partners:** Trust for Public Land	Staff time, City General Fund.	High	Medium-Term
14	Prioritize completing street improvement capital improvement projects to improve traffic flow and reduce traffic congestion which will facilitate ingress, egress and evacuations. Prioritize projects that will provide the greatest improvements on traffic flow and evacuations.	All Hazards	**City:** Public Works Department	**DOT:** Strengthening Mobility and Revolutionizing Transportation (SMART).	High	Medium-Term
15	Prioritize completing the Courthouse Renovation Project for use as an extension for City staff and public meeting spaces which can facilitate emergency preparedness meetings and strategy discussions as well as emergency response facilities.	All Hazards	**City:** Public Works Department, Police Department	**FEMA:** Emergency Management Performance Grant, Emergency Operations Center Grant Program. [*City may be required to submit grant as a subapplicant under the Los Angeles County OEM*]	High	Medium-Term
16	Continue to partner with the American Red Cross Sound the Alarm program, to help distribute and install free smoke detectors in homes. Prioritize distribution and installation within identifies Social Vulnerable Populations (SVPs). Promote the Sound the Alarm program through existing City communication channels.	All Hazards	**City:** Police Department **External Partners:** American Red Cross, Los Angeles County Fire Department	Staff time, City General Fund. **American Red Cross**	Medium	Ongoing
17	Continue to adopt, implement, and actively enforce the current state building code with local amendments as appropriate.	Multiple Hazards: Drought, Extreme Heat, Flood, Seismic Hazards (Fault Rupture, Ground Shaking, Liquefaction and Landslide)	**City:** Community Development Department – Building and Safety, Code Enforcement and Planning Divisions	Staff time, City General Fund.	High	Ongoing
18	Adopt a policy to avoid siting new critical public facilities and infrastructure within or immediately adjacent to mapped hazard zones, where feasible. If siting such facilities in areas of elevated vulnerability is unavoidable, design facilities to remain operable during emergency situations and integrate best practices to reduce vulnerability to the greatest extent feasible.	Multiple Hazards: Flood, Hazardous Materials Spill, Seismic Hazards (Liquefaction)	**City:** Community Development Department, Public Works Department	Staff time, City General Fund.	High	Medium-Term
19	Update and expand the City's Street Tree Master Plan to cover the following topics: • Attaining "Tree City USA" designation. • Tree maintenance including canopy and root maintenance with an emphasis on maintaining buffers between canopies and critical infrastructure. • Drought-tolerant and shade-providing tree palettes. • Tree vulnerability to high winds, with direction to replace vulnerable trees with more resilient species. • Mitigating tree pest and disease impacts. • Actions and funding sources expand the City's shade tree stock. Best practices for private property plant selection and tree maintenance.	Multiple Hazards: Drought, Extreme Heat	**City:** Public Works Department, Parks and Recreation Department	**USDA Forest Service**: Urban and Community Forest Grants **CalFire**: Urban and Community Forest Grants **Office of Planning and Research (OPR):** Adaptation Planning Grant Program, Extreme Heat and Community Resilience Grant Program.	High	Ongoing
20	Continue to work with the US Army Corps of Engineers and the Metropolitan Water District to support retrofit activities for dams that may pose an inundation risk for South Gate.	Dam Inundation	**City:** Public Works Department, Police Department **External Partners:** US Army Corps of Engineers, Los Angeles County Fire Department	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC).	Medium	Ongoing
21	Communicate dam inundation risk to the community, with a focus on emergency preparedness. To ensure the whole community is engaged, develop communication methods and approaches for underserved communities or vulnerable populations, who may require specific or concentrated outreach to achieve maximum engagement.	Dam Inundation	**City:** Police Department, Public Works Department **External Partners:** US Army Corps of Engineers, Los Angeles County Fire Department	**FEMA:** National Dam Safety Program – State Assistance Grant Program.	Medium	Ongoing
22	Coordinate with the US Army Corps of Engineers to participate in emergency preparedness plan updates and exercises for Hansen Dam and Whittier Narrows Dam.	Dam Inundation	**City:** Police Department, Public Works Department **External Partners:** US Army Corps of Engineers, Los Angeles County Fire Department	**FEMA:** National Dam Safety Program; Emergency Management Performance Grant, Emergency Operations Center Grant Program. [*City may be required to submit grant as a subapplicant under the Los Angeles County OEM*]	Medium	Ongoing
23	Identify the potential risks associated with elevated reservoir failure for all City owned reservoirs. Inspect reservoirs for structural deficiencies and identify potential inundation areas in the event of a reservoir failure. Identify funding to repair damaged reservoirs and mitigate potential failure impacts.	Dam Inundation	**City:** Utilities & Water Department, Public Works Department	Staff time, City General Fund.	High	Medium-Term
24	Continue to offer reduced-cost or free water audits for residents and businesses. Promote reduced-cost or free water audits on the city website and ensure socially vulnerable populations are informed of opportunities to participate in reduced-cost or free water audits. Continue to publicize available rebates and other financial incentives for equipment that reduces water use.	Drought	**City:** Utilities & Water Department, Public Works Department **External Partners:** Metropolitan Water District, Golden State Water District	Staff time, City General Fund.	Medium	Ongoing

Table 5-3 (continued)
Hazard Mitigation Actions

#	Mitigation Action	Hazard(s) Assessed	Responsible Department	Funding Sources	Priority	Timeline
25	Amend the Municipal Code to require new nonresidential buildings in a recycled water service area to include dual plumbing for potable and non-potable water sources.	Drought	**City:** Community Development Department – Building & Safety Division, Planning Division	Staff time, City General Fund.	Low	Long-Term
26	Continue retrofitting City-owned landscape areas with artificial turf or drought-tolerant landscaping.	Drought	**City:** Parks and Recreation Department, Public Works Department	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC).	Medium	Ongoing
27	Continue to collaborate with local water wholesalers (Metropolitan Water District, Golden State Water Company) and neighboring jurisdictions with emergency interties to identify/pursue alternative sources of water and/or water storage.	Drought	**City:** Utilities & Water Department, Public Works Department **External Partners:** Metropolitan Water District, Golden State Water Company	Staff time, City General Fund. **FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC).	Medium	Ongoing
28	Ensure accurate land use and growth information is incorporated into projected water supply analyses as part of Urban Water Management Plan and Water Shortage Contingency Plan updates.	Drought	**City:** Utilities & Water Department **External Partners:** Metropolitan Water District, Golden State Water Company	Staff time, City General Fund.	Low	Long-Term
29	Pursue recycled water main retrofits as identified in the 2019 South Gate Water Master Plan. Partner with the Central Basin Municipal Water District and Golden State Water Company to develop a recycled water master plan to expanding recycled water infrastructure throughout the City.	Drought	**City:** Utilities & Water Department **External Partners:** Metropolitan Water District, Golden State Water Company	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC).	Medium	Long-Term
30	Proactively monitor drought conditions and water conservation warnings issued by State and National agencies or local water purveyors.	Drought	**City:** Utilities & Water Department	Staff time, City General Fund.	Medium	Ongoing
31	Prioritize constructing new Well No. 30 to replace the two existing wells at Hawkins Reservoir Site, and thus improving water supply resilience and efficiencies.	Drought	**City:** Utilities & Water Department, Public Works Department	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC).	High	Short-Term
32	Conduct energy-efficiency audits at City-owned facilities and identify retrofit opportunities to increase resilience. Prioritize solar panel installation to reduce demand on the electrical grid and to save money in the long-term.	Extreme Heat	**City:** Utilities & Water Department, Public Works Department	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC).	Medium	Ongoing
33	Continue to encourage solar panels on new and existing developments by widely publicizing available incentives and financing options. Work with local PACE providers to expand outreach to DAC, SVPs, and non-English-speaking neighborhoods, and participate in programs to reduce the cost of solar panels for residents.	Extreme Heat	**City:** Community Development Department, Public Works Department **External Partners:** PACE Providers	**Office of Planning and Research (OPR):** Adaptation Planning Grant Program, Extreme Heat and Community Resilience Grant Program.	Medium	Ongoing
34	Continue to require new nonresidential and multifamily development to incorporate high-reflectivity roofing and surface materials, shade trees, shade structures, and/or other infrastructure features to reduce human exposure to extreme heat and to mitigate the urban heat island effect. Prioritize nature-based solutions to reduce heat exposure when feasible.	Extreme Heat	**City:** Community Development Department, Public Works Department, Parks and Recreation Department	**Office of Planning and Research (OPR):** Adaptation Planning Grant Program, Extreme Heat and Community Resilience Grant Program.	Low	Ongoing
35	Continue to educate City staff and contractors, including construction, landscaping, maintenance, and recreation staff, about the risks posed by extreme heat and how to reduce them.	Extreme Heat	**City:** Human Resources Department, Administrative Services Department, Public Works Department, Parks and Recreation Department	Staff time, City General Fund.	Medium	Ongoing
36	Educate citizens (particularly vulnerable populations) regarding the dangers of extreme heat, and proactive steps to stay safe when extreme heat events occur. Continue to publicize the locations of cooling centers in the community. Explore opportunities to further support vulnerable populations and underserved communities during extreme heat.	Extreme Heat	**City:** Police Department, Parks and Recreation Department **External Partners:** Los Angeles County Fire Department	**FEMA**: Next Generation Warning System Grant Program (NGWSGP)	High	Ongoing
37	Continue to monitor anticipated extreme heat events. Coordinate with regional partners and nonprofits, including the American Red Cross to stage and prepare supplies when extreme heat events are anticipated or when cooling centers may be activated. Use social media and other forms of outreach to warn residents of anticipated extreme heat events. Ensure DAC and SVPs are informed of safety measures and supportive resources during extreme heat events.	Extreme Heat	**City:** Police Department, Parks and Recreation Department and Public Works Department **External Partners:** Los Angeles County Fire Department	General Fund **FEMA**: Next Generation Warning System Grant Program (NGWSGP)	High	Ongoing
38	Prioritize the South Gate Police Department Air Conditioner Replacement and South Gate Sports Center HVAC capital improvement projects to serve as cooling centers during extreme heat events.	Extreme Heat	**City:** Police Department, Parks and Recreation Department	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC). **OPR**: Adaptation Planning Grant Program; Regional Resilience Planning and Implementation Grant Program	High	Short-Term
39	Continue to provide educational materials to existing property owners about the benefits of installing low-impact development and nature-based stormwater management components (rain gardens, planting trees, reducing impermeable surfaces, etc.).	Flood	**City:** Public Works Department, Parks and Recreation Department	Staff time, City General Fund.	Medium	Ongoing
40	Continue to evaluate the effectiveness of City-owned drain systems and carry out improvements as needed. Monitor City-owned drainage infrastructure during rain events, and take emergency action as necessary to avoid or minimize flooding. Upgrade storm drain infrastructure in areas that frequently pond and/or locally flood during strong rains.	Flood	**City:** Public Works Department, Parks and Recreation Department	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC).	Medium	Ongoing
41	Continue to retrofit public spaces to reduce stormwater runoff, including using permeable paving for sidewalks and parking lots and nature-based solutions where feasible. Prioritize areas prone to flooding and implement retrofits as funding sources become available. Incorporate permeable surfaces in the Citywide Residential Resurfacing Project to allow for surface water and runoff infiltration and mitigate localized flooding.	Flood	**City:** Public Works Department, Parks and Recreation Department	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC); Flood Mitigation Assistance; Building Resilient **DWR**: Floodplain Management, Protection, and Risk Awareness Grant Program	Medium	Ongoing
42	Continue to participate in the National Flood Insurance Program and maintain an effective and up-to-date Flood Plain Management Ordinance.	Flood	**City:** Community Development Department	Staff time, City General Fund.	Medium	Ongoing

Table 5-3 (continued)
Hazard Mitigation Actions

#	Mitigation Action	Hazard(s) Assessed	Responsible Department	Funding Sources	Priority	Timeline
43	Continue and expand the regular cleaning and maintenance of City storm drains to ensure they are functioning at full capacity.	Flood	**City:** Public Works Department, Parks and Recreation Department	Staff time, City General Fund.	High	Ongoing
44	Continue requiring new development projects to reduce potential and existing flooding hazards as part of the development process. Through the use of low-impact and nature-based solutions where feasible, require new developments to accommodate stormwater on site to the extent possible.	Flood	**City:** Community Development Department, Public Works Department	General Fund, development fees **FEMA**: Hazard Mitigation Grant Program (HMGP); Flood Mitigation Assistance; Building Resilient Infrastructure and Communities (BRIC). **DWR**: Floodplain Management, Protection, and Risk Awareness Grant Program	Medium	Ongoing
45	Prioritize the stormwater infiltration well improvements projects on Karmont Avenue and Adella Avenue to improve runoff infiltration and reduce flooding.	Flood	**City:** Public Works Department	**FEMA**: Hazard Mitigation Grant Program (HMGP); Flood Mitigation Assistance; Building Resilient Infrastructure and Communities (BRIC). **DWR**: Floodplain Management, Protection, and Risk Awareness Grant Program	Medium	Medium-Term
46	Prioritize completing the Urban Orchard Project and incorporate design features to improve stormwater capacity.	Flood	**City:** Parks and Recreation Department **External Partners:** Trust for Public Land	**FEMA**: Hazard Mitigation Grant Program (HMGP); Flood Mitigation Assistance; Building Resilient Infrastructure and Communities (BRIC). **DWR**: Floodplain Management, Protection, and Risk Awareness Grant Program	High	Short-Term
47	As part of the development review process, require all hazardous material storage tanks meet or exceed all required and recommended safety standards, including resilience to natural hazards such as flooding and seismic hazards.	Hazardous Materials	**City:** Community Development Department	Staff time, City General Fund.	High	Ongoing
48	As part of the development review process, continue to require soil testing for hazardous materials prior to construction activity, and to deny permits if risks from any hazardous materials are not mitigated to a generally safe level.	Hazardous Materials	**City:** Community Development Department – Planning Division	Staff time, City General Fund.	High	Ongoing
49	Review the zoning ordinance and map and amend allowed uses to prevent siting facilities which may manufacture, store, use, transport, or allow hazardous materials near residential areas or other sensitive uses.	Hazardous Materials	**City:** Community Development Department – Planning Division	Staff time, City General Fund.	Low	Short-Term
50	Continue to educate the public regarding proper handling, storage, and disposal of hazardous materials.	Hazardous Materials	**City:** Community Development, Police Department **External Partners:** Los Angeles County Fire Department	Staff time, City General Fund.	Medium	Ongoing
51	Continue to implement the EPA Brownfields Assessment Grant to identify properties that could be cleaned up and redeveloped, to met the City's economic and housing goals. Establish a system to inventory and prioritize sites, including consideration for location, potential contamination, and how reuse fits into the City's General Plan. Conduct community outreach to incorporate community feedback into the planning and prioritization process. Seek future EPA grant funding to conduct brownfield remediation and clean up according to the sites inventory and prioritization.	Hazardous Materials	**City:** Community Development Department **External Partners:** Environmental Protection Agency, Department of Water Resources	**CalEPA:** Equitable Community Revitalization Grant – Site Specific Investigation Grant and Site-Specific Clean-Up Grant	High	Short-Term
52	Coordinate with South Gate Police Department, along with Los Angeles County Sheriff and Fire Departments, to enhance communication and intelligence for political/social incidents that could result in terrorism, civil disturbance or unrest.	Human Caused Hazards (Terrorism/Active Shooter, Civil Unrest)	**City:** Police Department **External Partners:** Los Angeles County Fire Department, Los Angeles County Office of Emergency Management, and neighboring cities	Staff time, City General Fund.	Medium	Ongoing
53	Prepare, adopt, and implement a Cybersecurity Plan in coordination with a consultant. Use the plan preparation process to identify specific vulnerabilities and actionable items that mitigate risk.	Human Caused Hazards (Terrorism/Active Shooter, Civil Unrest)	**City:** Police Department	**FEMA**: State and Local Cybersecurity Grant Program (SLCGP)	Low	Long-Term
54	Continue to conduct regular active shooter drills at the City to ensure public safety officials and employees are properly prepared and trained. Promote active shooter drills and trainings for all City departments and encourage residents, businesses, and schools to participate or conduct active shooter drills.	Human Caused Hazards (Terrorism/Active Shooter, Civil Unrest)	**City:** Police Department **External Partners:** Los Angeles County Fire Department, local school districts	**FEMA:** Emergency Management Performance Grant, Emergency Operations Center Grant Program. [*City may be required to submit grant as a subapplicant under the Los Angeles County OEM*]	High	Ongoing
55	Continue to work with the Greater Los Angeles County Vector Control District to implement pest management strategies to reduce health risks from disease vectors, to treat/reduce areas of standing water where mosquitoes may breed, and to support additional mosquito mitigation actions as needed.	Pandemic and Disease/ Pest Management	**City:** Public Works Department **External Partners:** Greater Los Angeles County Vector Control District	Staff time, City General Fund.	Medium	Ongoing
56	Identify, remove, treat, and monitor any standing water susceptible to mosquitos within City-owned facilities or infrastructure.	Pandemic and Disease/ Pest Management	**City:** Public Works Department, Parks and Recreation Department. **External Partners:** Greater Los Angeles County Vector Control District	Staff time, City General Fund.	Medium	Ongoing
57	Coordinate with the Los Angeles County Department of Public Health to ensure South Gate residents have access to affordable vaccinations, and that community members are notified about the availability of vaccines.- Coordinate with nonprofits that serve DAC and SVPs to ensure residents are made aware of affordable vaccinations.	Pandemic and Disease/ Pest Management	**City:** Administration Department, Police Department **External Partners:** Los Angeles County Department of Public Health, Los Angeles County Fire Department	Staff time, City General Fund.	High	Ongoing

Table 5-3 (continued)
Hazard Mitigation Actions

#	Mitigation Action	Hazard(s) Assessed	Responsible Department	Funding Sources	Priority	Timeline
58	Continue to communicate with the Los Angeles County Department of Public Health to follow the most recent guidance to address the COVID-19 and future pandemics.	Pandemic and Disease/ Pest Management	**City:** Administration Department, Police Department **External Partners:** Los Angeles County Department of Public Health, Los Angeles County Fire Department	Staff time, City General Fund.	Low	Ongoing
59	Conduct a seismic study for public buildings and infrastructure and retrofit facilities based on findings and available funding. Annually inspect critical facilities to identify structural deficiencies or seismic concerns. If vulnerabilities or deficiencies are identified, document a retrofit plan, schedule, and funding source.	Seismic Hazards (Fault Rupture, Ground Shaking, Liquefaction, and Landslide)	**City:** Public Works Department, Community Development Department	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC).	Medium	Medium-Term
60	Conduct a seismically vulnerable private building inventory, with a focus on unreinforced masonry and "soft-story" buildings, and develop a prioritized list of recommended phasing for retrofits. Coordinate with local and regional agencies to secure grant funding for a program to retrofit privately-owned seismically vulnerable structures (such as soft story and masonry buildings) within the City. Integrate grant funding prioritization where feasible for improvements benefit at-risk populations, such as low-income housing, SVPs, or properties within Disadvantaged Communities (DACs).	Seismic Hazards (Fault Rupture, Ground Shaking, Liquefaction, and Landslide)	**City:** Public Works Department, Community Development Department	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC).	Medium	Medium-Term
61	Continue to promote the ShakeAlertLA app on the City Emergency Preparedness webpage and through other emergency outreach materials. Incorporate earthquake safety into outreach and promote participation with underserved or vulnerable populations (particularly linguistically isolated populations within the DAC), who may not be aware of notification programs for earthquakes. Outreach materials should be available in English and Spanish.	Seismic Hazards (Fault Rupture, Ground Shaking, Liquefaction, and Landslide)	**City:** Police Department, Community Development Department **External Partners:** Los Angeles County Fire Department	Staff time, City General Fund.	High	Ongoing
62	Continue following current Building and Safety requirements for constructing in liquefaction hazard zones. At new critical facilities sited within the liquefaction hazard zone, integrate mitigation measures into the building design to the maximum extent feasible.	Seismic Hazards (Fault Rupture, Ground Shaking, Liquefaction, and Landslide)	**City:** Community Development Department – Planning Division, Building and Safety Division	Staff time, City General Fund.	Medium	Ongoing
63	Investigate opportunities for seismic retrofits for City owned potable water and sewer infrastructure, such as reservoirs, pump stations, and pipelines. Seek grant funding resources to implement seismic retrofits.	Seismic Hazards (Fault Rupture, Ground Shaking, Liquefaction, and Landslide)	**City:** Utilities & Water Department, Public Works Department	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC).	High	Long-Term
64	Prioritize completing the Coating, Seismic & Cathodic Protection System Upgrades project at for Hawkins Tank to mitigate to potential for a seismic or structural failure and subsequent inundation at Hawkins Tank.	Seismic Hazards (Fault Rupture, Ground Shaking, Liquefaction, and Landslide)	**City:** Utilities & Water Department, Public Works Department	**FEMA**: Hazard Mitigation Grant Program (HMGP); Flood Mitigation Assistance; Building Resilient Infrastructure and Communities (BRIC)	High	Short-Term
65	Continue to monitor trees and other vegetation near power lines, and promptly inform utility companies if any vegetation may threaten power service during severe weather and/or requires trimming.	Severe Weather	**City:** Public Works Department, Parks and Recreation Department **External Partners:** Southern California Edison	Staff time, City General Fund.	High	Ongoing
66	Advocate with Southern California Edison to underground power lines and associated infrastructure in order to reduce damage from fallen power lines during severe weather events.	Severe Weather	**City:** Public Works Department, Parks and Recreation Department **External Partners:** Southern California Edison	Staff time, City General Fund.	Medium	Long-Term
67	Continue to proactively monitor and track projected storms where heavy rains may occur. Stage response equipment and materials in areas at risk of flooding, debris flow, or other associated secondary hazards. Coordinate with regional partners and nonprofits include the American Red Cross to prepare supplies and materials when severe weather is anticipated to impact residents, particularly DAC and SVPs.	Severe Weather	**City:** Police Department **External Partners:** Los Angeles County Fire Department	Staff time, City General Fund.	High	Ongoing
68	Seek funding to incorporate traffic signal batteries into the Tweedy Blvd Traffic Signal Synchronization Project to ensure traffic signals have power in the event of a weather induced power outage. Identify streetlights where backup battery power would be most beneficial to facilitate safe ingress/egress in the community.	Severe Weather	**City:** Public Works Department	**FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC)	Medium	Long-Term
69	Encourage the reduction of greenhouse gas emissions by promoting targets outlined in Senate Bill 1383, including reducing disposal of organic waste in landfills and compost.	Climate Change	**City:** Public Works Department, Community Development Department	**CalRecycle Grants:** Greenhouse Gas Reduction Grant and Loan Programs	Medium	Long-Term
70	Prioritize the Electric Vehicle Charging Stations Project to reduce emissions that contribute to climate change.	Climate Change	**City:** Public Works Department	**California Energy Commission**: Golden State Priority Project: Northern & Southern Regions (CALeVIP 2.0)	Low	Long-Term

5.3 CAPABILITIES ASSESSMENT

The capabilities assessment identifies existing local agencies, personnel, planning tools, public policy and programs, technology, and funding resources that can support the hazard mitigation measures in this Plan. This assessment helps determine the current ability of South Gate to reduce damage from hazard events, providing a foundation to develop, consider, and prioritize future hazard mitigation measures.

5.3.1 KEY RESOURCES

The City of South Gate has resources to support the implementation of mitigation actions including:

- Planning and regulatory capabilities are based on the implementation of ordinances, policies, local laws, and State statutes, and plans and programs that relate to guiding and managing growth and development.
- Administrative and technical capabilities refer to the staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. It also refers to the ability to access and coordinate these resources effectively.
- Financial capabilities are the resources that a jurisdiction has access to or is eligible to use to fund mitigation actions.
- Education and outreach capabilities are programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Refer to Table 5-4, *City of South Gate Capabilities Assessment* below for a summary of City capabilities.

Table 5-4
City of South Gate Capabilities Assessment

Ordinance/Plan/ Policy/Program	Responsible Agency or Department	Description/Comments
Planning and Regulatory		
City of South Gate General Plan	Community Development Department	The General Plan is the main policy document for development and change in South Gate. It identifies the overarching policies and programs that affect land use, public services, housing, natural resources, and safety, among other items. The General Plan provides the framework for the implementation of the LHMP mitigation actions. The Safety Element identifies hazards that could impact the community and establishes policy for the preparation and update of the LHMP. The General Plan can be updated to include information and mitigation measures identified in this Plan.

Table 5-4 (continued)
City of South Gate Capabilities Assessment

Ordinance/Plan/ Policy/Program	Responsible Agency or Department	Description/Comments
Planning and Regulatory		
Urban Water Management Plan	Public Works Department Utilities & Water Department	The South Gate Urban Water Management Plan identifies the community's current and forecasted water sources and demands and discusses supply reliability and contingency planning, demand management, and recycled water. The Plan can be used to coordinate and implement mitigation actions associated with drought and water supply reliability. In accordance with state law, the plan is updated every five years.
South Gate Emergency Operations Plan	City of South Gate Police Department Los Angeles County Fire Department	Overall emergency management plan for the City of South Gate that identifies the procedures and protocols for disaster and emergency situations within the City and roles and responsibilities for City Departments/Personnel to assist with response activities. Together, the Emergency Operations Plan and this Plan provide a mitigation and response strategy to hazard events.
Los Angeles County Operational Area Emergency Response Plan	Los Angeles County Fire Department	This plan establishes the protocols for responding to emergency situations in Los Angeles County, including how South Gate staff should coordinate response activities with other jurisdictions. The plan works to reduce loss of life, injuries, and property damage during and immediately after emergency situations. Organization of mitigation actions specific to South Gate's preparedness and response can be inspired by the County Plan to reduce the risk of injury and damage in the event of a city incident.
Los Angeles County All-Hazard Mitigation Plan	Los Angeles County	This plan identifies hazards and establishes mitigation activities for unincorporated areas of Los Angeles County and for County agencies (including the Los Angeles County Fire Department, which provides services to South Gate). Mitigation activities for the County can inspire how the City will prepare and respond to disasters
Floodplain Management Ordinance	Community Development Building and Safety Department	The ordinance establishes additional standards for development activities in the floodplain, enforced by the Building and Safety Division staff. This ordinance can be amended to implement additional flood mitigation strategies from this Plan.
Building Code	Community Development Building and Safety Department	The building code specifies how all new construction in the City shall be built. These requirements can be amended to require new construction to be more resilient to emergency situations. Mitigation actions to construct buildings to safer standards to enhance resilience during hazard events could be considered as part of future building code updates.

Table 5-4 (continued)
City of South Gate Capabilities Assessment

Ordinance/Plan/ Policy/Program	Responsible Agency or Department	Description/Comments
Planning and Regulatory		
Fire Code	Community Development Department	The fire code contains specific fire safety requirements for all structures. These requirements can be modified to require increased fire safety measures and support hazard mitigation actions identified in this Plan.
City Budget	Administrative Services Department	The South Gate City Council adopts a budget every fiscal year, which identifies sources of revenue for the City and how this money will be spent. The budget can direct funding toward hazard mitigation activities, including increased staffing, planning efforts, and capital improvements.
Development code	Community Development Department	The code contains land use regulations, including requirements for all new construction. The code can be used to implement hazard mitigation measures related to land use and development.
Water Conservation ordinance	Community Development Department	South Gate's Water Conservation ordinance establishes mandatory and permanent water conservation activities for all South Gate residents and businesses, as well as additional mandatory standards for various stages of water shortage events. These standards help mitigate the impact of drought-related emergency events. The tools and strategies of the Water Conservation ordinance can be used to develop this Plan's drought mitigation actions.
Tree Preservation and Protection ordinance	Community Development Department	South Gate's Tree Preservation and Protection ordinance regulates the planting, maintenance, and removal of public trees in the community. Public trees can help to mitigate some types of hazards, and this ordinance can be amended to support additional mitigation activities.
Storm Drains ordinance	Community Development Department	The Storm Drains ordinance governs the use and maintenance of the storm drain system in South Gate. This infrastructure can help mitigate damage from flood-related emergency situations. Mitigation actions of this Plan can be coordinated with the Storm Drains ordinance to efficiently address stormwater management and resilience.
Administrative and Technical		
Police Department Staff	City of South Gate Police Department	Staff provides police protection services and community programs and education campaigns. Police Staff are a key component of implementing mitigation actions, including but not limited to, coordinating and communicating with the public and other agencies, ensuring safe and efficient evacuations, if necessary, and providing or participating in public education and preparedness activities that support mitigation of risks.

Table 5-4 (continued)
City of South Gate Capabilities Assessment

Ordinance/Plan/ Policy/Program	Responsible Agency or Department	Description/Comments
Administrative and Technical		
Code Enforcement Division Staff	Community Development	Staff maintains and improves the health, safety, and general welfare of the City by implementing the goals and policies of the General Plan and enforcing the Zoning Code related to land use and development. Mitigation actions related to ensuring development requirements, along with plans and programs, are updated to reflect most current hazard information.
Building and Safety Division staff	Community Development Department	Staff responsible for regulating the construction, alteration, use and occupancy of buildings. Staff reviews all proposals for new development in South Gate to ensure it meets all applicable laws and ordinances and complies with all hazard-related requirements. Mitigation actions related to ensuring development requirements, along with plans and programs, are updated to reflect most current hazard information.
Planning Commission	Community Development Department	The South Gate Planning Commission meets twice a month to review land use, development, planning, and environmental issues. The body can approve and guide development of new projects, as well as new policies related to land use issues, ensuring that developments are in accordance with mitigation actions.
City Council	City Council	The South Gate City Council comprises a Mayor, Vice Mayor, and three City Council members supported by the City Manager, City Treasurer, and support staff. The City Council meets twice a month and serves as the primary legislative body for the community. The City Council can establish and revise laws, approve plans and policy directions, and allocate funding. City Council will ultimately be responsible for adopting this Plan and implementing mitigation actions.
City Manager	City Manager Office	The City manager allocates and manages City resources to carry out City policy and operations as directed by the City Council, including allocating and managing staff and funding to support implementation of hazard mitigation activities.
Finance Department staff	Administrative Services Department	The Finance Department is responsible for all aspects of the City's accounting process, including preparation of the City Budget. Although the Finance Department does not directly implement mitigation actions, it plays an important role to facilitate implementation by working with the various departments to ensure mitigation actions are incorporated into the City budget and to administer grant support.

Table 5-4 (continued)
City of South Gate Capabilities Assessment

Ordinance/Plan/ Policy/Program	Responsible Agency or Department	Description/Comments
Administrative and Technical		
Public Works Department Staff	Public Works Department Staff	The Public Works Department is responsible for building and maintaining South Gate's publicly owned infrastructure, including the City's water service. The Public Works Department is a key lead for mitigation actions. Staff can construct and retrofit infrastructure to reduce hazard risks in the community, or to be more resilient to hazard events.
Community Development Department Staff	Community Development Department	Includes a Director of Public Works/ City Engineer, Field Operations Manager, Assistant City Engineer, Sewer Superintendent, Equipment Superintendent, Electrical Superintendent, Water Division Manager, and support staff
Parks and Recreation Department staff	Parks and Recreation Department	Includes Director of Public Works/ City Engineer, Field Operations Manager, Assistant City Engineer, Sewer Superintendent, Equipment Superintendent, Electrical Superintendent, Water Division Manager, and support staff. Parks and Recreation Department oversees the operations and finances of public parks and recreation spaces within the City.
Human Resources Division Staff	Human Resources Division	The Human Resources/Risk Management Division is responsible for establishing policies related to City personnel, including training on hazard events, emergency response protocols, and hazardous materials. Training can be updated to reflect knowledge of and preparedness for mitigation activities outlined in this Plan.
Administrative Services Department	Administrative Services	Includes the Director, two Deputy Directors, and support staff.
City Attorney	City Attorney	The City Attorney represents the municipality and handles civil cases, advising the city on legal matters and representing it in court.
Waste Management, Inc. Staff	Waste Management Inc.	The City contracts with Waste Management to provide collection and disposal services for solid waste in the community. The responsibilities of Waste Management staff include providing services for the safe disposal of some types of hazardous material. Staff can coordinate their efforts with the relevant mitigation actions outlined in this Plan.
Southern California Edison Staff	Southern California Edison	Southern California Edison is responsible for providing safe and reliable electricity to South Gate community members. Mitigation actions specific to the provision of these services will be implemented in coordination with the service provider. Staff responsibilities include restoring electrical service if it has been interrupted by an emergency situation, and repairing and maintaining electrical infrastructure to reduce the risk of hazard events.

Table 5-4 (continued)
City of South Gate Capabilities Assessment

Ordinance/Plan/ Policy/Program	Responsible Agency or Department	Description/Comments
Administrative and Technical		
Southern California Gas Company Staff	Southern California Gas Company	The Southern California Gas Company provides natural gas service in South Gate. Mitigation actions specific to the provision of this service will be implemented in coordination with the Gas Company. Staff is responsible for maintaining the natural gas infrastructure in safe conditions to minimize the risk of leaks, fires, or explosions. This includes repairing natural gas infrastructure following emergency situations.
Los Angeles County Fire Department Staff	Los Angeles County Fire Department	The Los Angeles County Fire Department provides fire services to South Gate. The Fire Department is a key component of implementing mitigation actions. Staff is responsible for conducting safety training and preparedness activities, responding to emergency situations, and supporting emergency recovery. Staff also responds to hazardous material emergencies and conducts activities to reduce the risk of hazardous material-related events.
Financial		
General Fund	N/A	Serves as the main operating fund for the City and is used to finance the most common municipal functions (e.g. police, fire, parks and recreation, etc.).
Capital Improvement Program	N/A	Long-range plan for individual capital improvement projects and funding sources. Projects are considered unique construction projects that provide improvements or additions such as land, buildings, and infrastructure. The Capital Improvement Program budget is an important part of the City's budget. The FY 2021/22 to 2025/26 budget presents over 50 capital improvement projects with expenditures totaling over $70 million. These projects provide funding for needed repairs, replacements, and improvements to streets, water infrastructure, parks, public buildings, vehicles, and equipment.
Water Development Impact Fees	N/A	South Gate Community Development Department collects development impact fees during the plan check and permitting process, to off-set infrastructure improvements and increased service demand related to new developments. Development Impact Fees include planning fee, public works/engineering fee, NPDES fee, Industrial waste fee and utilities fee.

Table 5-4 (continued)
City of South Gate Capabilities Assessment

Ordinance/Plan/ Policy/Program	Responsible Agency or Department	Description/Comments
Financial		
California Governor's Office of Emergency Services	N/A	Cal OES is responsible for overseeing and coordinating emergency preparedness, response, recovery and homeland security activities within California. Cal OES regularly dispatches team members to join first responders, emergency leaders and those affected by disasters that threaten public safety, to provide information essential to the public. Cal OES can assist in obtaining funding for mitigation actions identified in the plan and providing guidance on future plan updates. Additionally, Cal OES is responsible for administration and distribution of federal grant funding for the FEMA grant programs listed above.
Federal Emergency Management Agency – Hazard Mitigation Assistance Grants	N/A	FEMA is the federal agency responsible for hazard mitigation, emergency preparedness, and emergency response and recovery activities. It provides guidance to State and local governments on hazard mitigation activities, including best practices and how to comply with federal requirements. FEMA also provides funding for hazard mitigation actions through three grant programs: Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA) Grant, and Building Resilient Infrastructure and Communities (BRIC). The HMGP requires a presidential hazard declaration before funding is available; after a hazard is declared, grant applications can be submitted on a rotating basis. Both BRIC and FMA applications typically open during the fall. Outside of the Hazard Mitigation Assistance Grants, FEMA also administers Preparedness Grants and Resilience Grants that may be applicable to future City projects.
Education and Outreach		
American Red Cross	Coordination with Police Department	Provide access to natural hazard information and resources, as well as educational and training programs. Promoting participation in American Red Cross educational and training programs would serve to mitigate hazards by increasing awareness and preparedness.
PATH Los Angeles	Coordination with Police Department	Provide a variety of services for peoples experiencing houselessness that include employment, outreach, homelessness prevention, housing navigation, interim housing, rapid rehousing, and permanent supportive housing.
Staff Training	Coordination with the Police Department and other City Departments as relevant	The City provides staff training on emergency response and preparedness. Mitigation actions may include updating or enhancing staff training on emergency response and preparedness.

Table 5-4 (continued)
City of South Gate Capabilities Assessment

Ordinance/Plan/ Policy/Program	Responsible Agency or Department	Description/Comments
Education and Outreach		
City Website	Administrative Services Department	The website provides news and announcements to the community, including community events related to safety and emergency preparedness and mitigation. It maintains information and resources pertaining to hazards and mitigation. The City Website provides an opportunity to convey information and implement mitigation actions specific to educating and informing the community regarding all hazards and ways to reduce impacts from the hazards.

How can these capabilities be expanded upon and improved to reduce risk?
Multiple mitigation measures are priority projects to expand South Gate's capabilities, including new plans and programs. Examples of opportunities to expand capabilities include the following mitigation actions:

Planning/Regulatory: Continue to adopt/enforce state building code (Mitigation Action #17), avoid citing new public facilities in mapped hazard zones (Mitigation Action #18), expand City Street Tree Master Plan (Mitigation Action #19), amend municipal code for recycled water infrastructure requirements (Mitigation Action #25), prepare a cybersecurity plan (Mitigation Action #53).

Administrative/Technical: Conduct regular emergency preparedness training (Mitigation Action #10), encourage the community to participate in Red Cross Training Programs (Mitigation Action #12), continue coordination with US Army Corps of Engineers regarding dam safety (Mitigation Action #20), continue coordination with potable water wholesalers (Mitigation Action #27), continue to participate in NFIP (Mitigation Action #42), continue coordination with public safety agencies for communication/intelligence purposes (Mitigation Action #52).

Financial: Secure funding to replace aging traffic signals (Mitigation Action #9), implement EPA Brownfields Assessment Grant and procure further clean-up grant funding (Mitigation Action #51), procure grant funding for seismic vulnerability study and future retrofits (Mitigation Action #58).

Education/Outreach: Expand participation in local/regional emergency programs (Mitigation Action #1), update South Gate Emergency Preparedness content/outreach materials (Mitigation Action #6 and #7), facilitate the Red Cross Sound the Alarm System (#16), offer water audits (Mitigation Action #24), educate citizens and staff of extreme heat risk/safety (Mitigation Action #35 and #36), provide educational materials about low impact development (Mitigation Action #39).

SECTION 6.0: PLAN MAINTENANCE

This section identifies the formal process that ensures the LHMP remains an active and relevant document for the City of South Gate. The LHMP maintenance process includes a schedule for monitoring and evaluating the LHMP annually, and producing an update every five years (to ensure the City maintains eligibility for federal and State hazard mitigation funding). This section also describes how the City will integrate public participation throughout LHMP maintenance and implementation process. Finally, this section describes how City staff intend to incorporate the mitigation actions outlined in this LHMP into existing planning mechanisms and programs.

6.1 Purpose of the Plan and Authority

Under the direction of the LHMP Project Management Team (comprised of the City of South Gate Police Department representative), the LHMP Planning Team will be responsible for the on-going maintenance of this LHMP. The Project Management Team will take the lead in LHMP maintenance by coordinating with the Planning Team, including undertaking the formal review process and future updates. Key City departments and staff positions are identified below.

- Administrative Services Department
- Community Development Department
- Human Resources
- Parks & Recreation Department
- Police Department
- Public Works Department

In addition to City and County staff, the following partner agencies who were part of the LHMP Planning Team should be included in the maintenance and update activities:

- American Red Cross
- Caltrans
- City of Downey
- City of Los Angeles
- Golden State Water Company
- Los Angeles Community College District
- Los Angeles County Fire Department
- Los Angeles County Office of Emergency Management
- Los Angeles Unified School District
- PATH Los Angeles
- Southern California Edison
- USACE Los Angeles Division

Although specific LHMP Planning Team and Project Management members may change, the City staff positions, departments and other partner agencies and organizations should continue to be included in the LHMP implementation and maintenance process.

The LHMP Project Management Team will facilitate the LHMP Planning Team meetings and will assign tasks such as updating and presenting the Plan to other departments, stakeholder groups, and/or elected officials. The LHMP Planning Team will be responsible for maintaining and updating the LHMP, and will coordinate implementation through their respective positions and agencies. LHMP implementation and evaluation will be a shared responsibility among all LHMP Planning Team members.

6.1.1 Evaluation

At a minimum, the ongoing annual LHMP Planning Team meeting will evaluate the progress of the LHMP and incorporate the actions into other planning documents. This review will include the following:

- Summary of any hazard events that occurred during the prior year and their impacts on the community.
- Review of successful mitigation initiatives identified in the Plan.
- Brief discussion about why targeted mitigation strategies were not completed.
- Reevaluation of the mitigation actions to determine if the timeline for identified projects needs to be amended (such as changing a long-term project to a short-term project due to funding availability).
- Recommendations for new mitigation actions.
- Changes in, or potential for, new funding options/grant opportunities.
- Integration of new GIS data and maps that can be used to inform the Plan.
- Evaluation of any other planning programs or initiatives within the City that involve hazard mitigation.

The purpose of the annual evaluation will be to ensure consideration and implementation of the LHMP and document progress in order to inform the future LHMP update.

6.2 Method and Schedule for Updating the Plan within Five Years

Title 44 of the Code of Federal Regulations, Section 201.6(d)(3), requires that local hazard mitigation plans be reviewed, revised, and resubmitted to FEMA for approval to remain eligible for the benefits awarded under the DMA. Monitoring the progress of the mitigation actions will be on-going throughout the five year period between the adoption of the LHMP and the next update effort. The LHMP Planning Team will meet on an annual basis to monitor the status mitigation action implementation and develop updates as necessary.

The City intends to update the Plan on a five-year cycle from the date of its adoption. It is anticipated that this update process will occur one year prior to expiration of the existing LHMP. This cycle may be accelerated to less than five years based on the following triggers:

- A state or presidential disaster declaration that impacts the City.
- A hazard event that causes loss of life.

Should a significant disaster occur within the City, the LHMP Planning Team will reconvene to review and update the LHMP, as appropriate. The City Council will adopt written updates to the LHMP.

6.2.1 Process

The intent of the update process will be to add new planning process methods, community profile data, hazard data and events, vulnerability analyses, mitigation actions, and goals to the adopted Plan so that the LHMP will always be current and up to date. Based on the needs identified by the LHMP Planning Team, the update will, at a minimum, include the elements below:

1. The update process will be convened through the LHMP Planning Team and will consist of at least one member of the Community Development Department to ensure consistency with the City's General Plan.
2. The hazard risk assessment will be reviewed and updated using best available information and technologies on an annual basis.
3. The evaluation of critical structures and mapping will be updated and improved as funding becomes available.
4. The mitigation actions will be reviewed and revised to account for any actions completed, deferred, or changed to account for changes in the risk assessment or new City policies identified under other planning mechanisms, as appropriate (such as the City's General Plan).
5. The draft update will be sent to appropriate agencies for comment.
6. The public will be given an opportunity to comment prior to adoption.
7. The South Gate City Council will adopt the updated LHMP.

The LHMP Planning Team will coordinate with responsible City departments and agencies/organizations identified for each mitigation action. These responsible departments and agencies/organizations will monitor and evaluate the progress made on the implementation of mitigation actions and report to the LHMP Planning Team on an annual basis. Working with the LHMP Planning Team, these responsible departments and agencies/organizations will be asked to assess the effectiveness of the mitigation actions and modify the mitigation actions as appropriate. The LHMP Mitigation Action Progress Report worksheet will assist mitigation leads in reporting on the status and assessing the effectiveness of the mitigation actions.

Information culminated from the City departments and external partners will be used to monitor mitigation actions and annual evaluation of the LHMP. The following questions will be considered as criteria for evaluating the Plan's effectiveness:

- Has the nature or magnitude of hazards affecting the City changed?
- Are there new hazards that have the potential to impact the City?
- Do the identified goals and actions address current and expected conditions?
- Have mitigation actions been implemented or completed?

- Has the implementation of identified mitigation actions resulted in expected outcomes?
- Are current resources adequate to implement the LHMP?
- Should additional local resources be committed to address identified hazards?

An Annual LHMP Review Questionnaire worksheet will be used to provide guidance to the LHMP Planning Team on what should be included in the evaluation. Future updates to the LHMP will account for any new hazard vulnerabilities, special circumstances, or new information that becomes available. Issues that arise during monitoring and evaluating the LHMP, which require changes to the risk assessment, mitigation strategy and other components of the Plan, will be incorporated into the next update of the LHMP in 2029. The questions identified above will remain valid when preparing the 2029 Plan update.

6.3 Local Adoption

Cal OES and FEMA are responsible for initial review and approval of the LHMP. After the plan check review process concludes, the South Gate City Council is responsible for adopting the LHMP. This formal adoption should take place every five years. Once the LHMP has been finalized, the City Project Management Team will be responsible for final submission to the California Office of Emergency Services (Cal OES). Cal OES will then submit the Plan to FEMA for final review and approval.

6.4 Implementation through Existing Programs and Planning Mechanisms

LHMP effectiveness depends on the implementation of the mitigation actions, and incorporating these actions into other City plans, policies, and programs. These mitigation actions provide the framework for activities that the City can implement over the next five years. The City has prioritized the actions in this LHMP, which will be implemented through existing plans, policies, and programs as resources become available.

The City of South Gate Police Department has taken on the responsibility for overseeing the Plan's implementation and maintenance through the City's existing programs. The Lieutenant, or designated appointee, will assume lead responsibility for facilitating LHMP implementation and maintenance meetings. Although the City of South Gate Police Department will have primary responsibility for review, coordination, and promotion, plan implementation and evaluation will be a shared responsibility among all departments identified as lead departments in the mitigation action plan.

The LHMP can also build upon related planning efforts and mitigation programs that are already occurring within the City. This will also facilitate applying for funding opportunities as they become available. Progress on implementing mitigation actions through other City planning programs and mechanisms should be monitored and integrated into future updates.

By adopting a resolution to approve this LHMP, the City agrees to reference and incorporate the document into planning documents, programs, decisions, processes, and regulations. The LHMP will be reviewed and considered by internal City departments, as applicable plans or programs are created or updated in the future. Upon creating or updating new plans, programs or policies, City staff will review this LHMP and consider the following:

- What hazard and/or vulnerability information should be considered and/or integrated into this plan?
- Are there opportunities for this plan to support and/or implement mitigation actions?
- What mitigation actions can and should be integrated into this plan?
- Are there other community mechanisms that mitigation can be integrated?
- Is there information from this plan that can be integrated into the next LHMP update?

Some of the ways the City will integrate information from this LHMP into planning mechanisms are described below.

Planning and zoning law require California cities to adopt a comprehensive, long-term general plan for the physical development of the City. General plans are required to address natural hazards that could impact the jurisdiction and prepare for the impact of natural hazards. The City's General Plan identifies land use patterns, future development, and growth within the planning area. The LHMP update process has allowed the City to review the policies contained in the General Plan Safety Element and identified mitigation actions that will further implement these policies. The City views the General Plan and LHMP as complimentary planning documents that work together to achieve the ultimate goal of the reduction of risk exposure to the citizens of the City. Once the LHMP is formally adopted by FEMA, the City will update the Safety Element to incorporate the LHMP and vulnerability assessment by reference to comply with California Assembly Bill 2140.

The City's Capital Improvement Program (CIP) identifies capital projects and major equipment purchases for all City departments. The CIP links both the annual general plan and annual budget. Identified CIP projects were integrated into the LHMP mitigation actions where appropriate, for projects with a nexus to resilience or natural hazards. In addition, as part of the annual review and update of the CIP, mitigation actions identified will be reviewed and integrated.

This LHMP update will be added, or incorporated by reference, into any and all City emergency plans as they are updated. After this LHMP update process has concluded, the City will begin a comprehensive update process to revise the Emergency Operations Plan (EOP). The hazard profiles, risk assessment and mitigation actions will be reviewed during the EOP update and any other relevant emergency planning deliverables. Further,

mitigation actions not currently provided in the LHMP will be identified for consideration as part of the 2029 LHMP update.

Other opportunities for integration of this LHMP include education programs and continued coordination between the City and the identified external partners. Expansion of community capacity and education programs is discussed in Table 5.3 in the previous section.

6.5 2018 LHMP Past Integration Efforts

The City experienced limited opportunities to integrate the past 2018 LHMP into existing programs and planning mechanisms, for reasons listed below.

Staff changes and turn-over occurred during the five year planning period of the previous LHMP, including the transition of LHMP Project Management responsibility from a representative in the the Community Development Department to a representative from the Police Department. As a small City, staff capacity also limited full integration of the LHMP into City programs and mechanisms. This was further compounded by the COVID-19 pandemic, where staff focus shifted from hazard mitigation to emergency response during the active period of the 2018 LHMP. Despite staffing and capacity challenges, the City did make forward progress on several mitigation actions as described in Section 5.0. As the COVID-19 pandemic is over, the LHMP Planning Team anticipates staff capacity and availability to accommodate LHMP implementation and integration during the active period of this plan.

6.6 Continued Public Involvement

The City is dedicated to involving the public in LHMP review and updates throughout the five-year planning period. The public, including socially vulnerable populations, will continue to be informed of the LHMP actions through regular updates to the City's website. The City will continue provide in-person educational events and activities to further inform the community regarding natural hazard risk and mitigation. Where feasible, these educational opportunities will be co-located with other safety related community events such as National Night Out.

Additionally, continued public involvement will be achieved through the promotion of hazard mitigation/emergency preparedness, trainings, interagency coordinated outreach efforts and other hazard awareness campaigns. These are included in Section 5.0 as Mitigation Actions #2, #4, #6, #7, #12, #16, #21, #24, #35, #36, #39, #51, #57, and #61. The listed mitigation actions include outreach and communication mechanisms designed with the "whole community" approach, ensuring that socially vulnerable populations will receive messaging. The City will also inform LHMP Planning Team participants of relevant updates at the annual LHMP evaluation meeting.

The adopted LHMP will remain permanently available for review on the City's website, with contact information for interested parties to direct comments and concerns. All public feedback will be reviewed and considered for incorporation (if deemed appropriate) into the next LHMP update.

Upon initiation of the LHMP update process, a new public involvement strategy will be developed based on guidance from the LHMP Planning Team. This strategy will be based on the needs and capabilities of the City at the time of the update. At a minimum, this strategy will include the use of the City website, email distribution lists and local media outlets within the planning area. At this time, a re-evaluation of local socially vulnerable populations will be conducted for improved understanding of how to reach and engage these groups.

6.6 Point of Contact

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APPENDIX A

City of South Gate Adoption Resolution

City of South Gate Adoption Resolution Placeholder

APPENDIX B

LHMP Planning Team Documentation

APPENDIX B .1

LHMP Planning Team Meetings

B.1 - 1

Kick-Off Meeting Documentation

SOUTH GATE
LOCAL HAZARD MITIGATION PLAN, SAFETY ELEMENT AND EOP UPDATE

PROJECT MANAGEMENT TEAM KICK-OFF MEETING
May 25, 2023, 1:00 PM
Via Microsoft Teams

AGENDA

ATTENDEES

City of South Gate
Lt. Sergio Camacho, Project Manager, City of South Gate Police Department

Michael Baker International
Noelle Steele, Project Manager
Michael Yaffe, West Region Resilience Lead/Department Manager
Casey Marchese, Resilience Planner

1. Introduction and Roles/Responsibilities

- Primary contacts & communication
  - Lt. Sergio Camacho serving as LHMP Project Manager & Point of Contact for City
  - Noelle Steele serving as Project Manager & Point of Contact for Baker
- Planning Process documentation
  - Baker will document the planning process, including any team meeting minutes, PPT presentations, attendee lists and pictures to append to the plan.

2. Planning Team Organization

- ***Participants (names, titles, agencies, email, telephone numbers)***
  - FEMA Policy guidance now includes requirements for businesses, academia, and other non-profit organizations to be invited to the planning process.
  - See attached draft for recommendations of potential stakeholders
  - Internal Suggestions:
    - Previously participated: Administrative Services Department, Community Development Department, Parks & Recreation Department, Police Department, Public Works Department
  - External Suggestions:
    - Previously participated: Los Angeles County Fire Department, Los Angeles County Office of Emergency Management

Michael Baker
INTERNATIONAL

- Recommended additions:
  - American Red Cross
  - Neighboring Cities: Bell Gardens, Cudahy, Downey, Huntington Park, Lynwood, Paramount
  - School Districts (Los Angeles Unified School District, Downey Unified School District, Lynwood Unified School District, Paramount Unified School District)
  - Representative from City of Los Angeles or City of Los Angeles Emergency Service Provider
  - Representative from the County of Los Angeles or County of Los Angeles Emergency Service Provider
  - Representative from US Army Corps of Engineers (Hansen Dam)
  - Major employers
  - Electric utility, SCE
  - Natural gas utility, SoCalGas
  - Nonprofit service organizations

- ***Hazard Mitigation Planning Committee Meetings + Small Group Stakeholder Meetings***
  - Intro meeting, stakeholder meeting, conclusion meeting
  - Recommend intro meeting in late June, stakeholder collaboration in late July/early August, conclusion meeting in September (after Labor Day)

3. Work Program and Schedule

- ***Resource Identification and Data Needs***
  - See attached list
  - Michael Baker eFTP link: https://eftp.mbakerintl.com/

- ***Community Engagement Strategy***
  - Online community survey & web content development
  - Use communications/PIO to distribute
  - Community Workshop/Pop-Up Event Ideas
    - ***National Night Out – August 1?***
    - Content, structure, location
    - Dates

- ***Critical Facilities List & Organization***
  - Updates to previous critical facilities list

- ***Previously Included Hazards for Consideration***
  - *Climate Change (in all hazard profiles)*
  - *Dam/Reservoir Failure*
  - *Disease/Pest Management*
  - *Drought*

- *Extreme Heat*
- *Flood*
- *Hazardous Materials Spills*
- *Seismic Hazards (fault rupture, ground shaking, liquefaction, landslide)*
- *Severe Weather (Wind/windstorms, hailstorm, tornadoes)*

- ***Opportunities to Enhance***
  - *Severe Weather (heavy rains, power shut offs)*
  - *Human-caused hazards*
    - *Pandemic*
    - *Terrorism/Active Shooter Threats*
    - *Civil unrest*

- ***Work Schedule***
  - Prepare/Complete LHMP for submittal by December 31st
  - Safety Element/EOP kick off January 2024

4. Additional Discussion/Questions

5. Next Steps & Action Items

Existing Data Resources

- Hazard Mitigation Plan
- General Plan
- Master Plans
  - Sewer Master Plan
  - Water Master Plan
  - Street Lighting Master Plan
  - Street Tree Master Plan
- Urban Water Management Plan
- Water Shortage Contingency Plan
- 2012 Bicycle Transportation Plan
- 2008 Green Streets Handbook

Additional Data Needs

- Current Capital Improvement Plan
- Dam EAPs
- 2023 Parcel Data
- ***Any additional updates/changes the reports above?***

Tamayo, Audrey

Subject: South Gate LHMP, Safety Element, EOP - Kick Off
Location: Microsoft Teams Meeting

Start: Thu 5/25/2023 1:00 PM
End: Thu 5/25/2023 2:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

Organizer: Steele, Noelle
Required Attendees Sergio Camacho; Yaffe, Michael; Marchese, Casey

Agenda attached. Thank you! – N

Will forward the agenda by COB. Thank you Sergio, talk soon!

Noelle

Microsoft Teams meeting

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SOUTH GATE
LOCAL HAZARD MITIGATION PLAN, SAFETY ELEMENT AND EOP UPDATE

PROJECT MANAGEMENT TEAM KICK-OFF MEETING
May 25, 2023, 1:00 PM
Via Microsoft Teams

Meeting Minutes

ATTENDEES

City of South Gate
Lt. Sergio Camacho, Project Manager, City of South Gate Police Department

Michael Baker International
Noelle Steele, Project Manager
Michael Yaffe, West Region Resilience Lead/Department Manager
Casey Marchese, Resilience Planner

1. Introduction and Roles/Responsibilities

- Primary contacts & communication
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  - Noelle Steele serving as Project Manager & Point of Contact for Baker
- Planning Process documentation
  - Baker will document the planning process, including any team meeting minutes, PPT presentations, attendee lists and pictures to append to the plan.
    - **Action Item**: Noelle to be copied on any emails pertaining to the HMP

2. Planning Team Organization

- ***Participants (names, titles, agencies, email, telephone numbers)***
  - FEMA Policy guidance now includes requirements for businesses, academia, and other non-profit organizations to be invited to the planning process.
  - See attached draft for recommendations of potential stakeholders
  - Internal Suggestions:
    - Previously participated: Administrative Services Department, Community Development Department, Parks & Recreation Department, Police Department, Public Works Department
  - External Suggestions:
    - Previously participated: Los Angeles County Fire Department, Los Angeles County Office of Emergency Management

- Recommended additions:
  - American Red Cross
  - Neighboring Cities: Bell Gardens, Cudahy, Downey, Huntington Park, Lynwood, Paramount
  - School Districts (Los Angeles Unified School District, Downey Unified School District, Lynwood Unified School District, Paramount Unified School District)
  - Representative from City of Los Angeles or City of Los Angeles Emergency Service Provider
  - Representative from the County of Los Angeles or County of Los Angeles Emergency Service Provider
  - Representative from US Army Corps of Engineers (Hansen Dam)
  - Major employers
  - Electric utility, SCE
  - LA Metro
  - East LA College
  - Natural gas utility, SoCalGas
  - Nonprofit service organizations
- **Action Item**: Noelle & Sergio to coordinate and finalize matrix of stakeholders

  - *Question from Lt. Sergio Camacho (Emergency Operations, South Gate Police Dept.) – What happens if stakeholders don't want to participate?*
    - *Answer from Noelle Steele (Project Manager, Michael Baker) – We just have to show a good faith effort to invite stakeholders, we can't make them attend but we want to document that we tried.*
  - *Question from Lt. Sergio Camacho (Emergency Operations, South Gate Police Dept.) – When do we hold these meetings, is it difficult to find a time for stakeholders to participate?*
    - *Answer from Noelle Steele (Project Manager, Michael Baker) – Since switching to virtual meetings, we have seen an uptick in participation. We can schedule these at a convenient time where most people can join some or all of the meetings.*
    - *Lt. Sergio Camacho (Emergency Operations, South Gate Police Dept.) – We want to invite and engage people that can be involved in this effort long term, I can facilitate the invitation and call on existing relationships to encourage participation.*

- ***Hazard Mitigation Planning Committee Meetings + Small Group Stakeholder Meetings***
    - Intro meeting, stakeholder meeting, conclusion meeting
    - Recommend intro meeting in late June, stakeholder collaboration in late July/early August, conclusion meeting in September (after Labor Day)
        - **Action Item**: Noelle & Sergio to coordinate meeting schedule (anticipate first stakeholder meeting in late June or early July maybe after July 4th)

3. Work Program and Schedule

- ***Resource Identification and Data Needs***
    - See attached list
    - Michael Baker eFTP link: https://eftp.mbakerintl.com/
        - **Action Item**: Identify confidential/redacted info

- ***Community Engagement Strategy***
    - Online community survey & web content development
    - Use communications/PIO to distribute
    - Community Workshop/Pop-Up Event Ideas
        - ***National Night Out – August 1?***
        - Content, structure, location
        - Dates
    - *Question from Noelle Steele (Project Manager, Michael Baker) – We want to propose the idea of a community workshop that could be part of a well-attended City event. Is there an upcoming event like National Night Out that we could set up a booth at?*
        - *Answer from Lt. Sergio Camacho (Emergency Operations, South Gate Police Dept.) – We had been doing a decentralized National Night Out since covid, I'm not sure if we will be going back to the traditional event in a central location.*
        - *Noelle Steele (Project Manager, Michael Baker) – If National Night out doesn't work, I saw you have movies in the park or something similar. The bigger and more centralized event the better but we can figure out a good event to set up a booth at.*
        - *Lt. Sergio Camacho (Emergency Operations, South Gate Police Dept.) – I will find out what we're doing for National Night Out and let you know because that would be a perfect opportunity to get engagement from the community.*

- ***Critical Facilities List & Organization***
    - Updates to previous critical facilities list
        - **Action Item**: Noelle to draft list prior to Meeting #1 for review & comment

- ***Previously Included Hazards for Consideration***
    - Climate Change (in all hazard profiles)
    - Dam/Reservoir Failure
    - Disease/Pest Management
    - Drought
    - Extreme Heat
    - Flood

- Hazardous Materials Spills
- Seismic Hazards (fault rupture, ground shaking, liquefaction, landslide)
- Severe Weather (Wind/windstorms, hailstorm, tornadoes)

- ***Opportunities to Enhance***
  - Severe Weather (heavy rains, power shut offs)
  - Human-caused hazards
    - Pandemic
    - Terrorism/Active Shooter Threats
    - Civil unrest
  - *Question from Noelle Steele (Project Manager, Michael Baker) – Have these hazards been an issue? If so we can include them in the HMP.*
    - *Answer from Lt. Sergio Camacho (Emergency Operations, South Gate Police Dept.) – I can't recall any specific power shutoffs; we just aren't in the foothills where high winds and power shutoffs are an issue. We may be affected by rolling blackouts but that's all I can think of.*
  - *Question from Noelle Steele (Project Manager, Michael Baker) – Do you know if the City has sufficient generator resources?*
    - *Answer from Lt. Sergio Camacho (Emergency Operations, South Gate Police Dept.) – I think we do okay there, I know we have backup power resources.*
    - *Noelle Steele (Project Manager, Michael Baker) – For pandemic, we may be able to identify mitigation actions that would benefit the City especially if the county is no longer providing certain vaccines like you mentioned.*

- ***Work Schedule***
  - Prepare/Complete LHMP for submittal by December 31st
  - Safety Element/EOP kick off January 2024
    - **Action Item**: Noelle to provide detailed schedule by June 2nd

4. Additional Discussion/Questions

Existing Data Resources

- Hazard Mitigation Plan
- General Plan
- Master Plans
  - Sewer Master Plan
  - Water Master Plan
  - Street Lighting Master Plan
  - Street Tree Master Plan
- Urban Water Management Plan
- Water Shortage Contingency Plan
- 2012 Bicycle Transportation Plan
- 2008 Green Streets Handbook

Additional Data Needs

- Current Capital Improvement Plan
- Dam EAPs
- 2023 Parcel Data
- ***Any additional updates/changes the reports above?***

    - *Question from Noelle Steele (Project Manager, Michael Baker) – Would you be able to look over this list and let us know if these have been updated?*
        - *Answer from Lt. Sergio Camacho (Emergency Operations, South Gate Police Dept.) – Public Works department or Engineering would likely have the dam EAPs, I'll ask about those.*
    - *Question from Lt. Sergio Camacho (Emergency Operations, South Gate Police Dept.) – Does the parcel analysis consider daily visitors? We have planned and completed development that will drastically change our daily influx. Is that taken into account? We also have the LA Metro Gold Line Train and a satellite location for East LA College that would potentially increase our daily visitors.*
        - *Answer from Noelle Steele (Project Manager, Michael Baker) – The Parcel analysis is mostly for residents and the built environment, but if you have planned development, especially something like a new college and Metro line, we would want to incorporate that into the plan. We will also see if East LA College or LA Metro would like to be stakeholders. They will have info on upcoming development and how that can be incorporated into the plan.*
        - **Action Item**: Sergio to review existing data resources and provide updates

5. Next Steps & Action Items

- **Action Item**: Noelle to be copied on any emails pertaining to the HMP.
- **Action Item**: Noelle & Sergio to coordinate and finalize matrix of stakeholders.
    - **Submitted stakeholder matrix to Sergio under a separate cover.**
- **Action Item**: Noelle & Sergio to coordinate and formalize meeting schedule
    - **Submitted schedule to Sergio under a separate cover.**
- **Action Item**: Identify confidential/redacted info, if any.
- **Action Item**: Noelle & Sergio to identify a potential community outreach event for our outreach, confirm if National Night Out (August) or other event could be applicable.
- **Action Item**: Noelle to draft critical facilities list prior to Meeting #1 for review & comment.
    - **Noelle to submit to Sergio by June 2nd.**
- **Action Item**: Sergio to review existing data resources and provide updates (if any).

B.1 - 2

Planning Team Meeting #1 Documentation

CITY OF SOUTH GATE
LOCAL HAZARD MITIGATION PLAN

PLANNING TEAM MEETING #1
Monday, October 23rd, 2023
1:00 PM – 3:00 PM via Teams

AGENDA

Presentation/Discussion:

- ***Introductions***

- ***Project Background***
  - 2017/2018 Hazard Mitigation Plan

- ***Project Goals, Objectives & Expectations***
  - HMP Goals
  - Planning Team Meetings

- ***Purpose and Requirements of the LHMP***
  - Focus on Natural Hazards, "Human-Caused Hazards" Optional Additions
  - Importance of Planning Process
  - LHMP Approval Process
  - Recent Policy Update

- ***Hazard Identification and Prioritization***
  - FEMA suggested hazards presented; highlighted recommended hazards for profile; identified potential hazards that the team may want to consider/discuss further

- ***Hazard Prioritization Activity***

- ***Data Needs & Capabilities***
  - Data Needs
  - Capabilities Assessment
    - Previously identified plan capabilities
    - Additional recommended capabilities
    - Planning & regulatory, admin & tech, financial, education & outreach

- ***Critical Facilities Discussion (time permitting)***
  - Previously identified critical facilities
  - Additional recommended critical facilities
  - Community Lifelines

Next Steps/Action Items:

Marchese, Casey

Subject: City of South Gate Stakeholder Meeting #1
Location: Microsoft Teams Meeting

Start: Mon 10/23/2023 1:00 PM
End: Mon 10/23/2023 3:00 PM

Recurrence: (none)

Meeting Status: Accepted

Organizer: Anderson, Noelle
Required Attendees: [redacted]

Meeting agenda attached. Thank you! – Noelle

Hello,

You have been selected by the City of South Gate as a member of the Local Hazard Mitigation Plan (LHMP) Stakeholder Committee. The **Local Hazard Mitigation Plan** is a key City document that evaluates risk to natural and human-caused hazards, and identifies mitigation actions to reduce vulnerability from those hazards. Updated guidance from the Federal Emergency management Agency (FEMA) require our team to engage and solicit feedback from external City partners, including public safety agencies, utilities, nonprofits, and NGOs. Michael Baker is the City's consultant in preparing the LHMP update.

The Stakeholder Committee will be the core group responsible for providing LHMP input/updates, guiding the planning process, and agreeing upon the final contents of the plan. Two meetings will be hosted for two hours each via Microsoft Teams. Additional focus group meetings will be hosted/coordinated as needed. We understand the importance of your time – meetings will be structured to maximize results and minimize "homework" outside of the meeting block. **Your attendance and participation at one or all of these meetings will be greatly appreciated. If you are unable to participate, please forward this meeting invitation to another representative in your organization.**

Agendas will be provided prior to each meeting via this email chain.

The City previously prepared a Local Hazard Mitigation Plan with their contractor Michael Baker International in 2015. The previous LHMP can be found here: https://www.cityofsouthgate.org/Business-Development/City-Growth-Plans-Strategy/Local-Hazard-Mitigation-Plan

We appreciate your time and commitment. Your involvement will ensure a comprehensive and robust update that meets Cal OES/FEMA requirements. Please reach out if you have any questions regarding the LHMP or the update process.

Thank you,

Noelle

Microsoft Teams meeting

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CITY OF SOUTH GATE
LOCAL HAZARD MITIGATION PLAN

PLANNING TEAM MEETING #1
Monday, October 23rd, 2023
1:00 PM – 3:00 PM via Teams

MEETING MINUTES

Presentation/Discussion:

- ***Introductions***

- ***Project Background***
  - 2017/2018 Hazard Mitigation Plan

- ***Project Goals, Objectives & Expectations***
  - HMP Goals
  - Planning Team Meetings

- ***Purpose and Requirements of the LHMP***
  - Focus on Natural Hazards, "Human-Caused Hazards" Optional Additions
  - Importance of Planning Process
  - LHMP Approval Process
  - Recent Policy Update

    - *Question from Noelle Anderson (Project Manager, Michael Baker) – Does anyone have knowledge of particular areas or data sources for determining social vulnerable populations in the area?*
      - *Answer from Meredith Elguira (Director of Community Development, City of South Gate) – I can send the Section 8 housing map, that could be useful.*
      - *Noelle Anderson (Project Manager, Michael Baker) – That would be great, we can also look at the Housing Element to identify areas with a concentration of social vulnerable populations.*

- ***Hazard Identification and Prioritization***
  - FEMA suggested hazards presented; highlighted recommended hazards for profile; identified potential hazards that the team may want to consider/discuss further

    - *Question from Gigi Chan (Community Service Liaison, LACFD) – Should gas leaks be profiled as well? Some local/surrounding communities have experienced this issue.*
      - *Answer from Noelle Anderson (Project Manager, Michael Baker) – We can certainly include that in the plan, that could fall under the hazardous materials release profile.*

- *Question from Lt. Sergio Camacho (Lieutenant, South Gate Police Department) – How would we address power company power shutdowns, if we want to prepare for a long-term power outage? Does FEMA provide funding for that hazard?*
    - *Answer from Noelle Anderson (Project Manager, Michael Baker) – We identify power outage as a secondary impact of severe weather since they may be tied to high winds or wildfire conditions. Preparing with generators, potable lighting, equipment, and stockpiling supplies, etc. can all be identified as mitigation actions for severe weather and power outage.*
    - *Question from Meredith Elguira (Director of Community Development, City of South Gate) – Would you include communication as part of that?*
    - *Answer from Noelle Anderson (Project Manager, Michael Baker) – We almost always include communication systems as mitigation actions because resilient or redundant lines of communication can be useful for all hazards.*
- *Question from Lt. Sergio Camacho (Lieutenant, South Gate Police Department) – Is human error included in the human-caused hazards? We have a large petroleum entity and other hazardous materials concerns within the city, do we include those as their own hazards or are they considered human-caused?*
    - *Answer from Noelle Anderson (Project Manager, Michael Baker) – The previous HMP included those concerns in hazardous materials and not under human-caused. It is one of those hazards that may or may not be funded depending on the circumstances, but I think having hazardous materials separate from human-caused hazards is a good method for profiling and mitigating those hazards.*

- ***Hazard Prioritization Activity***

- ***Data Needs & Capabilities***
    - Data Needs
    - Capabilities Assessment
        - Previously identified plan capabilities
        - Additional recommended capabilities
        - Planning & regulatory, admin & tech, financial, education & outreach

- ***Critical Facilities Discussion (time permitting)***
    - Previously identified critical facilities
    - Additional recommended critical facilities
    - Community Lifelines

        - *Question from Jillian De Vela (Emergency Management Coordinator, City of Los Angeles) – Are there any libraries in South Gate that are designated cooling centers?*
            - *Answer from Jose Loera (City Traffic Engineer, City of South Gate) – There are two county libraries (Leland R. Weaver & Hollydale) in the city, I think we should include those as critical facilities. Also, East La College*

is extending their campus (expected to open by Fall of 2024) and we have 3 charter schools that may be considered critical.

- *Question from Osie Harrel (General Maintenance and Electrical Superintendent, City of South Gate) – What about fire stations?*
    - *Answer from Gigi Chan (Community Service Liaison, LACFD) – Those are currently included as critical facilities (stations 54 and 57).*
- *Question from Jillian De Vela (Emergency Management Coordinator, City of Los Angeles) – Are there are any transportation yards/fueling stations that the City of South Gate owns?*
    - *Noelle Anderson (Project Manager, Michael Baker) – We have the public works yard identified.*
    - *Jose Loera (City Traffic Engineer, City of South Gate) – The police station at the civic center is also included.*
    - *Osie Harrel (General Maintenance and Electrical Superintendent, City of South Gate) – The Public Works Yard (and Propane station at Public Works Yard) and the secondary station at Parks Maintenance Yard (across the street from South Gate Park) could be included.*
- *Question from Noelle Anderson (Project Manager, Michael Baker) – Are there any other facilities we might want to include?*
    - *Gigi Chan (Community Service Liaison, LACFD) – There is a brand new medical and dental facility, the AltaMed Medical and Dental Group. Also, during hazard events people might go to open spaces, shopping centers, etc. and those can be used as a safe places.*
    - *Lt. Sergio Camacho (Lieutenant, South Gate Police Department) – Azalea shopping center, El Paseo shopping center, and a smaller shopping center at Firestone Blvd. and Garfield Ave.*
    - *Meredith Elguira (Director of Community Development, City of South Gate) – The UPRR tracks is another open space between Independence Ave. and Ardmore Ave.*
    - *Jose Loera (City Traffic Engineer, City of South Gate) – The Urban Orchard Project park site could be another open space facility.*

Next Steps/Action Items:

- Meredith Elguira (Director of Community Development, City of South Gate) to provide Section 8 housing map.
- MBI to include newly identified critical facilities (county libraries, East la College campus extension, charter schools, public works yard, secondary station at parks maintenance yard, AltaMed facility, shopping centers, parking lots, etc.)
- Pictures, documentation of previous hazards; information on education and outreach programs, plans studies, technical data, historic knowledge to Noelle by November 6, 2023.

Stakeholder Meeting #1

Local Hazard Mitigation Plan Update

Michael Baker

INTERNATIONAL

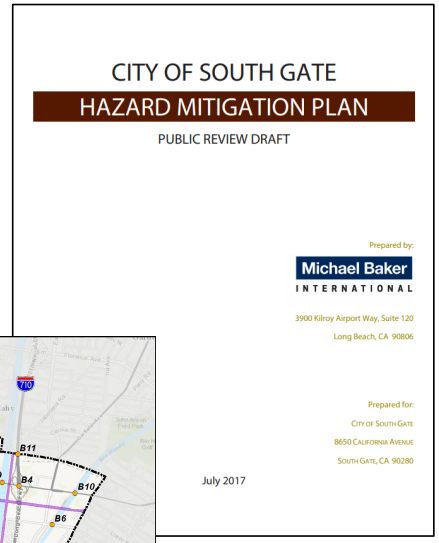
Agenda

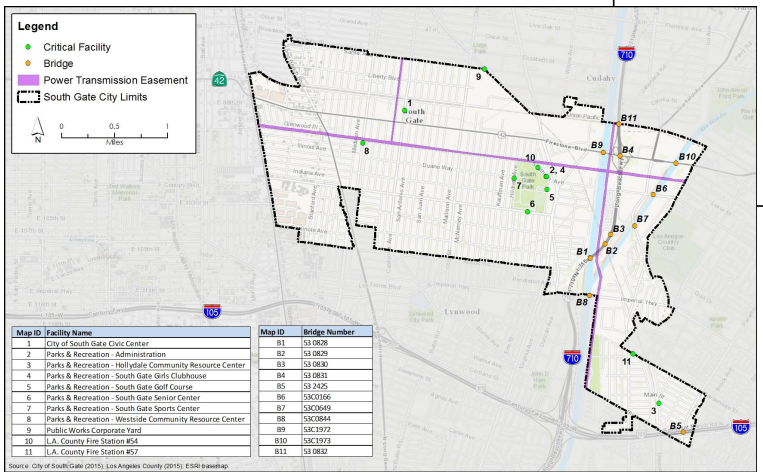
- Introductions
- Project Background
- Purpose and requirements of LHMP
- Project goals, objectives & expectations
- Hazard identification and prioritization
- Data Needs & Capabilities
- Next steps
- Questions/additional discussion

Introduction and Background

Background:
2017 City of South Gate HMP

- Prepared in 2017
- Approved July 24, 2018
- Expired July 23, 2023
- LHMP Findings
  - Profiled 12 hazards
  - Identified 11 critical facilities & 11 bridges
  - Identified 46 mitigation actions





Purpose and Requirements of the LHMP

What is Hazard Mitigation?

- Sustained actions taken to reduce or eliminate long-term risk to life and property from hazards

What is a Hazard Mitigation Plan?

- A plan based on a community's values and needs
- Results from a process-oriented approach (important)
- Focuses on mitigation strategies (making the future safer)

2023 Update

- Provide and **document** opportunities for stakeholder and public involvement
- Review and **incorporate** existing plans, studies, reports, and technical information
- **Document how** the plan was prepared and **who** was involved
- **Identify how** the plan will be monitored, evaluated, and updated within a five-year cycle
  - Provide for continued public participation in plan maintenance

Local Mitigation Planning Policy Guide

FP 206-21-0002

Released April 19, 2022, Effective April 19, 2023

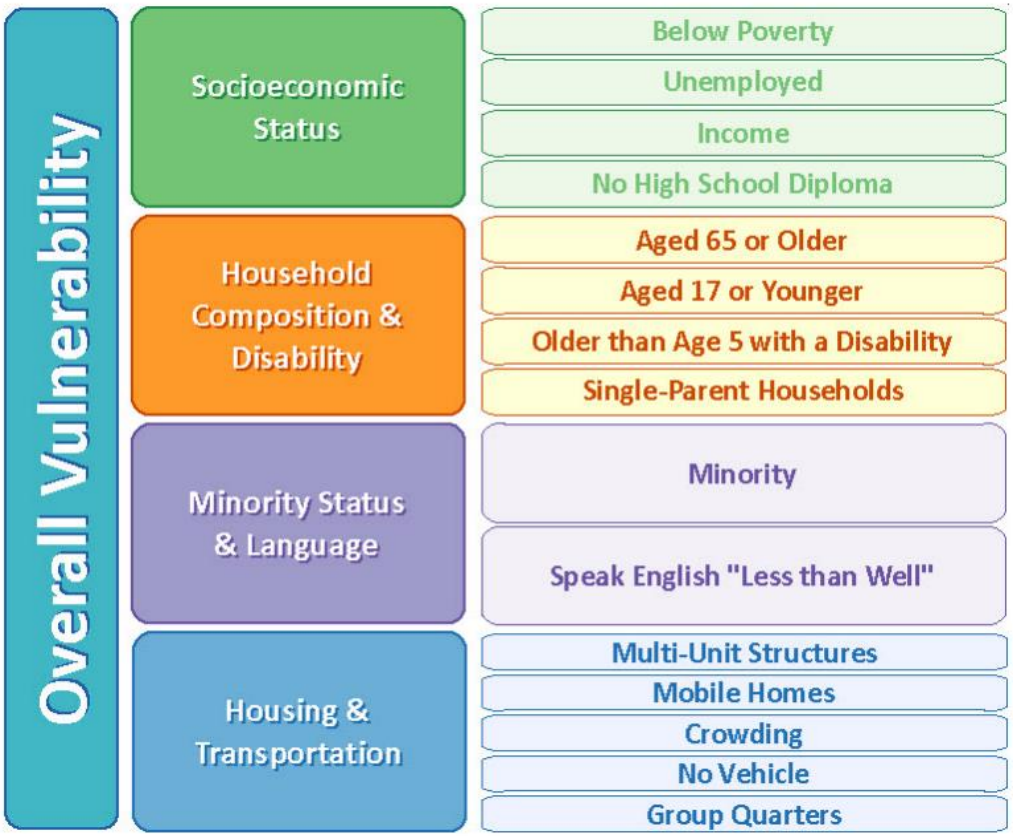
OMB Collection #1660-0062

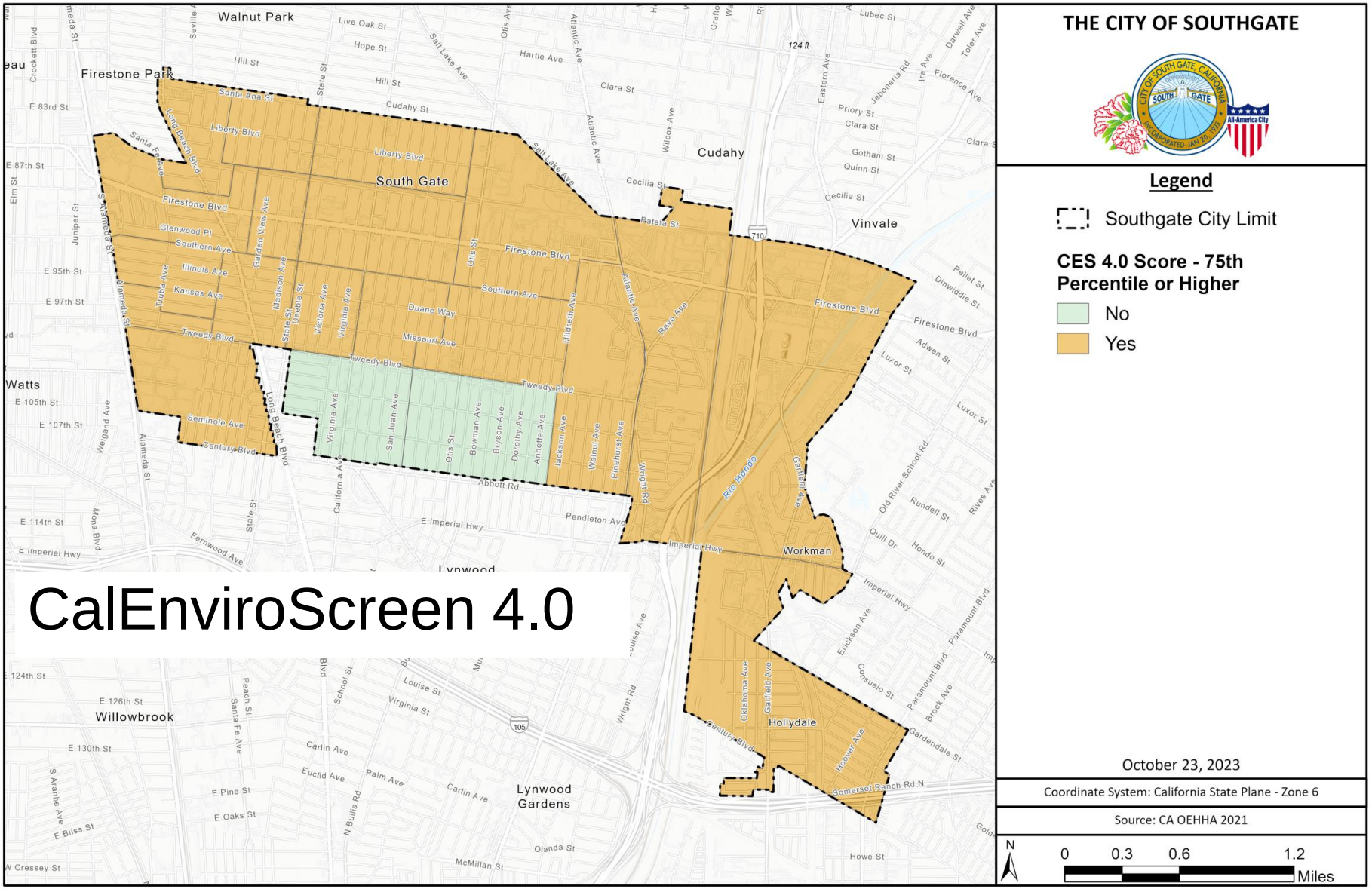
FEMA

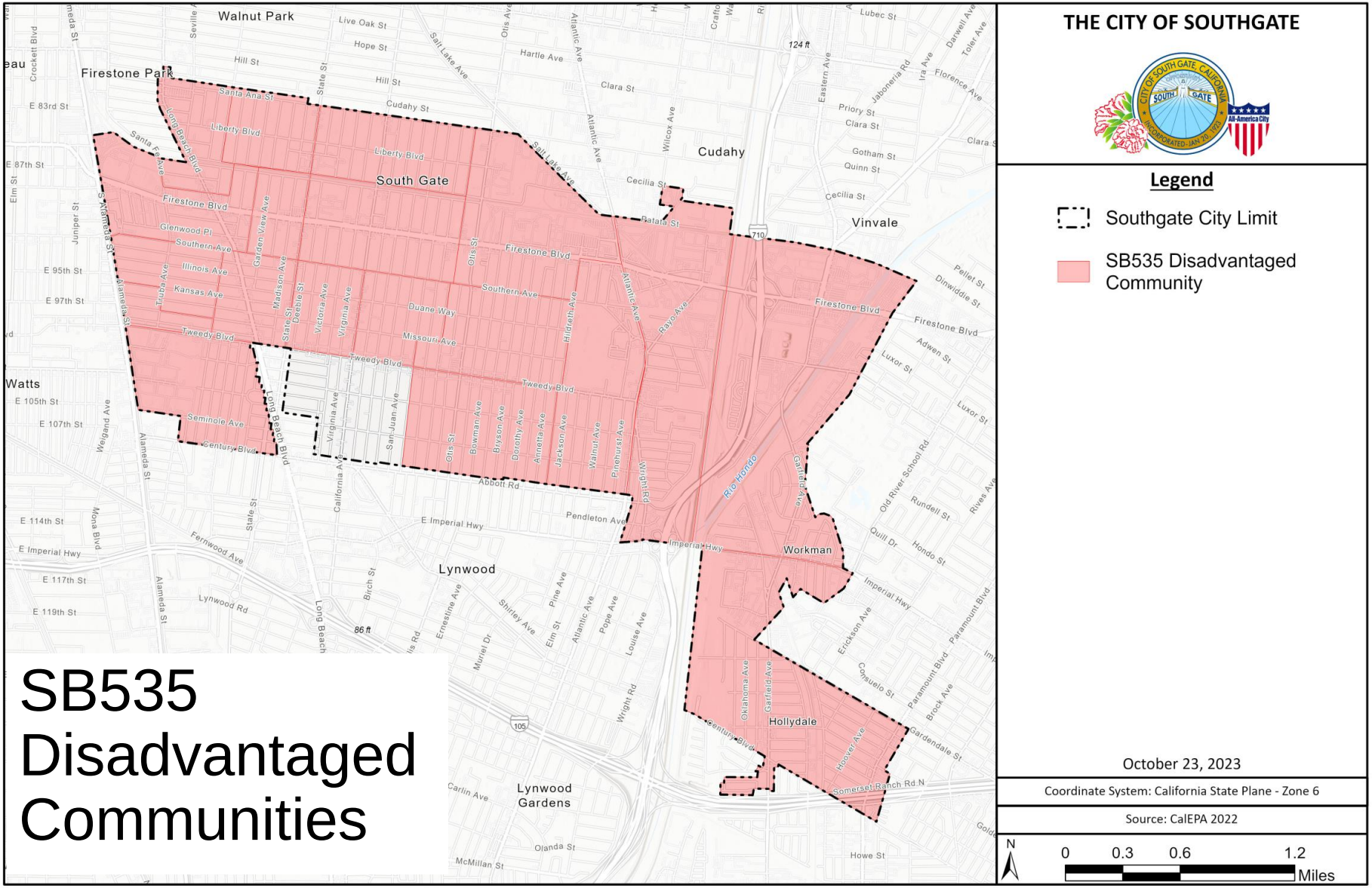
Social Vulnerable Populations

Use formal California Disadvantaged Community Definition:

1. ***Census tracts receiving the highest 25 percent of overall scores in CalEnviroScreen 4.0.***
2. Census tracts lacking overall scores in CalEnviroScreen 4.0 due to data gaps but receiving the highest 5 percent of CalEnviroScreen 4.0 cumulative pollution burden scores.
3. ***Census tracts identified in the SB 535 2017 DAC designation as disadvantaged, regardless of their scores in CalEnviroScreen 4.0.***
4. Lands under the control of federally recognized Tribes.




THE CITY OF SOUTHGATE
Legend
Southgate City Limit
CES 4.0 Score - 75th Percentile or Higher
No
Yes
CalEnviroScreen 4.0
October 23, 2023
Coordinate System: California State Plane - Zone 6
Source: CA OEHHA 2021
N
0 0.3 0.6 1.2
Miles
Walnut Park
Firestone Park
South Gate
Cudahy
Vinvale
Watts
Willowbrook
Lynwood
Lynwood Gardens
Workman
Hollydale



SB535 Disadvantaged Communities

Social Vulnerable Populations

- Supplement with data from the CDC – Social Vulnerability Index

Low

LHMP Development

Hazard Profiles

- Type, location, extent
- Previous occurrences
- Probability of future events
- SVP Impacts

Vulnerability Assessment

- Impacts of hazard
- Vulnerability to each hazard
- SVP Vulnerability
- Repetitive loss
- Potential dollar losses

Mitigation Strategies

- Overarching goals
- Specific actions
- SVP actions
- Prioritize actions
- Who, what, when, how much

Summarize and Document Risk Assessment

Mitigation Strategy

- Comprehensive range of mitigation actions and projects
  - Emphasize existing and new infrastructure
- Types of mitigation actions
  - Local plans and regulations
  - Structure and infrastructure projects
  - Natural systems protection
  - Education and awareness programs
- Action Plan
  - Incorporate into existing plans and policies
  - Identify who is responsible, funding mechanism, other resources, when completed and how purchased

Eligibility for FEMA Hazard Mitigation Assistance Grants

- Building Resilient Infrastructure and Communities (BRIC)
- Hazard Mitigation Assistance Program (HMGP)
- Flood Mitigation Assistance (FMA)
- HMGP Post-Fire Assistance

Example Mitigation Action Matrix: Culver City

Table 5-3
Hazard Mitigation Actions

#	Mitigation Action	Hazard(s) Assessed	Responsible Department	Funding Sources	Priority	Timeline
1	**City:** Continue to use emergency alert systems, such as Everbridge (Nixle), Integrated Public Alert and Warning System (IPAWS), to notify community members in the event of an imminent threat or evacuation order. Promote emergency alert systems, and encourage residents to sign-up to receive alerts through their preferred notification approach. Promote emergency warning system sign-up with underserved or vulnerable populations (particularly linguistically isolated populations within the DAC), who may not be aware of existing notification programs or may require additional coordination/support during evacuation scenarios.	All Hazards	**City:** Police Department, Fire Department. **External Partners:** Los Angeles County Emergency Management.	Staff time, City General Fund. **FEMA:** Next Generation Warning System Grant Program (NGWSGP); Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC).	High	Ongoing
2	**City and CCUSD:** Continue to provide back-up power at critical facilities though permanent or portable generators. Identify critical facilities in need of new or expanded generator capacity, and identify funding sources for purchase of additional generator capacity.	Multiple Hazards: Dam/Reservoir Failure; Flood; Seismic Hazards; Severe Weather; Wildfire	**City:** Public Works Department. **CCUSD:** Business Services Department, Safety and Security Department.	City General Fund, CCUSD General Fund. **FEMA:** Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC).	High	Ongoing
3	**City and CCUSD:** Continue to distribute information on how to reduce hazard risk/vulnerability to all community members through mailings, printed notifications, television, and digital devices, and in-person events and workshops. Continue focused outreach with underserved or vulnerable populations, and consider the unique communication needs of these groups to ensure meaningful engagement. Continue to consult and solicit feedback for opportunities to improve communication/engagement procedures.	All Hazards	**City:** Public Works Department, Fire Department, Police Department. **CCUSD:** Business Services Department, Safety and Security Department, Education Services.	Staff time, City General Fund, CCUSD General Fund. **FEMA:** Hazard Mitigation Grant Program (HMGP).	Medium	Ongoing
4	**City:** Conduct regular City Municipal Code reviews for relevant updates to implement strategies identified in this Plan, and other hazard mitigation efforts.	All Hazards	**City:** Advanced Planning Division, Building Safety Division, Public Works Department.	Staff time, City General Fund.	Low	Long-Term
5	**City and CCUSD:** Coordinate with local, regional, and state agencies to monitor changes in hazard severity and frequency as related to climate change.	Multiple Hazards: Climate Change; Drought; Flood; Severe Weather; Wildfire	**City:** Public Works Department, Advanced Planning Division, Fire Department, Police Department. **CCUSD:** Business Services Department, Safety and Security Department	Staff time.	Medium	Ongoing
6	**City and CCUSD:** Avoid locating new critical facilities within or immediately adjacent to mapped hazard zones, where feasible. If no feasible alternative exists, integrate best-practices into the development to reduce vulnerability and risk to the maximum extent.	Multiple Hazards: Dam/Reservoir Failure; Flood; Seismic Hazards (Landslide, Liquefaction); Wildfire	**City:** Public Works Department, Advanced Planning Division, Building Safety Division. **CCUSD:** Business Services Department, Safety and Security Department.	Staff time, Developer Impact Fees.	Medium	Ongoing
7	**City and CCUSD:** Continue to implement energy efficiency retrofits, expand energy conservation efforts, and pursue the use of renewable energy at City facilities, to avoid service disruptions during emergency situations. Explore the use of microgrids (localized grids that disconnect from the traditional grid to mitigate grid disturbances) to support energy resilience and independence at key facilities.	All Hazards	**City:** Public Works Department. **CCUSD:** Business Services Department [Maintenance, Operations and Transportation Division].	**FEMA:** State Transportation Improvement Programs (STIP); Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure and Communities (BRIC). **California Energy Commission**: Bright Schools Program; Healthy Air, Plumbing, and Efficiency Program (CalSHAPE). **U.S. Department of Transportation**: Improvements at Public School Facilities Program.	Medium	Long-Term
8	**City and CCUSD:** Conduct hazard vulnerability studies when constructing new City and CCUSD buildings or infrastructure. Based on vulnerability findings, construct new buildings/infrastructure in accordance with resilience best-practices and integrate mitigation into the building design.	All Hazards	**City:** Public Works Department, Building Safety Division. **CCUSD:** Business Services Department [Maintenance, Operations and Transportation Division].	Staff time, City General Fund, CCUSD General Fund. **FEMA:** Hazard Mitigation Grant Program (HMGP).	High/Medium	Ongoing
9	**City and CCUSD:** Continue to coordinate with the American Red Cross to maintain an active list of City/CCUSD-owned community shelter sites. Ensure that community shelter sites are proactively equipped with shelter carts and other required supplies.	All Hazards	**City:** Fire Department. **CCUSD:** Business Services Department, Safety and Security Department. **External Partners:** American Red Cross.	Staff time, City General Fund, CCUSD General Fund.	Medium	Ongoing
10	**City:** Continue to partner with local nonprofits and non-governmental organizations (NGOs), (such as the American Red Cross and homelessness services providers) to identify and implement targeted mitigation actions to support vulnerable or underserved populations.	All Hazards	**City:** Fire Department, Police Department. **External Partners:** American Red Cross, Culver City YMCA, One Incredible Family Inc., St. Joseph's Center, Share!, or similar organizations.	Staff time, City General Fund.	High	Ongoing

Plan Adoption

- Plan submitted to Cal OES/FEMA for Review
  - Receive “Approval Pending Adoption” status
- The City Council adopt the LHMP
  - Must be adopted within one calendar year
  - Documentation of adoption (resolution) provided to FEMA
- FEMA issues approval letter

Project Goals, Objectives and Expectations

Roles and Responsibilities

Our Job

- Facilitate the process
- Provide technical expertise
- Maintain schedule
- Do the heavy work
- Ensure FEMA-compliant plan

Your Job

- Participate
- Meet internal deadlines
- Provide agency-specific information/local insight
- Ensure plan is feasible and meets needs

LHMP Planning Team Meetings

- **Planning Team Meeting #1: Today!**
  - Introductions, MJHMP Plan Process/Development, Goals, Hazard Prioritization Exercise
- Stakeholder Meeting Series: Week of November 13 – December 15, 2023
  - Critical Facilities/Community Lifeline Updates, Hazard Prioritization Findings, Introduction to Vulnerability, Vulnerability Assessment Findings, Mitigation Action Development
- Planning Team Meeting #2: Week of February 5 – 9th, 2023
  - Mitigation Action Development and Finalization

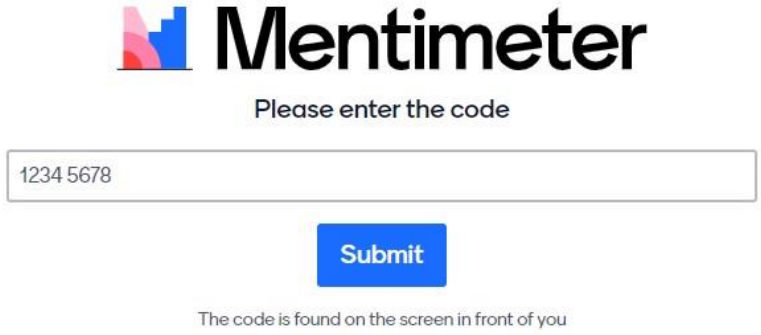
Anticipated review of draft plan – March

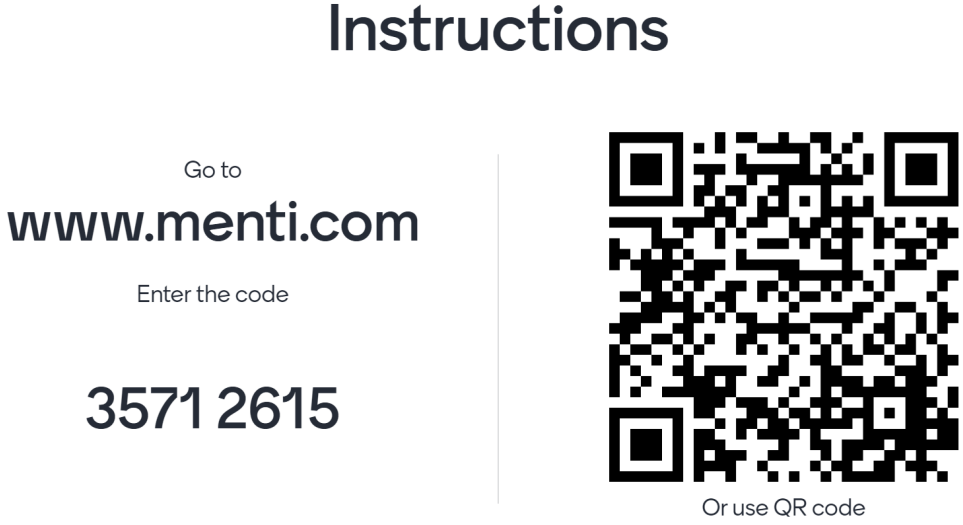
South Gate LHMP Goals

- General guidelines that explain what the community wants to achieve with the HMP
  - What do we want to accomplish? Consider:
    - Unique community risks
    - Outreach desires and findings
    - Other community planning goals

MENTI INTRODUCTION

- Go to www.menti.com on your phone or desktop browser
- Enter the code at the top of the slide





MENTI WORD CLOUD

Previous Goals

- Enhanced protection of life and property from hazard impacts.
- Municipal and emergency operations are fully functional during disasters.
- Strengthened partnerships within the community and throughout the region that enhance hazard mitigation, preparation, response, and recovery capabilities.
- Educated and empowered community members prepare for, mitigate, respond to, and recover from hazards that affect their family and property.

Hazard Identification

FEMA-Suggested Hazards

Avalanche	Flood	Sea level rise
Climate change	Geological hazards	Seismic hazards
Coastal erosion	Hailstorm	Severe winter storm
Coastal storm	Hazardous materials	Tornado
Dam failure	Human-caused hazards	Tsunami
Disease/pest management	Hurricane	Volcano
Drought	Land subsidence	Wildfire
Earthquake fault rupture	Landslide and mudflow	Wind
Expansive soils	Lightning	Windstorm
Extreme heat	Liquefaction	

Previously Included Hazards

Avalanche	Flood	Sea level rise
Climate change	Geological hazards	Seismic hazards
Coastal erosion	Hailstorm	Severe weather
Coastal storm	Hazardous materials	Tornado
Dam failure	Human-caused hazards	Tsunami
Disease/pest management	Hurricane	Volcano
Drought	Land subsidence	Wildfire
Earthquake fault rupture	Landslide and mudflow	Wind
Expansive soils	Lightning	Windstorm
Extreme heat	Liquefaction	

LHMP Potential Hazards

Avalanche	Flood	Sea level rise
Climate change	Geological hazards	Seismic hazards
Coastal erosion	Hailstorm	Severe weather
Coastal storm	Hazardous materials	Tornado
Dam/Reservoir failure	Human-Caused hazards	Tsunami
Disease/pest management	Hurricane	Volcano
Drought	Land subsidence	Wildfire
Earthquake fault rupture	Landslide and mudflow	Wind
Expansive soils	Lightning	Windstorm
Extreme heat	Liquefaction	Pandemic

Proposed Hazards List

- Climate Change (integrated into each hazard)
- Dam/Reservoir Failure
- Drought
- Extreme Heat
- Flood
- Hazardous Materials Spills
- Human-Caused Hazards (civil unrest, pandemic, terrorism/active shooter threats)
- Seismic Hazards (fault rupture, groundshaking, liquefaction, landslide)
- Severe Weather (wind/windstorms, hailstorms, heavy rains, tornadoes, power outage)
- Wildfire

Hazard Prioritization Exercise & Survey

Hazard Prioritization

- Four criteria
  - Probability (likelihood of occurrence)
  - Location (size of potentially affected area)
  - Maximum Probable Extent (intensity of damage)
  - Secondary impacts (severity of impacts to community)
- A value of 1 – 4 is assigned for each criteria
- Every criteria has an Importance Score
  - Can be used to weigh the influence of an individual criterion
  - Criteria and importance values are combined to calculate a Total Score

Score Example: Tsunami

Probability

Importance score: 2.0

Unlikely (1)	Occasional (2)	**Likely (3)**	Highly Likely (4)

Probability score: 2.0 x 3 = 6

Location

Importance score: 0.8

Negligible (1)	Limited (2)	Significant (3)	**Extensive (4)**

Affected Area score: 0.8 x 4 = 3.2

Score Example: Tsunami

Primary Impact

Importance score: 0.7

Weak (1)	**Moderate (2)**	Severe (3)	Extreme (4)

Primary Impact score: 0.7 x 2 = 1.4

Secondary Impacts

Importance score: 0.5

Negligible (1)	Limited (2)	Moderate (3)	High (4)

Secondary Impacts score: 0.5 x 4 = 0.5

Score Example: Tsunami

Impact

Affected Area Score (3.2)	Primary Impact Score (1.4)	Secondary Impact Score (0.5)

Impact score: 3.2 + 1.4 + 0.5 = 5.1

Total Score

Impact Score (5.1)	Probability Score (6)

Total Score: 5.1 x 6 = 30.6 (Medium)

Low:	Medium:	High:
0-12	12.1-42	42.1 and up

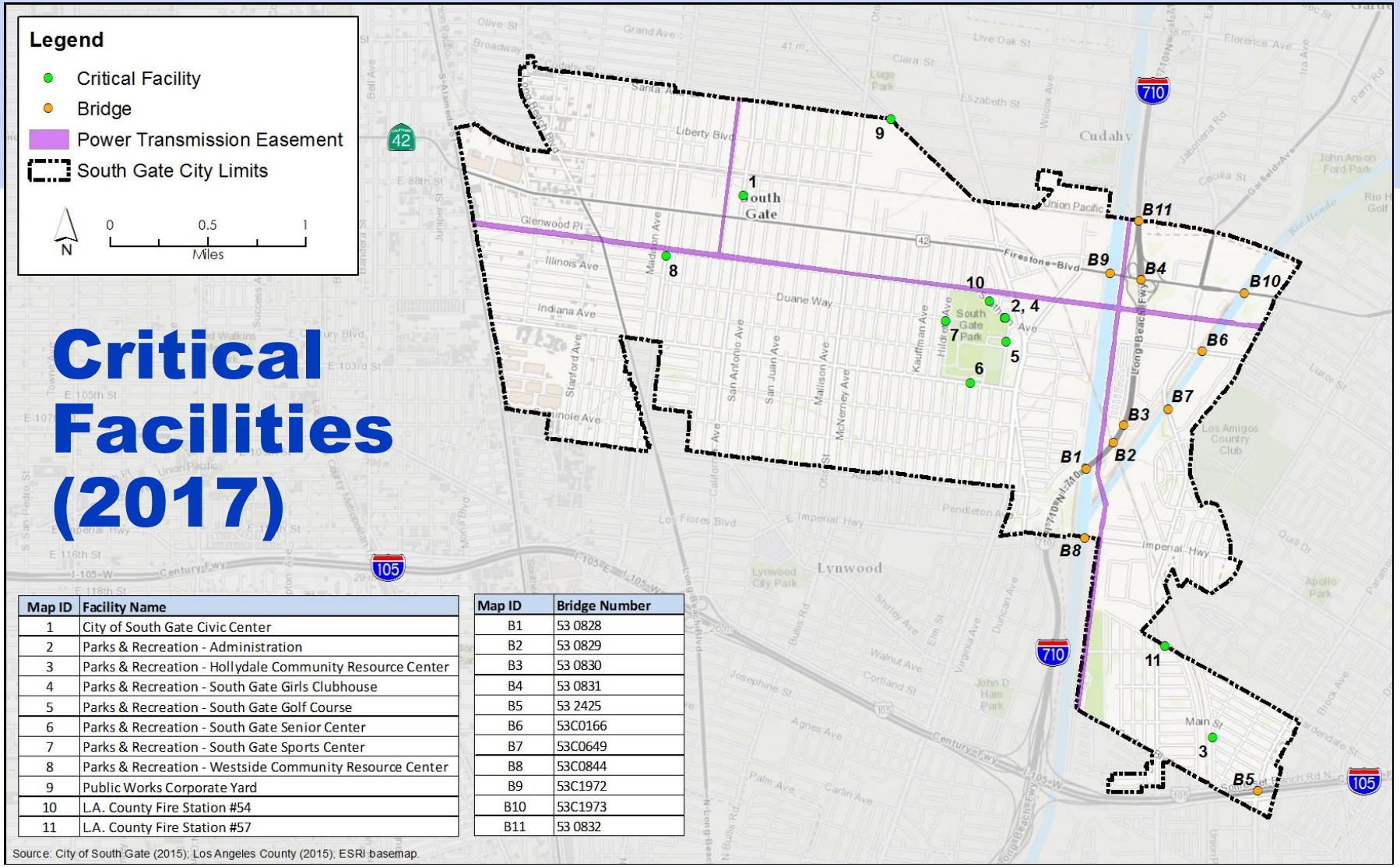
MENTI HAZARD RANKING ACTIVITY

Critical Facilities

Critical Facilities - 2017 LHMP

- South Gate Civic Center
- Public Works Corporate Yard
- LA County Fire Station
- Bridges (10)
- Parks and Recreation Buildings
  - Admin/Municipal Auditorium
  - Hollydale Community Center
  - South Gate Girls Clubhouse
  - Golf Course
  - Senior Center
  - Sports Center
  - Westside Community Center

Critical Facilities (2017)



Map ID	Facility Name
1	City of South Gate Civic Center
2	Parks & Recreation - Administration
3	Parks & Recreation - Hollydale Community Resource Center
4	Parks & Recreation - South Gate Girls Clubhouse
5	Parks & Recreation - South Gate Golf Course
6	Parks & Recreation - South Gate Senior Center
7	Parks & Recreation - South Gate Sports Center
8	Parks & Recreation - Westside Community Resource Center
9	Public Works Corporate Yard
10	L.A. County Fire Station #54
11	L.A. County Fire Station #57

Map ID	Bridge Number
B1	53 0828
B2	53 0829
B3	53 0830
B4	53 0831
B5	53 2425
B6	53C0166
B7	53C0649
B8	53C0844
B9	53C1972
B10	53C1973
B11	53 0832

Source: City of South Gate (2015); Los Angeles County (2015); ESRI basemap.

Critical Facilities

- Serve important/critical functions in the operations of municipal government, serving the community, and responding in an emergency
- Failure of critical facilities would result in significant issues with response efforts and maintaining service
- Risk assessment will look at what facilities are in hazard zones
- Mitigation strategies reflect vulnerabilities of critical facilities

Community lifelines are defined by FEMA, a construct for objectives-based post-disaster stabilization efforts. A lifeline enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security.

- Lifelines are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function.
- Lifelines are the integrated network of assets, services, and capabilities that are used day-to-day to support the recurring needs of the community.
- When disrupted, decisive intervention (e.g., rapid service re-establishment or employment of contingency response solutions) is required to stabilize the incident.

SAFETY AND SECURITY

- Law Enforcement/Security (stations, staff, site security)
- Fire Service (stations, staff, resources)
- Search and Rescue
- Government Service (emergency operations centers, essential functions, schools, gov't offices)
- Community Safety (flood control, protective actions, other hazards)

FOOD, WATER, SHELTER

- Food (commercial food distribution, supply chains, food distribution programs)
- Water (drinking water utilities, wastewater systems, water supply chain)
- Shelter (housing, shelters, commercial facilities such as hotels)
- Agriculture (animals and agriculture)

HEALTH AND MEDICAL

- Medical Care (hospitals, dialysis, pharmacies, care facilities, vet services, home care)
- Public Health (epidemiological monitoring, labs, clinical guidance, behavioral health)
- Patient Movement (emergency medical services)
- Medical Supply Chain (products, manufacturing, distribution, research, sterilization)
- Fatality Management (mortuary and post-mortuary services)

ENERGY

- Power Grid (generation, transmission, distribution systems)
- Fuel (refineries, processing, storage, pipelines, distribution)

COMMUNICATIONS

- Infrastructure (wireless, cable, broadcast, satellite, internet, data centers)
- Responder Communications (LMR networks)
- Alerts, Warnings, and Messages (local and regional alerts)
- Finance (banking services, electronic payment processing)
- 911 and Dispatch

TRANSPORTATION

- Highway, Roadway, Motor Vehicle (roads, bridges)
- Mass Transit (bus, rail, ferry)
- Railway (freight, passenger)
- Aviation (commercial, general, military)
- Maritime (waterways, ports, port facilities)

HAZARDOUS MATERIALS

- Oil/HAZMAT Facilities (facilities, toxic incidents from facilities)
- Oil/HAZMAT, Pollutants, Contaminants (toxic incidents from non-fixed facilities)

Critical Facilities – Recommended Additions

- Public Schools
  - LAUSD and Paramount Unified
- Parks and Recreation
  - Parks and Tot Lot
- SCE Substations
- Potable Water Infrastructure
- Wastewater Infrastructure
- Communications Infrastructure
- South Gate Urgent Care and Brookdale Medical Center

Capabilities Assessment

Capabilities Assessment

- Two components
  - Inventory of existing resources and tools to accomplish mitigation and reduce long-term vulnerability, and understanding of ability to use them effectively
  - Identification of gaps, conflicts, and/or weaknesses that may need to be addressed through mitigation
- Types of capabilities
  - Planning and regulatory
  - Administrative and technical
  - Financial
  - Education and outreach

Capabilities Identification Worksheets

- Planning and regulatory
  - Ordinances
  - Policies
  - Local laws and state statutes
  - Plans and program that guide and manage growth
- Questions to consider:
  - Does the plan address hazards?
  - Does the plan identify projects to include in the mitigation strategy?
  - Can the plan be used to implement mitigation actions?
  - How can the capabilities be expanded and improved to reduce risk?

Capabilities Identification Worksheets

- Administrative and technical
  - City staff – skills/tools and capacity
  - Public and private resources
  - Ability to access and coordinate resources effectively
- Questions to consider:
  - Is coordination effective?
  - Is staffing adequate to enforce regulations?
  - Is staff trained on hazards and mitigation?
  - Is coordination between agencies and staff effective?
  - Has the capability been used to assess/mitigate risk in the past?
  - How can the capabilities be expanded and improved to reduce risk?

Capabilities Identification Worksheets

- Financial
  - Resources have or eligible to use to fund mitigation
    - Staff time, existing operating budgets, impact fees
    - Local, state and federal funding sources
- Questions to consider:
  - Has the funding resource been used in the past and for what types of activities?
  - Could the resource be used to fund future mitigation actions?
  - How can the capabilities be expanded and improved to reduce risk?

Capabilities Identification Worksheets

- Education and outreach
  - Programs and methods in place to implement mitigation actions and communicate hazard-related information
    - Fire safety programs, education programs
    - Public information or communication activities
- Questions to consider:
  - Could the program/organization help to implement future mitigation activities?
  - How can the capabilities be expanded and improved to reduce risk?

Data Needs & Capabilities

- Plans/studies
- Policies/programs
- Technical and GIS data
- Intrinsic/historic knowledge
- Photos
- Asset inventory for loss estimations

Provide any information/resources to Noelle by 11/6

[redacted]

Next Steps

Timeline – Next Steps

- **LHMP Survey Distribution: https://www.surveymonkey.com/r/KCS7J5R**
- **Community Outreach: TBD**
- **Small Group Meetings: November 13 – December 15, 2024**
  - Critical Facilities, Vulnerability Assessment, Mitigation Actions
- **HMP Meeting #2: early February [TBD]**
  - Mitigation Action Development and Finalization
- Draft LHMP for Planning Team Review: February 2024
- Draft LHMP for Public Review: March 2024

Questions/Additional Discussion?

Forward all data/information to:

Lt. Sergio Camacho
Emergency Operations
[redacted]

Noelle Anderson
Project Manager
[redacted]

City of South Gate
Local Hazard Mitigation Plan
Meeting #1
October 23, 2023

First and Last Name	Title	Organization/Department	Mailing Address	E-Mail Address	Phone Number	Present ?
Alfred Martinez	Emergency Management	City of Huntington Park	[redacted]	[redacted]		
Arturo Cervantes	Director of Public Works	City of South Gate				
Ashley Greaney Catanzano	Public Information Officer	Downey Unified School District				
Brad Evans		LACFD				✓
Casey Marchese	Project Planner	Michael Baker International			[redacted]	✓
Chris Castillo	Water Division Manager	City of South Gate			[redacted]	✓
Cynthia Quimby	Public Affairs/Governmental Liason	Southern California Edison				
D Reyes	Emergency Management	City of Cudahy				
David Kingston	Chief of Emergency Management	LA District USACE			[redacted]	✓

City of South Gate
Local Hazard Mitigation Plan
Meeting #1
October 23, 2023

First and Last Name	Title	Organization/Department	Mailing Address	E-Mail Address	Phone Number	Present ?
Derwin Dy	Water Resources Section Manager	City of South Gate	[redacted]			✓
Diane Forte	Government Relations Manager	Southern California Edison				
E Wosick	Emergency Management	City of Paramount				
Eugenia (Gigi) Chan	Community Service Liaison	LACFD				✓
Francisco Martinez	Local Public Affairs	Southern California Edison				
Fredy Ceja		LA Department of Water and Power				
Glenn Massey	Parks Superintendent	City of South Gate				✓
Gymeka Williams	Emergency Management Coordinator	County of Los Angeles OEM				
Ileana Albert	Coordinator - Local District East	Los Angeles Unified School District				

City of South Gate
Local Hazard Mitigation Plan
Meeting #1
October 23, 2023

First and Last Name	Title	Organization/Department	Mailing Address	E-Mail Address	Phone Number	Present ?
Jeremy Gloer	Outreach Representative for South Gate	PATH Los Angeles	[redacted]			✓
Jillian De Vela	Emergency Management Coordinator	City of Los Angeles				✓
Jose Loera	City Traffic Engineer	City of South Gate				✓
Linda Cunningham	Capital Programs	Golden State Water Company				
Lt. Evelyn Garcia	Lieutenant	South Gate Police Department				✓
Lt. Sergio Camacho	Lieutenant/ South Gate Project Manager	South Gate Police Department				✓
Luis Osuna	Deputy City Engineer	City of South Gate				✓
M Williams	Emergency Management	City of Bell Gardens				
Meredith Elguira	Director of Community Development	City of South Gate				✓

City of South Gate
Local Hazard Mitigation Plan
Meeting #1
October 23, 2023

First and Last Name	Title	Organization/Department	Mailing Address	E-Mail Address	Phone Number	Present ?
Nick Berkuta		LA County Fire		[redacted]		
Noelle Anderson	Project Manager	Michael Baker International	[redacted]	[redacted]	[redacted]	✓
Osie Harrell	General Maintenance and Electrical Superintendent	City of South Gate	[redacted]	[redacted]	[redacted]	✓
Rakdy Khlok	Emergency Management	City of Downey	[redacted]	[redacted]		
Richard Lee	Operations Division	LA District USACE	[redacted]	[redacted]		✓
Rick Blackburn	Emergency Services	Southern California Gas	[redacted]	[redacted]		✓
Rosemary Vivero		LA County Fire		[redacted]		
S Plops	Operations Division (Hanson Dam) - LA Distict	US Army Corps of Engineers Los Angeles District		[redacted]		
Sandra Varela	Community Development Tech II	City of South Gate - Code Enforcement	[redacted]	[redacted]	[redacted]	✓

City of South Gate
Local Hazard Mitigation Plan
Meeting #1
October 23, 2023

First and Last Name	Title	Organization/Department	Mailing Address	E-Mail Address	Phone Number	Present ?
Sara Nazir	Risk and Safety Manager	City of Lynnwood	[redacted]	[redacted]		
Savanna Fiehler	Disaster Program Manager	American Red Cross	[redacted]	[redacted]		
Steve Costley	Director of Parks and Recreation	City of South Gate	[redacted]	[redacted]		
Terence Cheung	District Local Assistance Engineer	Caltrans		[redacted]		✓
Thevin Rajapaksha Arachchilage	Disaster Program Manager	American Red Cross	[redacted]	[redacted]		✓
Thurman Green	Risk Manager	City of South Gate – Human Resources	[redacted]	[redacted]		✓
Timothy Dahlum	Pacific Division Information and Planning Lead	American Red Cross	[redacted]	[redacted]		
Tina Fierro	Deputy Director of Parks and Recreation	City of South Gate	[redacted]	[redacted]		✓
Victor Pelayo	Water Distribution Superintendent	Golden State Water Co		[redacted]		✓

City of South Gate
Local Hazard Mitigation Plan
Meeting #1
October 23, 2023

First and Last Name	Title	Organization/Department	Mailing Address	E-Mail Address	Phone Number	Present ?
Yalini Siva	**Senior Planner**	**City of South Gate – Land Use and Development**	[redacted]	[redacted]	[redacted]	✓
		South Gate Kiwanis Club		[redacted]		
		South Gate Rotary Club		[redacted]		
		Tweedy Mile Association		[redacted]		

Mentimeter

Instructions

Go to

www.menti.com

Enter the code

1915 9229

Or use QR code

2

Mentimeter

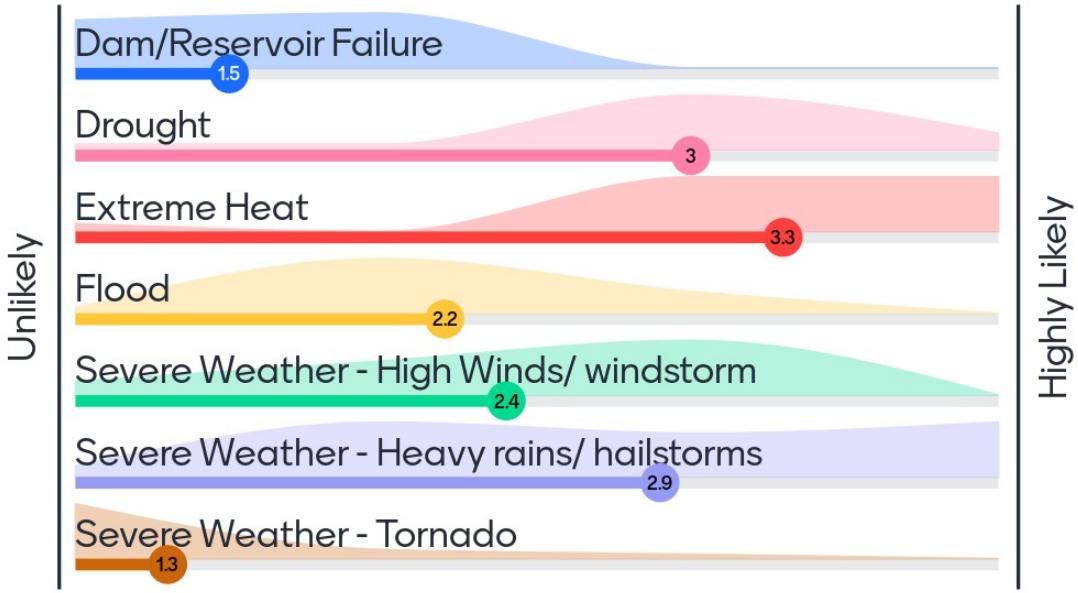
What are some key words/phrases for consideration and incorporation into LHMP goals?

55 responses

16

Mentimeter

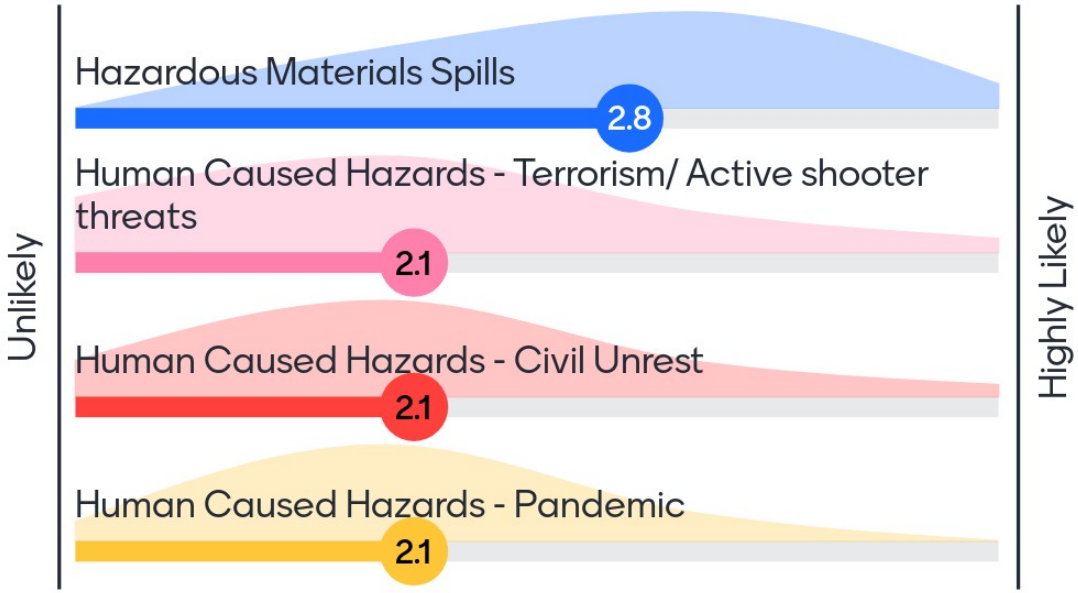
Probability: Likelihood of Occurrence within the Next Year



15

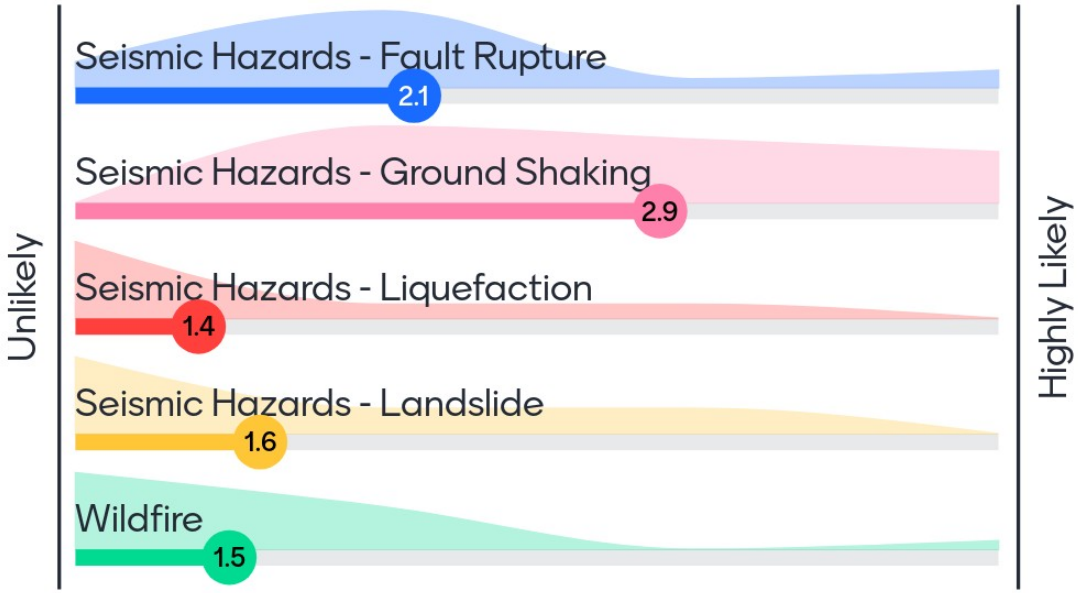
Mentimeter

Probability: Likelihood of Occurrence within the Next Year



Mentimeter

Probability: Likelihood of Occurrence within the Next Year



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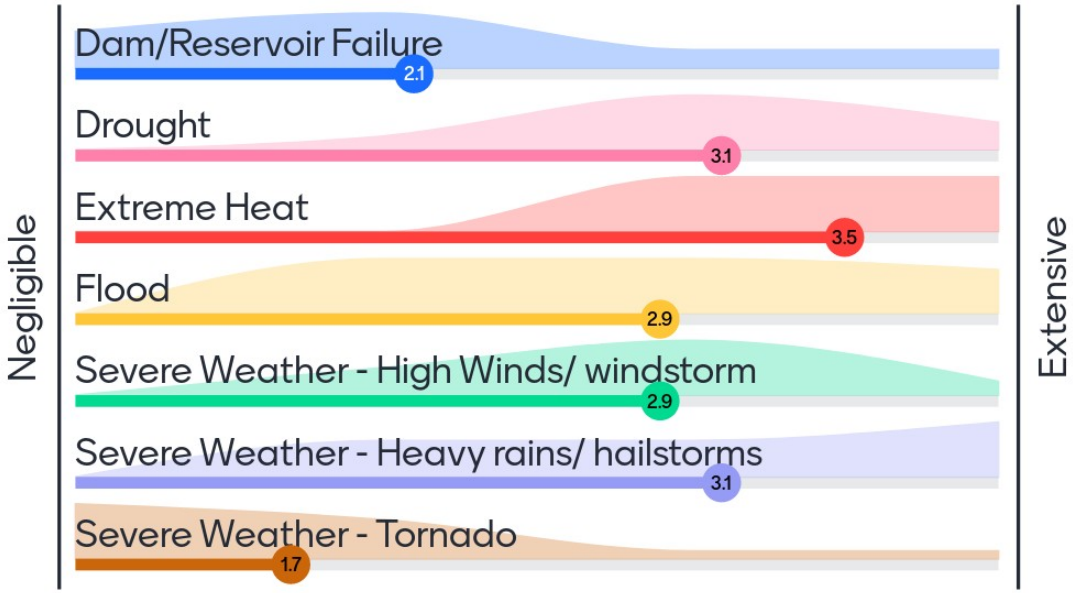
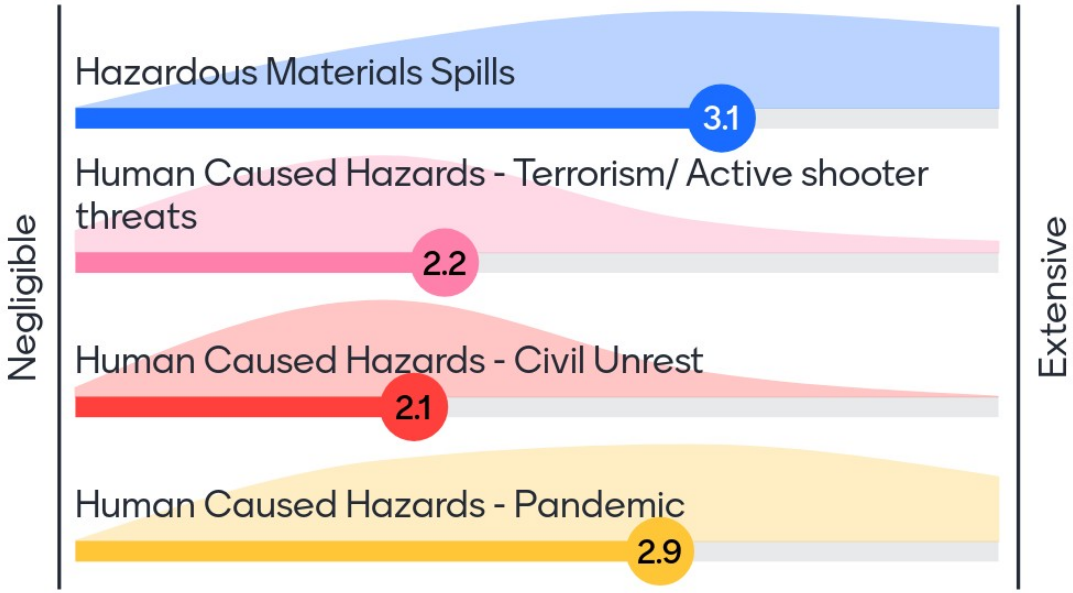
Mentimeter

Location: Size of the Geographical Area Affected by Hazard



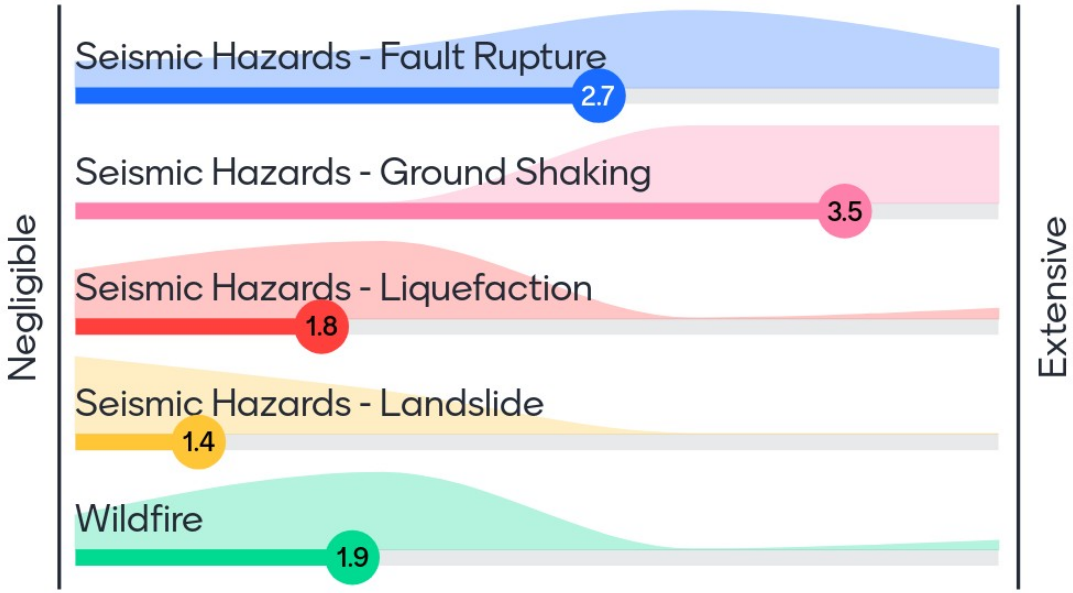
Mentimeter

Location: Size of the Geographical Area Affected by Hazard



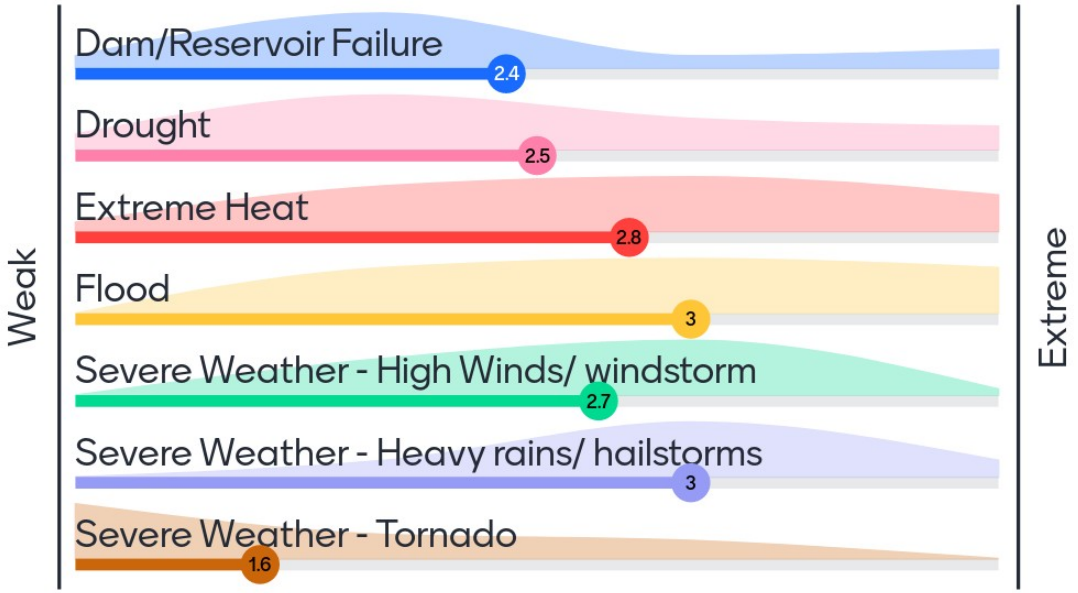
Mentimeter

Location: Size of the Geographical Area Affected by Hazard



Mentimeter

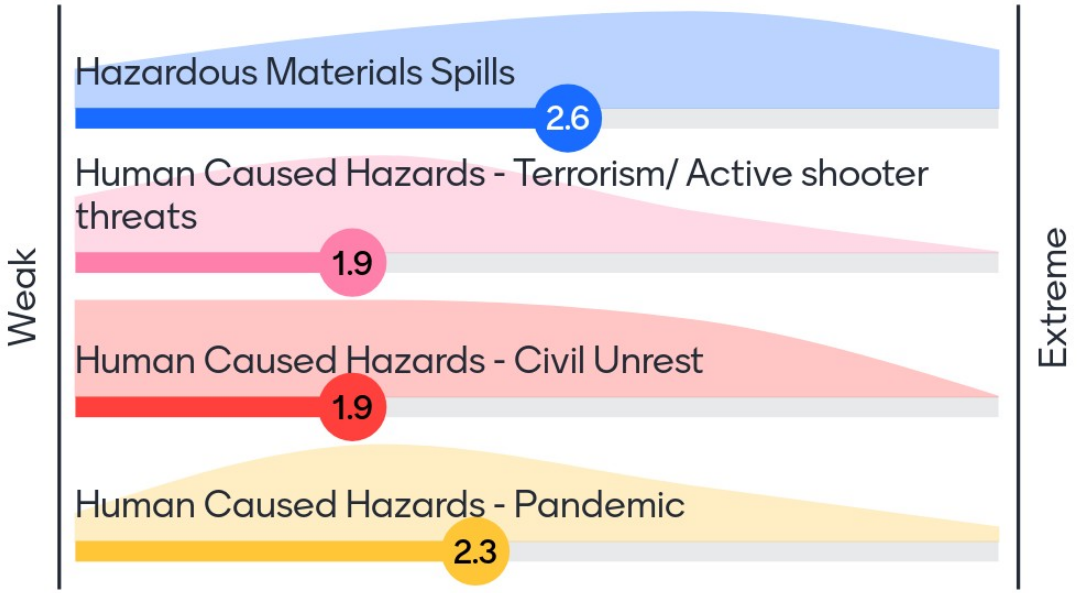
Primary Impact: Percentage of Damage to Typical Facility in Community



16

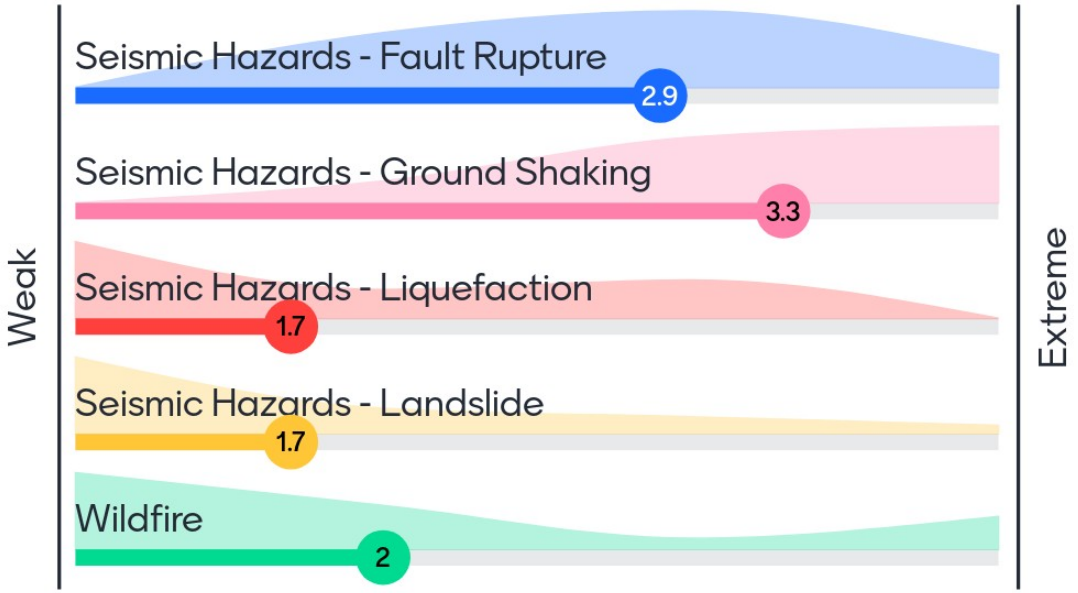
Mentimeter

Primary Impact: Percentage of Damage to Typical Facility in Community



Mentimeter

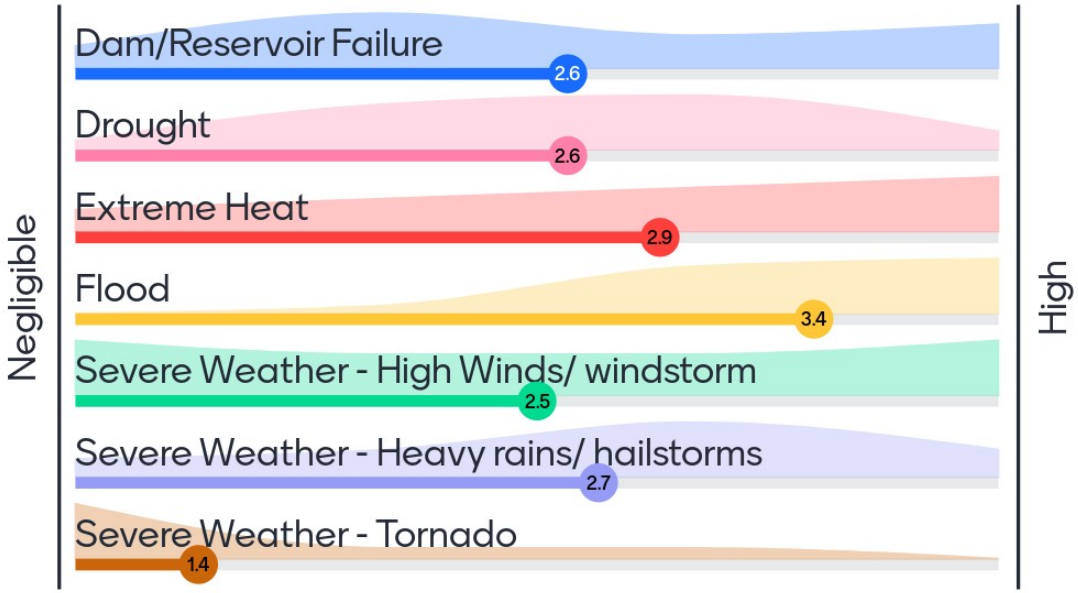
Primary Impact: Percentage of Damage to Typical Facility in Community



15

Mentimeter

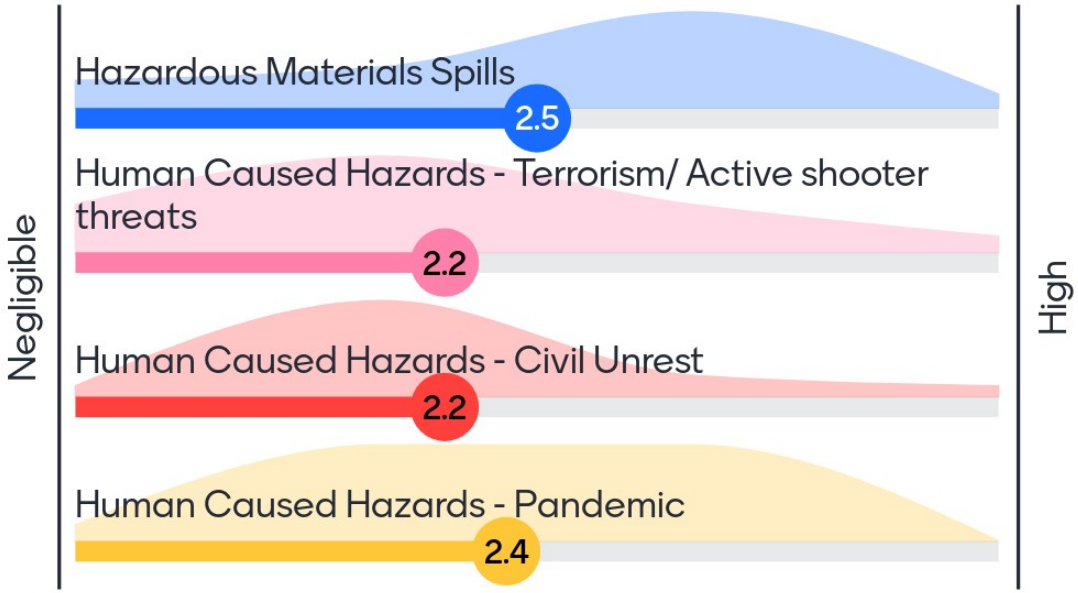
Secondary Impacts: Estimated to the Community at Large



14

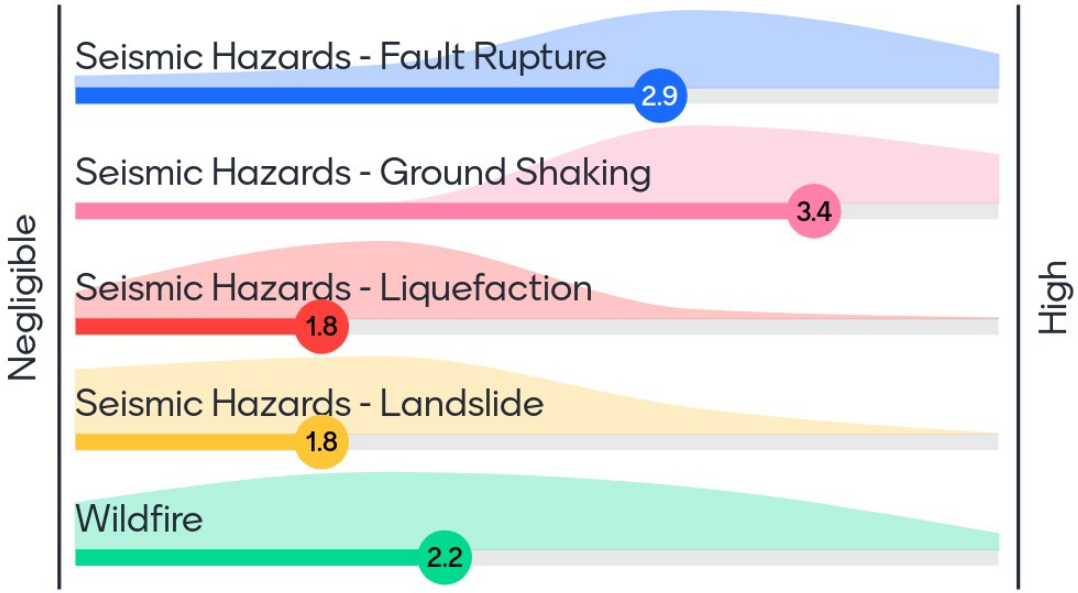
Mentimeter

Secondary Impacts: Estimated to the Community at Large



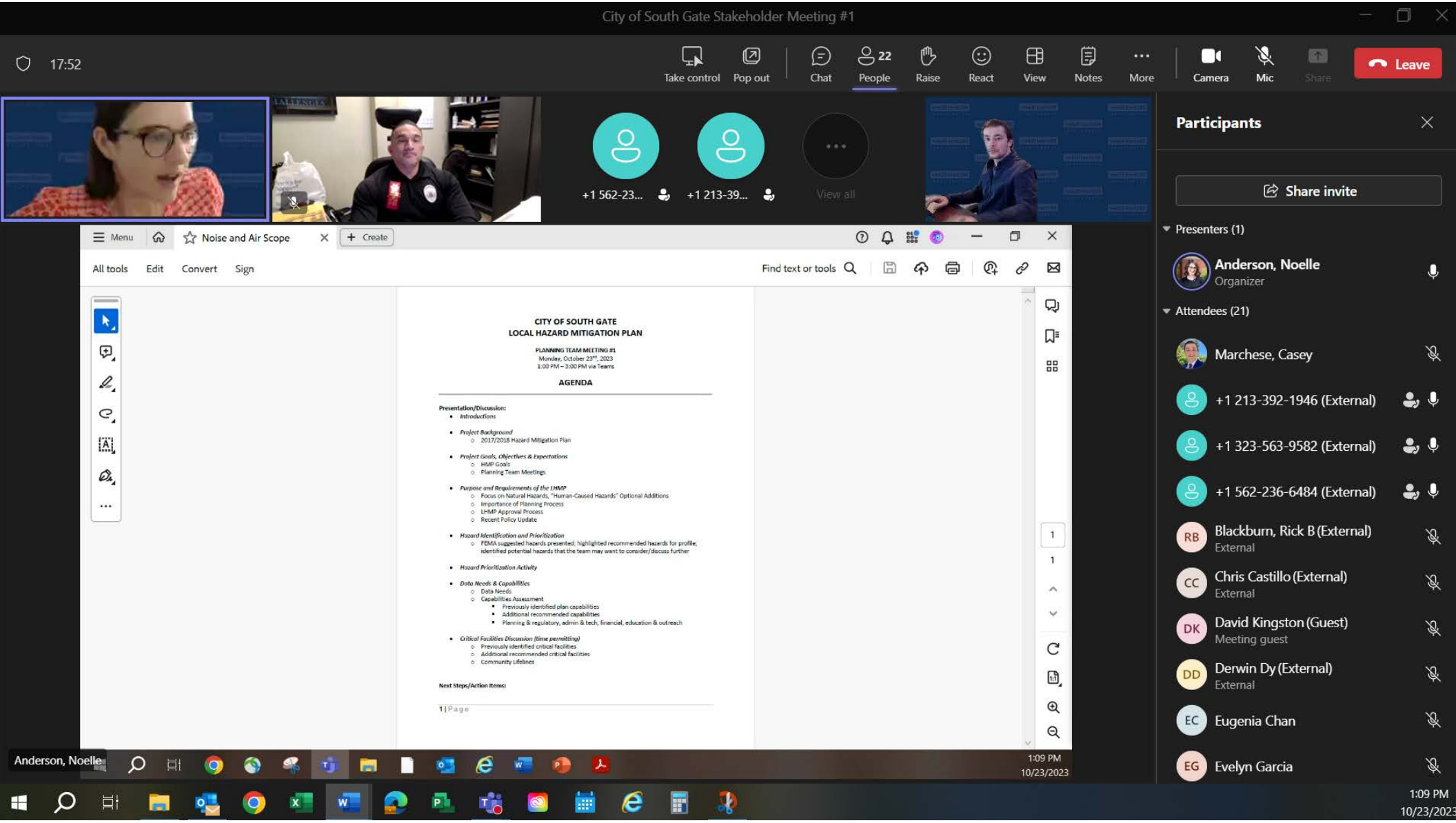
Mentimeter

Secondary Impacts: Estimated to the Community at Large



13


City of South Gate Stakeholder Meeting #1
01:25:37
Take control
Pop out
Chat
26
People
Raise
React
View
Notes
More
Camera
Mic
Share
Leave
Critical Facilities - 2017 LHMP
• South Gate Civic Center
• Public Works Corporate Yard
• LA County Fire Station
• Bridges (10)
• Parks and Recreation Buildings
• Admin/Municipal Auditorium
• Hollydale Community Center
• South Gate Girls Clubhouse
• Golf Course
• Senior Center
• Sports Center
• Westside Community Center
ME
Meredith El...
View all
Anderson, Noelle
City of South Gate - Local Hazard Mitigation Plan Update
2:17 PM
10/23/2023


City of South Gate Stakeholder Meeting #1
17:52
Take control
Pop out
Chat
People
22
Raise
React
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Camera
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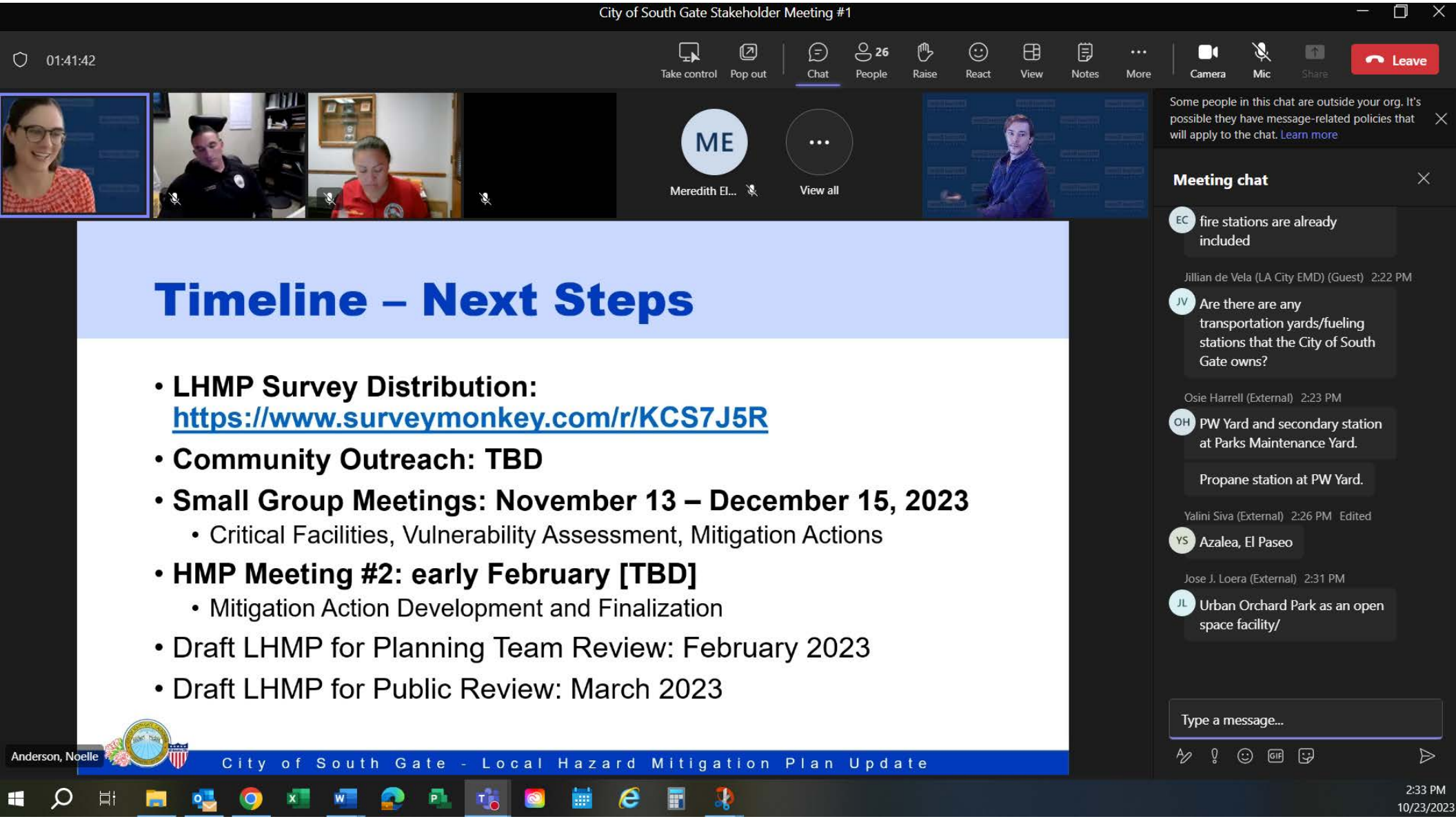
Share
Leave
+1 562-23...
+1 213-39...
View all
Participants
Share invite
Presenters (1)
Anderson, Noelle
Organizer
Attendees (21)
Marchese, Casey
+1 213-392-1946 (External)
+1 323-563-9582 (External)
+1 562-236-6484 (External)
Blackburn, Rick B (External)
External
Chris Castillo (External)
External
David Kingston (Guest)
Meeting guest
Derwin Dy (External)
External
Eugenia Chan
Evelyn Garcia
Menu
Noise and Air Scope
Create
All tools
Edit
Convert
Sign
Find text or tools
CITY OF SOUTH GATE
LOCAL HAZARD MITIGATION PLAN
PLANNING TEAM MEETING #1
Monday, October 23rd, 2023
1:00 PM – 3:00 PM via Teams
AGENDA
Presentation/Discussion:
Introductions
Project Background
2017/2018 Hazard Mitigation Plan
Project Goals, Objectives & Expectations
HMP Goals
Planning Team Meetings
Purpose and Requirements of the LHMP
Focus on Natural Hazards, "Human-Caused Hazards" Optional Additions
Importance of Planning Process
LHMP Approval Process
Recent Policy Update
Hazard Identification and Prioritization
FEMA suggested hazards presented; highlighted recommended hazards for profile; identified potential hazards that the team may want to consider/discuss further
Hazard Prioritization Activity
Data Needs & Capabilities
Data Needs
Capabilities Assessment
Previously identified plan capabilities
Additional recommended capabilities
Planning & regulatory, admin & tech, financial, education & outreach
Critical Facilities Discussion (time permitting)
Previously identified critical facilities
Additional recommended critical facilities
Community Lifelines
Next Steps/Action Items:
1 | Page
Anderson, Noelle
1:09 PM
10/23/2023
1:09 PM
10/23/2023


City of South Gate Stakeholder Meeting #1
01:41:42
Take control
Pop out
Chat
People
26
Raise
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Notes
More
Camera
Mic
Share
Leave
ME
Meredith El...
View all
Some people in this chat are outside your org. It's possible they have message-related policies that will apply to the chat. Learn more
Meeting chat
EC
fire stations are already included
Jillian de Vela (LA City EMD) (Guest) 2:22 PM
JV
Are there are any transportation yards/fueling stations that the City of South Gate owns?
Osie Harrell (External) 2:23 PM
OH
PW Yard and secondary station at Parks Maintenance Yard.
Propane station at PW Yard.
Yalini Siva (External) 2:26 PM Edited
YS
Azalea, El Paseo
Jose J. Loera (External) 2:31 PM
JL
Urban Orchard Park as an open space facility/
Type a message...
Timeline – Next Steps
• LHMP Survey Distribution: https://www.surveymonkey.com/r/KCS7J5R
• Community Outreach: TBD
• Small Group Meetings: November 13 – December 15, 2023
• Critical Facilities, Vulnerability Assessment, Mitigation Actions
• HMP Meeting #2: early February [TBD]
• Mitigation Action Development and Finalization
• Draft LHMP for Planning Team Review: February 2023
• Draft LHMP for Public Review: March 2023
Anderson, Noelle
City of South Gate - Local Hazard Mitigation Plan Update
2:33 PM
10/23/2023

B.1 - 3

Planning Team Meeting Focus Groups

Focus Meetings Detail

Local Hazard Mitigation Plan Update

Michael Baker

INTERNATIONAL

Hazards List

- Climate Change (integrated into each hazard)
- Dam/Reservoir Failure
- Drought
- Extreme Heat
- Flood
- Hazardous Materials Spills
- Human-Caused Hazards (civil unrest, pandemic, terrorism/active shooter threats)
- Seismic Hazards (fault rupture, groundshaking, liquefaction, landslide)
- Severe Weather (wind/windstorms, hailstorms, heavy rains, tornadoes, power outage)
- Wildfire

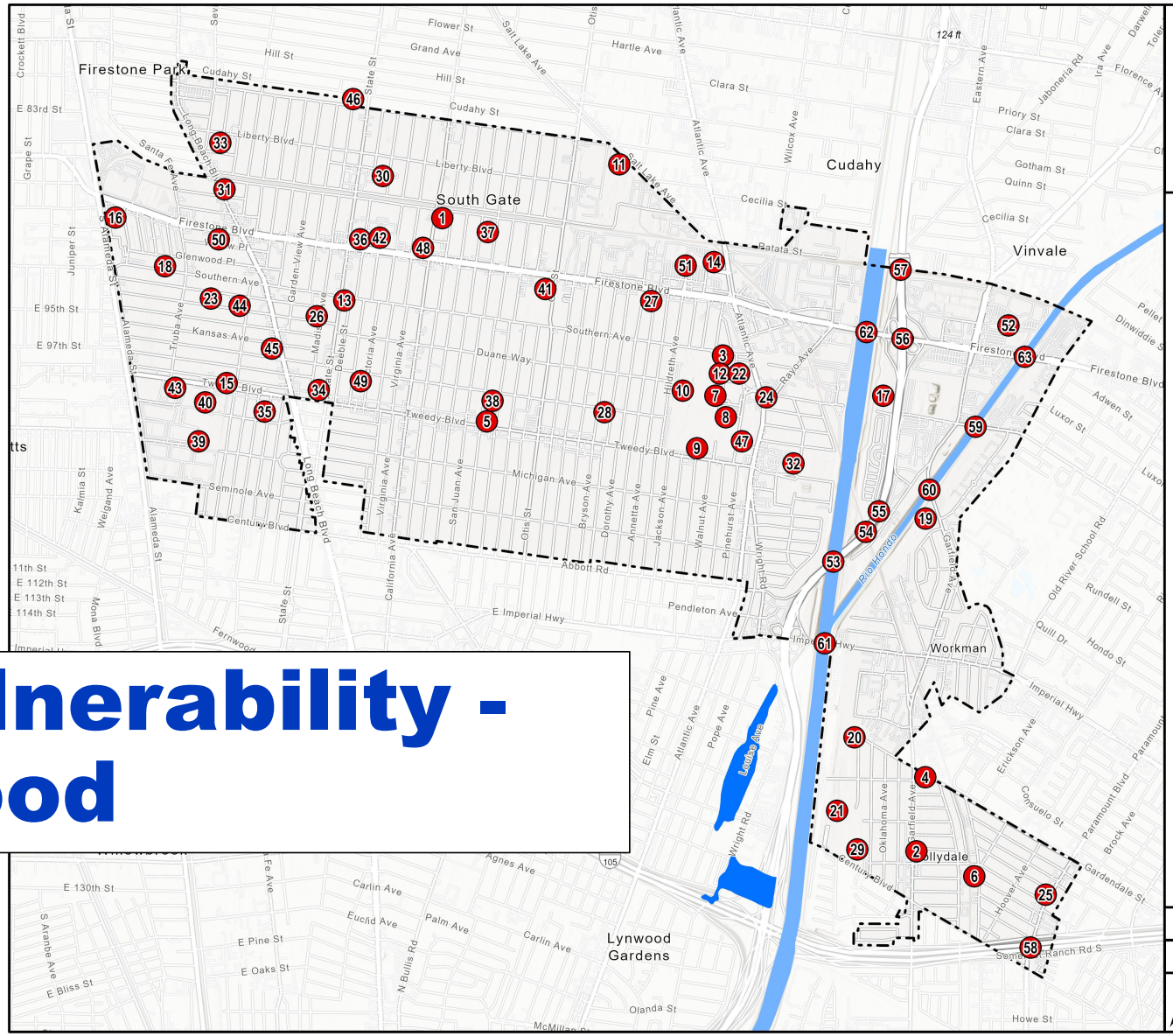
Critical Facilities - 2017 LHMP

- South Gate Civic Center
- Public Works Corporate Yard
- LA County Fire Station
- Bridges (10)
- Parks and Recreation Buildings
  - Admin/Municipal Auditorium
  - Hollydale Community Center
  - South Gate Girls Clubhouse
  - Golf Course
  - Senior Center
  - Sports Center
  - Westside Community Center

Critical Facilities - Update

- South Gate Civic Center
- Public Works Corporate Yard
- LA County Fire Station
- Bridges (10)
- Parks and Recreation Buildings
  - Admin/Municipal Auditorium
  - Hollydale Community Center
  - South Gate Girls Clubhouse
  - Golf Course
  - Senior Center
  - Sports Center
  - Westside Community Center
  - City Parks & Tot Lot
- Azalea Shopping Center and El Paseo Shopping Center
- East LA College – South Gate Campus
- Public and Private Schools (LAUSD and Paramount USD)
- SCE Substations
- Water/Wastewater Infrastructure
- Communications Infrastructure
- South Gate Urgent Care and Brookdale Medical Center

Vulnerability - Flood



THE CITY OF SOUTH GATE

Legend

- Critical Facility
- South Gate City Limit

Flood Zone

- A
- AH

November 8, 2023

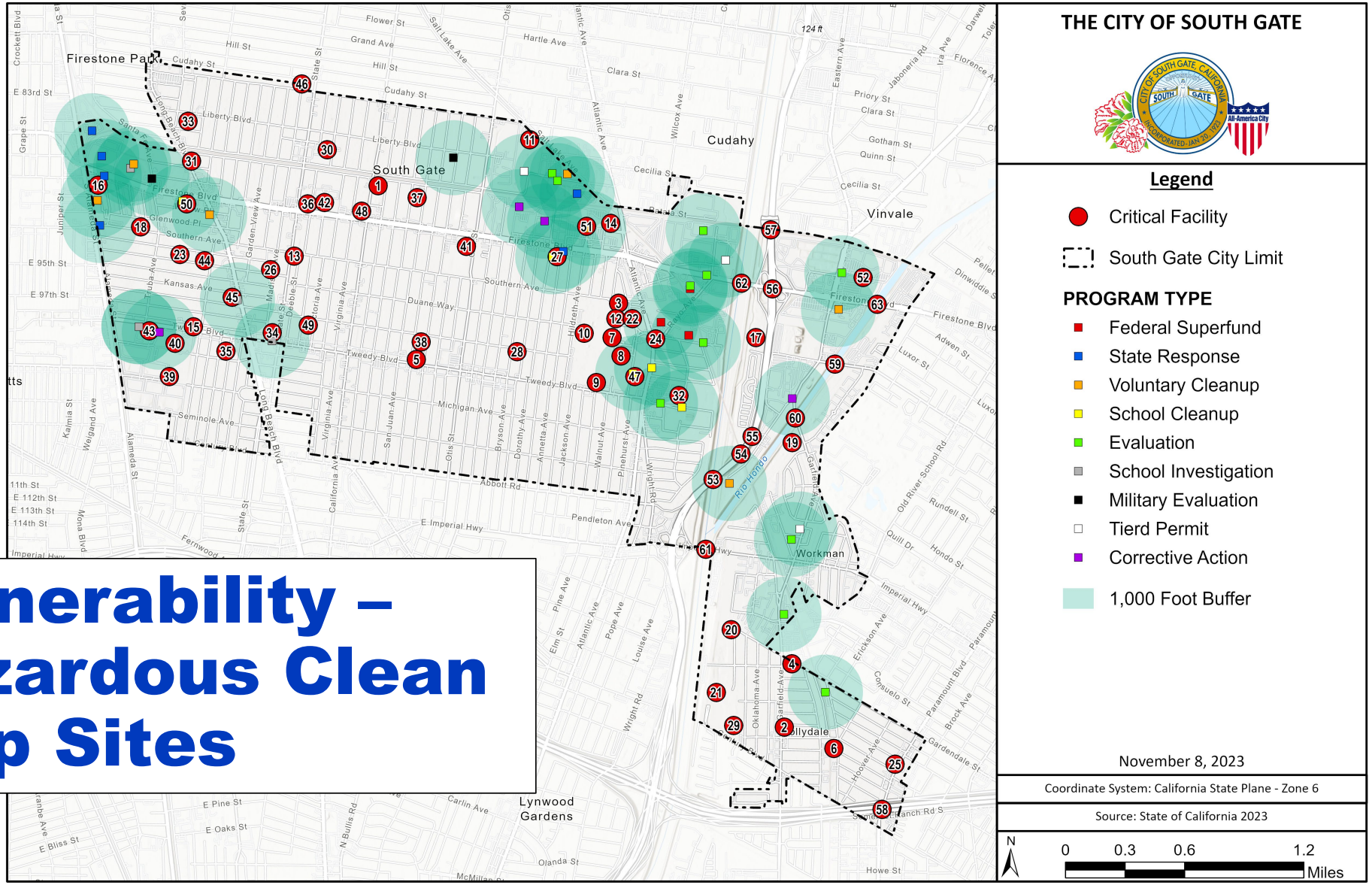
Coordinate System: California State Plane - Zone 6

Source: FEMA 2021

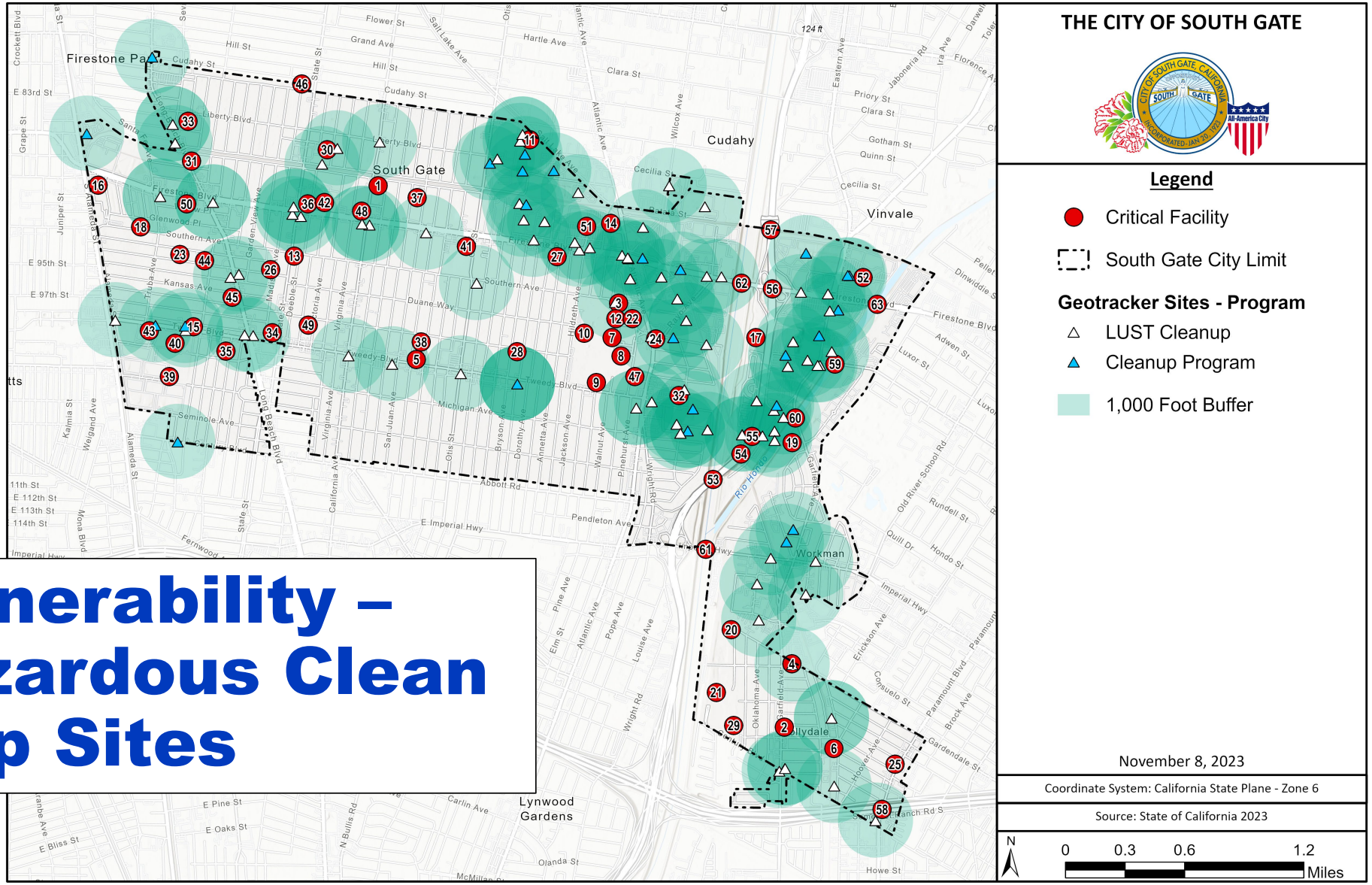
N

0 0.3 0.6 1.2 Miles

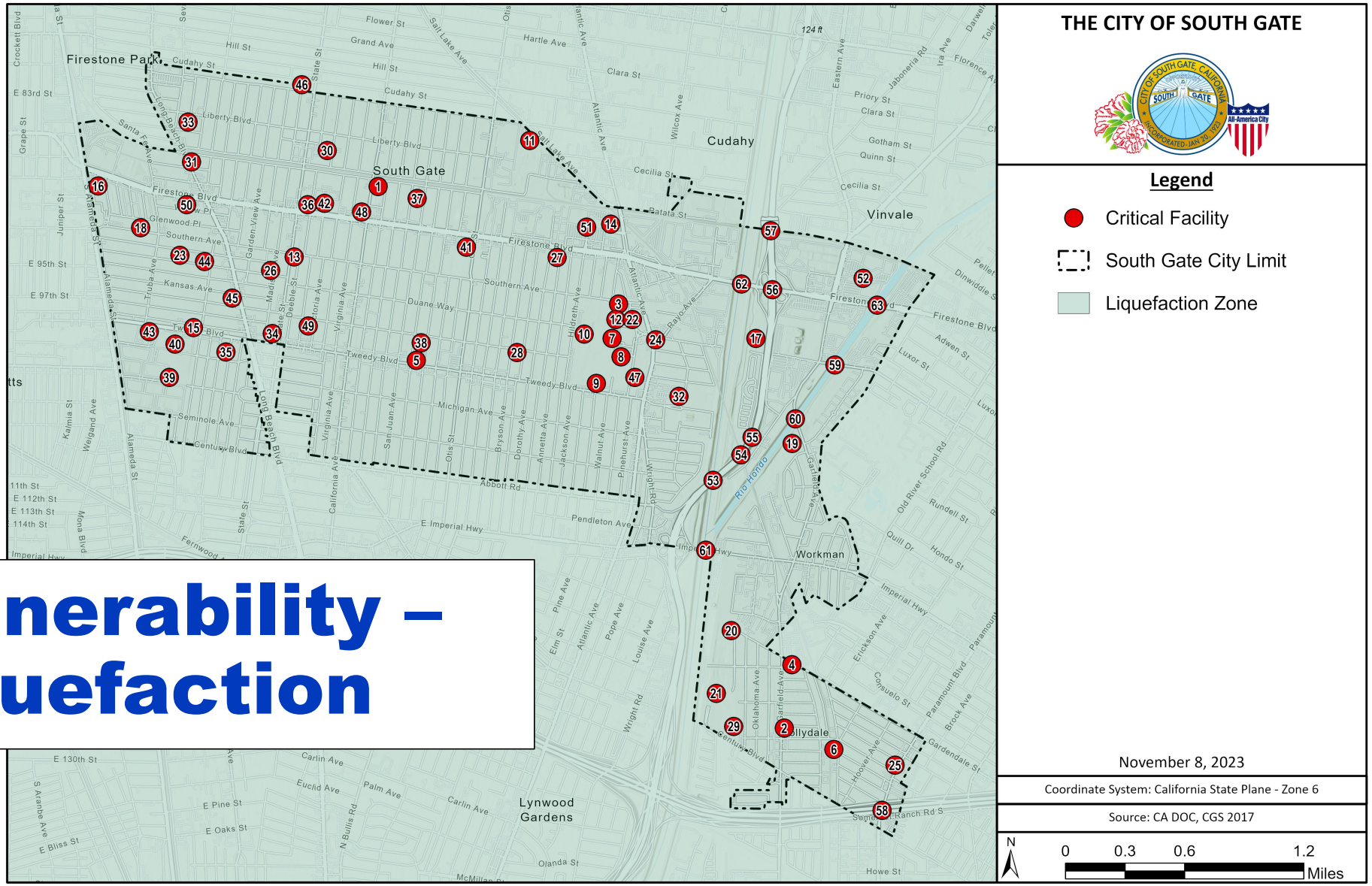
Vulnerability – Hazardous Clean – Up Sites



Vulnerability – Hazardous Clean – Up Sites



Vulnerability – Liquefaction



CITY OF SOUTH GATE
LOCAL HAZARD MITIGATION PLAN

FOCUS MEETING – INTERNAL CITY STAFF
Monday, November 27th 2023
2:00 PM – 3:00 PM via Microsoft Teams

AGENDA

Meeting Attendees:

- Lt. Sergio Camacho – Lieutenant, South Gate Police Department
- Chris Castillo – Water Division Manager, City of South Gate
- Derwin Dy, Water Resources Section Manager, City of South Gate
- Glenn Massey – Parks Superintendent, City of South Gate
- Jose Loera – Traffic Engineer, City of South Gate
- Luis Osuna – Deputy City Engineer, City of South Gate
- Osie Harrell – General Maintenance and Electrical Superintendent, City of South Gate
- Steve Costley – Director of Parks and Recreation, City of South Gate
- Thruman Green – Risk Manager, City of South Gate
- Tina Fierro – Deputy Director of Parks and Recreation, City of South Gate
- Meredith Elguira – Director of Community Development, City of South Gate
- Lt. Evelyn Garcia – Lieutenant, South Gate Police Department
- Sandra Varela – Community Development Tech II, City of South Gate
- Noelle Anderson – Consultant, Michael Baker International
- Casey Marchese – Consultant, Michael Baker International

Discussion:

- ***Introduction and Summary***
  - Critical Facilities Summary
  - Hazards Summary

- ***Mitigation Action Discussion***
  - Human-Caused Hazards
    - Human-Caused Hazards (Civil unrest, pandemic, terrorist/active shooter threats)
    - Hazardous Materials Spills
  - Natural Hazards
    - Dam/Reservoir Failure
    - Drought
    - Flood
    - Seismic Hazards (Fault rupture, ground shaking, liquefaction, landslide)
    - Severe Weather (Wind/windstorms, hailstorms, heavy rains, tornados, power outage)
    - Wildfire

- ***Data Needs & Capabilities***

Next Steps/Action Items:

Tamayo, Audrey

Subject: South Gate LHMP - Focus Group Meeting (Internal City Staff)
Location: Microsoft Teams Meeting

Start: Mon 11/27/2023 2:00 PM
End: Mon 11/27/2023 3:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

Organizer: Anderson, Noelle
Required Attendees [redacted]

Optional Attendees: Yaffe, Michael

I hope everyone had a wonderful thanksgiving break. Please find our meeting agenda attached to this email invitation. Looking forward to resuming our conversation on the South Gate LHMP later today. Thank you! – Noelle

All,

Thank you for your participation during the first South Gate Local Hazard Mitigation Plan (LHMP) Stakeholder meeting, hosted last month. Our team looks forward to continuing this planning process through our focus group meeting series. This focused meeting will consists of internal City staff members.

Discussion will build upon our conversations during the first stakeholder meeting, and dive specifically into risk/vulnerability from the selected natural hazards along with relevant mitigation actions. This meeting will be key to discuss ongoing or future capital improvement projects associated with your department. We would also appreciate details regarding existing hazard mitigation work efforts, where the LHMP can highlight the ongoing work from City staff to reduce risk from disasters. Existing and future capital improvement projects or other programs can be included in the LHMP as mitigation actions, and may be eligible for Cal OES/FEMA grant funding once the LHMP is approved.

A formal agenda will be included one week prior to our meeting. Please reach out if there are any questions. Thank you!

Noelle

Microsoft Teams meeting

Join on your computer, mobile app or room device
Click here to join the meeting

[redacted]
Download Teams | Join on the web

Join with a video conferencing device

[redacted]

Alternate VTC instructions

Or call in (audio only)

[redacted]

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CITY OF SOUTH GATE
LOCAL HAZARD MITIGATION PLAN

FOCUS MEETING – INTERNAL CITY STAFF
Monday, November 27th 2023
2:00 PM – 3:00 PM via Microsoft Teams

MEETING MINUTES

Meeting Attendees:

- Lt. Sergio Camacho – Lieutenant, South Gate Police Department ✓
- Chris Castillo – Water Division Manager, City of South Gate
- Derwin Dy, Water Resources Section Manager, City of South Gate
- Glenn Massey – Parks Superintendent, City of South Gate ✓
- Jose Loera – Traffic Engineer, City of South Gate ✓
- Luis Osuna – Deputy City Engineer, City of South Gate
- Osie Harrell – General Maintenance and Electrical Superintendent, City of South Gate
- Steve Costley – Director of Parks and Recreation, City of South Gate
- Thurman Green – Risk Manager, City of South Gate ✓
- Tina Fierro – Deputy Director of Parks and Recreation, City of South Gate
- Meredith Elguira – Director of Community Development, City of South Gate
- Lt. Evelyn Garcia – Lieutenant, South Gate Police Department
- Sandra Varela – Community Development Tech II, City of South Gate
- Noelle Anderson – Consultant, Michael Baker International ✓
- Casey Marchese – Consultant, Michael Baker International ✓

Discussion:

- ***Introduction and Summary***
    - Critical Facilities Summary
    - Hazards Summary

        - *Question from Thurman Green (Risk Manager, City of South Gate) – Can you give us an overview of the previous meeting?*
            - *Answer from Noelle Anderson (Project Manager, Michael Baker) – The first meeting was an introductory, goal setting meeting establishing that the previous LHMP is due to be updated. We are looking at natural and manmade hazards and ways for the City to be more resilient to those hazards. The LHMP and mitigation actions allow for funding through FEMA, and this process requires internal and external stakeholders to put together a mitigation strategy.*

- ***Mitigation Action Discussion***
    - Human-Caused Hazards

        - Human-Caused Hazards (Civil unrest, pandemic, terrorist/active shooter threats)
        - Hazardous Materials Spills
    - Natural Hazards
        - Dam/Reservoir Failure
        - Drought
        - Flood
        - Seismic Hazards (Fault rupture, ground shaking, liquefaction, landslide)
        - Severe Weather (Wind/windstorms, hailstorms, heavy rains, tornados, power outage)
        - Wildfire

- ***Mitigation Action Discussion***
    - *Jose Loera (Traffic Engineer, City of South Gate) – Every time there is a big storm our team goes out with signs to warn about areas of flooding. We do have drainage issues throughout the city in certain areas, there may be an opportunity to fund improved drainage, improved grates, etc.*
        - *Thurman Green (Risk Manager, City of South Gate) – I can look into if there is a stormwater management plan identifying needed improvements.*
    - *Noelle Anderson (Project Manager, Michael Baker) – Is there any secondary flooding associated with the LA River?*
        - *Jose Loera (Traffic Engineer, City of South Gate) – We don't have any issues with the LA River at this point, to my knowledge. Urban orchard is going to improve stormwater capacity, that project is due to complete in early 2024, that will be a City park not a county park.*
        - *Lt. Sergio Camacho (South Gate Police Dept.) – We recently had a storm and there was an area near one of our high schools where flooding was an issue. I believe that was a one-off event and the has since been addressed, shouldn't be a problem in the future.*
    - *Noelle Anderson (Project Manager, Michael Baker) – Power outage can be tied to heavy rains, extreme heat, other severe weather, wind? Has there been any recent power outages or is there a need for generators?*
        - *Jose Loera (Traffic Engineer, City of South Gate) – We install battery backup systems, but we don't have them on all our signals because of cost, we have 2 or 3 generators. When we know there will be an outage, we don't have the capacity for generators to power all our traffic signals. That is something we would like to improve and seek funding for. The life expectancy of the batteries is 5 or so years, so upgrading those could be an option for grant funding.*
        - *Glen Massey (Parks Superintendent, City of South Gate) – There was a conversation to put generators throughout the City but either funding or determining where to put those became an issue.*
        - *Noelle Anderson (Project Manager, Michael Baker) – Grant funding and portable generators can be funded through a competitive grant and could be a solution to those concerns.*

- *Jose Loera (Traffic Engineer, City of South Gate) – During the latest storms, a lot of infrastructure was down and it's because of the age of the system, circuits have been down for 20-30 days in the past, we are looking into solar panels for lights but especially now with the shorter daylight hours that can be a challenge.*
- *Lt. Sergio Camacho (South Gate Police Dept.) – I know we have tree branches that come down when it rains. We do routine tree trimming but we always have branches on residences and vehicles. I don't think we have any specific actions beyond routine maintenance.*
- *Noelle Anderson (Project Manager, Michael Baker) – We could look into an Urban Forest Management Plan and seek funding to identify and address trees and limbs that are at risk of damage.*

- *Noelle Anderson (Project Manager, Michael Baker) – Any seismic retrofits needed on soft story buildings? Any retrofits needed on city facilities or critical facilities?*
  - *Jose Loera (Traffic Engineer, City of South Gate) – I'm not aware of any needed retrofits, we could follow up with Chris Castillo.*
  - *Noelle Anderson (Project Manager, Michael Baker) – What about for private homeowners and helping them with retrofits?*
  - *Jose Loera (Traffic Engineer, City of South Gate) – Again that could be directed to community development or the housing director.*
  - *Noelle Anderson (Project Manager, Michael Baker) – I ask because we have seen successful grant applications secure funding to be distributed to homeowners for seismic retrofits.*
- *Noelle Anderson (Project Manager, Michael Baker) – Are there any pain points or projects to address hazardous materials?*
  - *Jose Loera (Traffic Engineer, City of South Gate) – I think the superfund sites are privately owned, I'm not aware of any facility that is specifically impacted. Also, it's my understanding that the county and EPA required gas stations to remove their underground tanks and improve them from single to double wall, I would be interested to know if that is still mandated and if that is being carried out.*
  - *Noelle Anderson (Project Manager, Michael Baker) – We can look into this further, hazardous materials is considered a human-caused hazard and typically is not funded by FEMA. We can identify EPA or CalEPA as a potential source for funding to mitigate hazardous materials spills. We can ask the county about this during our focus group meeting this week.*
- *Noelle Anderson (Project Manager, Michael Baker) – Other human caused hazards – Civil unrest, terrorism, active shooter? There is potential funding for training and coordination with County resources etc.*
  - *Lt. Sergio Camacho (South Gate Police Dept.) – The Police Dept. annually sends staff through this training. Not sure about the rest of the City departments, but we are happy to conduct those trainings. We are always looking for funding for trainings and to train other city staff, parks and rec, etc. We also monitor if there are potential civil unrest or terrorist threats.*

- *Noelle Anderson (Project Manager, Michael Baker) – Any equipment needed at the EOC?*
    - *Lt. Sergio Camacho (South Gate Police Dept.) – We will be revamping the EOC with funding from the State. There is a vacant building in the City and we will be converting that into city/pd facilities including an EOC. We have funding for construction, but we are looking for funding to buy equipment to outfit that EOC.*
    - *Noelle Anderson (Project Manager, Michael Baker) – Any interest in a mobile command/dispatch center?*
    - *Lt. Sergio Camacho (South Gate Police Dept.) – We share a motor home with Area E but that is specific to law enforcement. I know we would be interested in a mobile command center.*
- *Noelle Anderson (Project Manager, Michael Baker) – Any pain points in communication during emergencies? Is there a need for a public information officer, second channels for radio/cell service, etc.?*
    - *Lt. Sergio Camacho (South Gate Police Dept.) – I can't point to a specific incident where communication was a major problem. I know we have a small supply of satellite phones. The City doesn't have a PIO, but we would like to have a dedicated PIO. I know we have looked into a mass notification system, however, at this time they haven't been cost effective. We would have to rely on the County notification systems but those typically only put out notifications for countywide scenarios. We can use the city website and social media but funding to have a mass notification system would be huge.*
- *Noelle Anderson (Project Manager, Michael Baker) – Any grant applications that went to CalOES or FEMA from the previous LHMP or any plans to apply for CalOES/FEMA Funding?*
    - *Jose Loera (Traffic Engineer, City of South Gate) – Not that I'm aware of.*

South Gate LHMP - Focus Group Meeting (Internal City Staff)

50:43

Take control | Pop out | Chat | People 6 | Raise | React | View | Notes | Apps | More | Camera | Mic | Share | Leave

AutoSave Off | Focus Meeting PowerPoint • Saved to \\IRVICA1FS1.bkr.mbakercorp.com\HROOT | Anderson, Noelle

File | Home | Insert | Design | Transitions | Animations | Slide Show | Record | Review | View | Help | Acrobat | Record | Share

Paste | New Slide | Reuse Slides | Clipboard | Slides | Font | Paragraph | Shapes | Arrange | Quick Styles | Drawing | Editing | Create PDF and Share link | Create PDF and Share via Outlook | Adobe Acrobat | Dictate | Voice | Designer | Designer

2 Hazards List

3 Critical Facilities - 2017 LHMP

4 Critical Facilities - Update

5 Vulnerability - Flood

6 Vulnerability - Hazardous Clean - Up Sites

Hazards List

- Climate Change (integrated into each hazard)
- Dam/Reservoir Failure
- Drought
- Extreme Heat
- Flood
- Hazardous Materials Spills
- Human-Caused Hazards (civil unrest, pandemic, terrorism/active shooter threats)
- Seismic Hazards (fault rupture, groundshaking, liquefaction, landslide)
- Severe Weather (wind/windstorms, hailstorms, heavy rains, tornadoes, power outage)
- Wildfire

Click to add notes

Slide 2 of 8 | Accessibility: Investigate | Notes | 70%

GM

Glenn Massey (External)

Anderson, Noelle

2:44 PM
11/27/2023

2:44 PM
11/27/2023

CITY OF SOUTH GATE
LOCAL HAZARD MITIGATION PLAN

FOCUS MEETING – NONPROFIT/SCHOOLS
Tuesday, November 28th 2023
2:00 PM – 3:00 PM via Microsoft Teams

AGENDA

Meeting Attendees:

- Lt. Sergio Camacho – Lieutenant, South Gate Police Department
- Thevin Rajapaksha Arachchilage – Disaster Program Manager, American Red Cross
- Jeremy Gloer – Outreach Representative, PATH Los Angeles
- Ashley Catanzano – Public Information Officer, Downey Unified School District
- Ileana Albert – District Coordinator, Los Angeles Unified School District
- Jessica Landon – Los Angeles Community College District
- Noelle Anderson – Consultant, Michael Baker International
- Casey Marchese – Consultant, Michael Baker International

Discussion:

- ***Introduction and Summary***
  - Critical Facilities Summary
  - Hazards Summary

- ***Mitigation Action Discussion***
  - Human-Caused Hazards
    - Human-Caused Hazards (Civil unrest, pandemic, terrorist/active shooter threats)
    - Hazardous Materials Spills
  - Natural Hazards
    - Dam/Reservoir Failure
    - Drought
    - Flood
    - Seismic Hazards (Fault rupture, ground shaking, liquefaction, landslide)
    - Severe Weather (Wind/windstorms, hailstorms, heavy rains, tornados, power outage)
    - Wildfire

- ***Data Needs & Capabilities***

Next Steps/Action Items:

Tamayo, Audrey

Subject: South Gate LHMP - Focus Group Meeting (Nonprofits/Schools)
Location: Microsoft Teams Meeting

Start: Tue 11/28/2023 2:00 PM
End: Tue 11/28/2023 3:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

Organizer: Anderson, Noelle
Required Attendees [redacted]

Optional Attendees: Yaffe, Michael

I hope everyone had a wonderful thanksgiving break. Please find our meeting agenda attached to this email invitation. Looking forward to resuming our conversation on the South Gate LHMP later this week. Thank you! – Noelle

All,

Thank you for your participation during the first South Gate Local Hazard Mitigation Plan (LHMP) Stakeholder meeting, hosted last month. Our team looks forward to continuing this planning process through our focus group meeting series. This focused meeting will consist of representatives from our nonprofit, local school district, and higher education community partners.

Discussion will build upon our conversations during the first stakeholder meeting, and dive specifically into risk/vulnerability from the selected natural hazards along with relevant mitigation actions. This meeting will be key to discuss ongoing or future capital improvement projects or planning efforts associated with your jurisdiction. We also would appreciate details regarding existing/future community programs, where partnership with the City could enhance promotion or capacity efforts. Existing and future capital improvement projects or other programs can be included in the LHMP as mitigation actions, and may be eligible for Cal OES/FEMA grant funding once the LHMP is approved.

A formal agenda will be included one week prior to our meeting. Please reach out if there are any questions. Thank you!

Noelle

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- ***Mitigation Action Discussion***
    - *Question from Noelle Anderson (Project Manager, Michael Baker) – Any current programs or needed resources/funding to mitigate the hazards shown in South Gate?*

- *Answer from Thevin Rajapaksha Arachchilage (Disaster Program Manager, American Red Cross) – I cover metro and southeast chapter. Currently, we have a few different preparedness programs. National Sound The Alarm with South Gate, which is installing smoke alarms for free, includes an install and emergency preparedness education for the resident. That project will be next year. As far as a need, we need presenters for Be Ready Red Cross and other emergency presentations.*
- *Jeremy Gloer (Outreach Representative, PATH Los Angeles) – We don't have any shelters in the area, what we call spot 7. But the county would be able to respond with food, or shelter with motels, but that would be after the fact. Flooding is something that we have provided warnings for and we can provide hotels though not everyone takes us up on that. Flood warning is done in coordination with the Sheriff dept, South Gate Police Dept. and two outreach teams of our own.*
- *Noelle Anderson (Project Manager, Michael Baker) – We can help advertise volunteer capacity, we can help identify or promote the Sound the Alarm program particularly for older homes or homes with socially vulnerable populations.*

- *Noelle Anderson (Project Manager, Michael Baker) – Any pre-approved shelter locations?*
  - *Thevin Rajapaksha Arachchilage (Disaster Program Manager, American Red Cross) – We have a few shelters that we have MOUs for but in reaching out it seems they have expired. So, we will have to revisit those to make sure they are still acceptable as shelters.*
  - *Jeremy Gloer (Outreach Representative, PATH Los Angeles) – I know the county does cooling shelters. We do take raincoats and blankets around if we know something is coming. We can set up motels beforehand but that would mostly be for severe weather and flood which we can predict.*
- *Noelle Anderson (Project Manager, Michael Baker) – Any interest in establishing improved communication with local community representatives? Additional positions, Public Information Officer or communication with the city before, during and after emergencies?*
  - *Thevin Rajapaksha Arachchilage (Disaster Program Manager, American Red Cross) – We would be interested in doing emergency drills, and a run-through of activating the EOC. Continuing the conversation and establishing the preparedness coordination with the City and relevant agencies is something we could improve. We have containers that have supplies and those are distributed throughout LA County in case it becomes difficult to get supplies to different areas. There is an inventory of what is in those containers. We do have some training that can be offered, we also do free training for volunteers, exercise drills, etc. Also, I believe the City is revamping their CERT program.*
  - *Jeremy Gloer (Outreach Representative, PATH Los Angeles) – We need a homelessness liaison, my contact with the City is through Lt. Garcia. Messaging on what to do if you're homeless is something we can*

improve. Officers that serve as a homelessness liaison can sometimes be paid via a grant. A civilian homelessness liaison would also be helpful. More city involvement in event days or providing services locations, showers, etc. We are placing people into motels, but currently none of those are in South Gate.

- *Thevin Rajapaksha Arachchilage (Disaster Program Manager, American Red Cross) – Under a large emergency we would provide shelter and supplies to homeless. But it is sometimes tricky for us to shelter people if on paper they were not affected by an emergency in the same way that someone who lives there would be.*
- *Jeremy Gloer (Outreach Representative, PATH Los Angeles) – We could also be helpful there and we would place unhoused people in shelters or in motels if need be. We could even partner with Red Cross to help move people experiencing homelessness out of Red Cross shelters and into something more permanent.*

- *Noelle Anderson (Project Manager, Michael Baker) – Any last wish list programs or capital improvement opportunities?*
  - *Thevin Rajapaksha Arachchilage (Disaster Program Manager, American Red Cross) – I would like to see volunteers from South Gate to respond to emergencies in South Gate. Having them trained up on our processes at Red Cross would be great, we can provide supplies and resources but having the community volunteer would be the most helpful.*
  - *Noelle Anderson (Project Manager, Michael Baker) – We can promote volunteerism and do outreach for training, presentations and exercises.*
  - *Jeremy Gloer (Outreach Representative, PATH Los Angeles) – South Gate also has a lot of space to congregate and stage response that is currently not utilized. It would be great to have those spaces utilized for a shelter or parks or housing. It would also help as a way for crime prevention through environmental design instead of having people congregate in dangerous places or places they shouldn't.*

- Jeremy Gloer – Outreach Representative, PATH Los Angeles
- Ashley Catanzano – Public Information Officer, Downey Unified School District
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- ***Data Needs & Capabilities***

CITY OF SOUTH GATE
LOCAL HAZARD MITIGATION PLAN

FOCUS MEETING – REGIONAL PARTNERS
Wednesday, November 29th 2023
2:00 PM – 3:00 PM via Microsoft Teams

AGENDA

Meeting Attendees:

- Lt. Sergio Camacho – Lieutenant, South Gate Police Department
- Sara Nazir – Risk and Safety Manager, City of Lynnwood
- Rakdy Khlok – Emergency Management, City of Downey
- Gymeka Williams – Emergency Management Coordinator, LA County OEM
- E. Wosick – City of Paramount
- D. Reyes – City of Cudahy
- Alfred Martinez – City of Huntington Park
- Jillian De Vela – Emergency Management Coordinator, City of Los Angeles
- David Kingston – Chief of Emergency Management, USACE
- Richard Lee – Operations Division, USACE
- Terence Cheung – District Local Assistant Engeineer, Caltrans
- Noelle Anderson – Consultant, Michael Baker International
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Next Steps/Action Items:

Tamayo, Audrey

Subject: South Gate LHMP - Focus Group Meeting (Regional Partners)
Location: Microsoft Teams Meeting

Start: Wed 11/29/2023 2:00 PM
End: Wed 11/29/2023 3:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

Organizer: Anderson, Noelle
Required Attendees [redacted]

Optional Attendees: Yaffe, Michael

I hope everyone had a wonderful thanksgiving break. Please find our meeting agenda attached to this email invitation. Looking forward to resuming our conversation on the South Gate LHMP later this week. Thank you! – Noelle

All,

Thank you for your participation during the first South Gate Local Hazard Mitigation Plan (LHMP) Stakeholder meeting, hosted last month. Our team looks forward to continuing this planning process through our focus group meeting. This focused meeting will consist of regional partners to the City of South Gate, including representatives from Los Angeles County, neighboring cities, Caltrans and U.S. Army Corps of Engineers.

Discussion will build upon our conversations during the first stakeholder meeting, and dive specifically into risk/vulnerability from the selected natural hazards along with relevant mitigation actions. This meeting will be key to discuss ongoing or future capital improvement projects or planning efforts associated with your jurisdiction, to explore opportunities for teaming or partnership with the City of South Gate. We would also appreciate details regarding existing/future community programs, where partnership with the City could enhance promotion or capacity efforts. Existing and future capital improvement projects or other programs can be included in the LHMP as mitigation actions, and may be eligible for Cal OES/FEMA grant funding once the LHMP is approved.

A formal agenda will be included one week prior to our meeting. Please reach out if you have any questions. Thank you!

Noelle

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LOCAL HAZARD MITIGATION PLAN

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Wednesday, November 29th 2023
2:00 PM – 3:00 PM via Microsoft Teams

MEETING MINUTES

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- Lt. Sergio Camacho – Lieutenant, South Gate Police Department ✓
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- ***Mitigation Action Discussion***
  - *Rakdy Khlok (Emergency Management, City of Downey) – I am with the OEM for the City of Downey, which is part of the fire dept. but located at City Hall.*
    - *We are planning to put together an evacuation plan in the future. We could look into partnering with South Gate on evacuation planning. I don't have other any projects that relate to South Gate at the moment.*
    - *We submitted our HMP to the State about two months ago but there seems to be a backlog of work for them to review and approve these.*
  - *Noelle Anderson (Project Manager, Michael Baker) – Is that publicly available? We would be interested in how you addressed vulnerable populations.*
    - *Rakdy Khlok (Emergency Management, City of Downey) – I can send the plan to you, it is publicly available.*

  - *Noelle Anderson (Project Manager, Michael Baker) – Are there any improvements that you see happening that would impact South Gate, or any partnerships or programs with South Gate we could include in the HMP.*
    - *David Kingston (Chief of Emergency Management, USACE) – I'm the Emergency Management Branch Chief for the entire region, so we cover a lot of ground. I would suggest to reach out to Kyle, because he would have more information relevant to the City. I know we do exercises, but I'm not aware of any that would impact South Gate. Every year we have funding for exercises but we spread those out among the region. When we do exercises in southern California, we do notify cities in the area.*
    - *Noelle Anderson (Project Manager, Michael Baker) – Well we can reach out and, in the meantime, keep the same coordination with USACE on any relevant planning and exercises.*

  - *Noelle Anderson (Project Manager, Michael Baker) – How is the City of LA addressing vulnerable populations in your LHMP?*
    - *Jillian De Vela (Emergency Management Coordinator, City of Los Angeles) – I know new FEMA guidelines are big on vulnerable populations. We took advantage of the countys outreach, emails, and surveys. We reached out to libraries, senior centers, public housing and we created a flyer with a QR code directing people to our survey. We coordinated with LA Housing Authority to put out those flyers as well. For LA City, we reached 5,300 people with our survey. Feel free to provide links to outreach, social media, etc. and we can help cross-promote that for you.*
    - *Noelle Anderson (Project Manager, Michael Baker) – Where are you in the process with your HMP?*
    - *Jillian De Vela (Emergency Management Coordinator, City of Los Angeles) – We have not submitted yet, we are working on updating our mitigation actions right now. We have a lot of extreme heat projects, nature-based solutions, etc. We have our public comment coming up in February and then we'll submit.*

- *Noelle Anderson (Project Manager, Michael Baker) – If you see any opportunity to partner with South Gate while you're looking at your mitigation actions, please feel free to reach out.*
- *Jillian De Vela (Emergency Management Coordinator, City of Los Angeles) – We are coming up with a lot of city-wide mitigation actions, and we are looking at backup power for our operations. A lot of times we're finding that the current electrical hardware is not compatible with the new technology and that requires retrofitting. I know the FEMA and BRIC want jurisdictions to apply for extreme heat projects so I would keep that in mind.*
- *Noelle Anderson (Project Manager, Michael Baker) – We have included extreme heat under our severe weather hazard and it's helpful to keep in mind that some of the electrical compatibility might be a concern.*

- *Noelle Anderson (Project Manager, Michael Baker) – Are there any city-wide flood issues or mitigation projects that impact South Gate?*
  - *Jillian De Vela (Emergency Management Coordinator, City of Los Angeles) – Flood has been an issue for us. Mitigation has been done through public works. We have a Floodplain Management Plan, which coincides with our LHMP, but the mitigation action is under the process of FMP.*
  - *Noelle Anderson (Project Manager, Michael Baker) – I can take a look at that plan and see if there are opportunities to partner or learn from your successes.*
  - *Jillian De Vela (Emergency Management Coordinator, City of Los Angeles) – That Floodplain Management Plan is due to be updated in 2025 so keep in mind it may be good to review that document in the future for how we're addressing flooding.*

- David Kingston – Chief of Emergency Management, USACE
- Richard Lee – Operations Division, USACE
- Terence Cheung – District Local Assistant Engeineer, Caltrans
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JV

Jillian de Vela (EMD) (G...

CITY OF SOUTH GATE
LOCAL HAZARD MITIGATION PLAN

FOCUS MEETING – UTILITIES
Thursday, November 30th 2023
2:00 PM – 3:00 PM via Microsoft Teams

AGENDA

Meeting Attendees:

- Lt. Sergio Camacho – Lieutenant, South Gate Police Department
- Victor Pelayo – Water Distribution Superintendent, Golden State Water Company
- Nem Ochoa – Golden State Water Company
- Rick Blackburn – Emergency Services, Southern California Gas
- Francisco Martinez – Local Public Affairs, Southern California Edison
- Brad Evans – Los Angeles County Fire Dept.
- Eugenia (Gigi) Chan – Community Services Liaison, Los Angeles County Fire Dept.
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- ***Data Needs & Capabilities***

Next Steps/Action Items:

Tamayo, Audrey

Subject: South Gate LHMP - Focus Group Meeting
Location: Microsoft Teams Meeting

Start: Thu 11/30/2023 2:00 PM
End: Thu 11/30/2023 3:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

Organizer: Anderson, Noelle
Required Attendees [redacted]

Optional Attendees: Yaffe, Michael; Derwin Dy

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All,

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Discussion will build upon our conversations during the first stakeholder meeting, and dive specifically into risk/vulnerability from the selected natural hazards along with relevant mitigation actions. This meeting will be key to discuss ongoing or future capital improvement projects or planning efforts associated with your jurisdiction, to explore opportunities for teaming or partnership with the City of South Gate. We would also appreciate details regarding existing/future community programs where partnership with the City could enhance promotion or capacity efforts. Existing and future capital improvement projects or other programs can be included in the LHMP as mitigation actions, and may be eligible for Cal OES/FEMA grant funding once the LHMP is approved.

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- ***Mitigation Action Discussion***

- *Question from Noelle Anderson (Project Manager, Michael Baker) – There has been a concern from the City in Power Safety Power Shutoffs (PSPS). Are there any capital improvement projects in South Gate to reduce risk?*
    - *Answer from Francisco Martinez (Local Public Affairs, Southern California Edison) – There are no high fire zones in South Gate, so there should be no PSPS there. There are always upgrades to substations and infrastructure which may require temporary shutoffs. The only recent potential for rolling blackouts was the summer of 2020, that was due to a fire in Oregon and heatwaves in Arizona and Southern California have also caused stress on the power grid.*
    - *Noelle Anderson (Project Manager, Michael Baker) – I know there may be programs for financing power generators, betteries and microgrids.*
    - *Francisco Martinez (Local Public Affairs, Southern California Edison) – There are programs available for generators and batteries for back up power. Those can happen on a regional scale. A lot of emergency notifications for high winds, we use the Everbridge system and South Gate has been included in those. I can send you the Edison All Hazards Plan and that shows our procedures to mitigate and restore power.*
    - *Rick Blackburn (Emergency Services, Southern California Gas) – Would it be possible for you to send that All Hazards Plan to us at SoCalGas as well?*
    - *Francisco Martinez (Local Public Affairs, Southern California Edison) – Yes, I can send that.*

- *Noelle Anderson (Project Manager, Michael Baker) – Any capital improvement projects in South Gate to mitigate hazards. I assume that SoCalGas infrastructure has safety valves, monitors, etc. to identify leaks and such.*
    - *Rick Blackburn (Emergency Services, Southern California Gas) – I'm not aware of any capital improvement projects, but I can dive a little deeper to see if there are. Wildfire isn't a big hazards here, but seismic hazards certainly would be. We do have monitoring and triggers that go off to alert us of pressure issues. We deal with those accordingly, but sometimes things do happen such as water in the main. The biggest concern is being able to have collaboration with jurisdictions and other utilities so when we do have larger storms, or other hazards, that those contacts and collaborations are in place. That would be the most helpful to mitigate hazards.*
    - *Noelle Anderson (Project Manager, Michael Baker) – There is interest from the City in locating funding to train or hire someone as a PIO or staff member to be able to coordinate with external agencies during emergencies. The City is also updating the EOP so that coordination can be highlighted in the plan as well.*
    - *Rick Blackburn (Emergency Services, Southern California Gas) – We also have notification and outreach materials on our website, it may help for the City to help promote that.*

- *Noelle Anderson (Project Manager, Michael Baker) – Are there concerns with the current infrastructure and systems? Anything that's aging or needs to be replaced?*
    - *Victor Pelayo (Water Distribution Superintendent, Golden State Water Company) – I handle the operations and maintenance in the Hollydale section. We have a couple of pipeline jobs in design but those are more towards the Paramount side. We also have plans for an interconnection with Metropolitan Water on Garfield. The Hollydale system is one of our more stable systems due to recent infrastructure upgrades. We have interconnections with City of Downer and Paramount and we have three plant sites in the Hollydale area.*
    - *Derwin Dy (Water Resources Section Manager, City of South Gate) – We have a lot of pipes to replace. Our pipes were installed in the 30's 40's that we're looking to replace. The valves are old as well and those pipes and valves would be vulnerable to earthquake. We do have a valve replacement program but there are a lot to replace, and we would need to identify and prioritize which to replace. Our tanks are in decent shape overall, there are maybe some that would benefit from a seismic retrofit.*
    - *Noelle Anderson (Project Manager, Michael Baker) – Is that addressed in the Water Master Plan, those vulnerabilities?*
    - *Derwin Dy (Water Resources Section Manager, City of South Gate) – The Water Master Plan should outline which ones need to be replaced first.*
    - *Noelle Anderson (Project Manager, Michael Baker) – Would it be an interest to apply for funding? Is funding a limiting issue to those projects?*
    - *Derwin Dy (Water Resources Section Manager, City of South Gate) – Cost has been the biggest factor considering the amount of pipes and such that need to be replaced. This fiscal year we will probably replace about 3 miles of piping.*
    - *Noelle Anderson (Project Manager, Michael Baker) – If we were to reference the Water Master Plan and the projects and identify funding for the projects laid out in that plan would that be helpful?*
    - *Derwin Dy (Water Resources Section Manager, City of South Gate) – Yes, that would be great to identify funding for those projects. We will probably have to do another master plan in a couple of years.*
    - *Noelle Anderson (Project Manager, Michael Baker) – We could also track that upcoming water master plan as a mitigation action if that sounds good. Do you also manage the sewer system?*
    - *Derwin Dy (Water Resources Section Manager, City of South Gate) – The sewer system is another department, but you can definitely reference the Water Master Plan and keep an eye out for the plan update as a mitigation action.*
    - *Derwin Dy (Water Resources Section Manager, City of South Gate) – For drought, I would look at the Water Shortage Contingency Plan, but I don't think there are any projects that need to be done to address drought.*

Next Steps/Action Items:

- *Noelle – We are going to be spending the next month to draft the plan and mitigation action updates. By late Jan early Feb, we will be looking to distribute the draft administrative plan. Your agencies would be able to review that plan and nail down anything else to add or any other projects/coordination that should be put in place.*

- Nem Ochoa – Golden State Water Company
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    - Seismic Hazards (Fault rupture, ground shaking, liquefaction, landslide)
    - Severe Weather (Wind/windstorms, hailstorms, heavy rains, tornados, power outage)
    - Wildfire

- ***Data Needs & Capabilities***

B.1 - 4

Planning Team Meeting #2 Documentation

CITY OF SOUTH GATE
LOCAL HAZARD MITIGATION PLAN

PLANNING TEAM MEETING #2
Monday, April 1, 2024
2:00 PM – 3:30 PM via Teams

AGENDA

Presentation/Discussion:

- ***Introductions***

- ***Risk Assessment/Vulnerability Summary***

    - **Hazards Profiled – Mapped**
        - Flood
        - Hazardous Materials
        - Seismic Hazards (liquefaction)

    - **Hazards Profiled – Not Mapped**
        - Dam Failure [due to confidential data]
        - Drought
        - Extreme Heat
        - Severe Weather (windstorms, heavy rain/hailstorm, tornado, power outage)
        - Human-Caused Hazards
        - Pandemic & Disease/Pest Management
        - Seismic Hazards (fault rupture, ground shaking, landslide)

- ***Mitigation Strategy***
    - Mitigation Goals – Summarize and Review
    - Mitigation Actions
        - Previous LHMP Mitigation Actions
        - New LHMP Mitigation Actions
    - Mitigation Prioritization and Timeframe

Next Steps/Action Items:

- Distribute LHMP for Planning Team Review
    - Microsoft Teams Link Distributed After Stakeholder Meeting #2
- Distribute LHMP for Public Review
- Public Review [2 weeks]
- Cal OES/FEMA Submittal

Marchese, Casey

Subject: City of South Gate LHMP Stakeholder Meeting #2
Location: Microsoft Teams Meeting

Start: Mon 4/1/2024 2:00 PM
End: Mon 4/1/2024 3:30 PM

Recurrence: (none)

Meeting Status: Accepted

Organizer: Anderson, Noelle
Required Attendees: [redacted]

Optional Attendees:

All – Looking forward to our meeting this coming Monday. Please find the attached agenda and mitigation action matrix for use during our final meeting. Please note this mitigation action matrix is still in draft form and not for public distribution. We will have the opportunity to review, discuss and add mitigation actions during this stakeholder meeting. Thank you! – Noelle

Hello,

You were selected by the City of South Gate as a member of the Local Hazard Mitigation Plan (LHMP) Stakeholder Committee, and were invited to participate during the LHMP Stakeholder Meeting #1 (October 2023) and Focus Group Meetings (November 2023). The **Local Hazard Mitigation Plan** is a key City document that evaluates risk to natural and human-caused hazards, and identifies mitigation actions to reduce vulnerability from those hazards.

Please join the LHMP Stakeholder Committee for a conclusionary meeting to discuss key vulnerability findings and mitigation actions. The LHMP will be presented to the Stakeholder Committee for a one-week review and comment period. We understand the importance of your time – meetings will be structured to maximize results and minimize "homework" outside of the meeting block. **If you are unable to participate, please forward this meeting invitation to another representative in your organization.**

Agendas will be provided prior to each meeting via this email chain.

The City previously prepared a Local Hazard Mitigation Plan with their contractor Michael Baker International in 2018. The previous LHMP can be found here: https://www.cityofsouthgate.org/Business-Development/City-Growth-Plans-Strategy/Local-Hazard-Mitigation-Plan

We appreciate your time and commitment. Your involvement will ensure a comprehensive and robust update that meets Cal OES/FEMA requirements. Please reach out if you have any questions regarding the LHMP or the update process.

Thank you,

Noelle Anderson

Noelle Anderson | Project Manager – Planning Department
5 Hutton Centre Drive, Suite 500 | Santa Ana, CA 92707 | [redacted]
[redacted] www.mbakerintl.com

Michael Baker INTERNATIONAL | *We Make a Difference*

Microsoft Teams meeting

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Click here to join the meeting

[redacted]
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CITY OF SOUTH GATE
LOCAL HAZARD MITIGATION PLAN

PLANNING TEAM MEETING #2
Monday, April 1, 2024
2:00 PM – 3:30 PM via Teams

MEETING MINUTES

Presentation/Discussion:

- ***Introductions***

- ***Risk Assessment/Vulnerability Summary***

    - **Hazards Profiled – Mapped**
        - Flood
        - Hazardous Materials
        - Seismic Hazards (liquefaction)

    - **Hazards Profiled – Not Mapped**
        - Dam Failure [due to confidential data]
        - Drought
        - Extreme Heat
        - Severe Weather (windstorms, heavy rain/hailstorm, tornado, power outage)
        - Human-Caused Hazards
        - Pandemic & Disease/Pest Management
        - Seismic Hazards (fault rupture, ground shaking, landslide)

- *Question from Derwin Dy (City of South Gate, Water Resources Section Manager) – What about cybersecurity, is that addressed as a hazard in the LHMP?*
    - *Answer from Noelle Anderson (Michael Baker, Project Manager) – We do touch on cybersecurity under the framework of terrorism. We did identify a cybersecurity plan as a mitigation action in the plan.*

- ***Mitigation Strategy***
    - Mitigation Goals – Summarize and Review
    - Mitigation Actions
        - Previous LHMP Mitigation Actions
        - New LHMP Mitigation Actions
    - Mitigation Prioritization and Timeframe

- *Question from Sandra – Where/when did the data for the mapped hazardous materials come from, is that from the previous plan?*
    - *Answer from – The approach was the same, that was from the EnviroStor and GeoTracker. The data was updated in November 2023. Mitigation Action #51, which*

implements the existing EPA Brownfields Assessment Grant will be updated from short-term to medium term.

Next Steps/Action Items:

- Distribute LHMP for Planning Team Review
    - Microsoft Teams Link Distributed After Stakeholder Meeting #2
- Distribute LHMP for Public Review
- Public Review [2 weeks]
- Cal OES/FEMA Submittal

Stakeholder Meeting #2

Local Hazard Mitigation Plan Update

Michael Baker

INTERNATIONAL

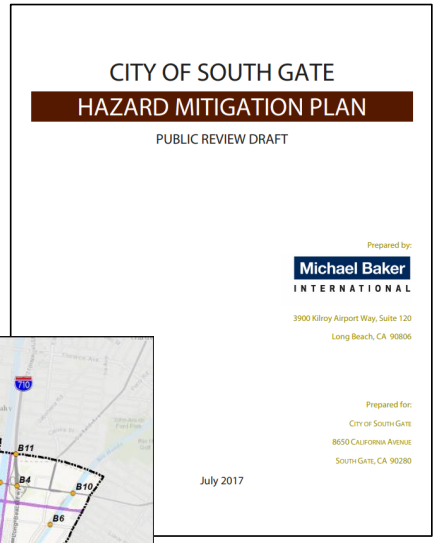
Agenda

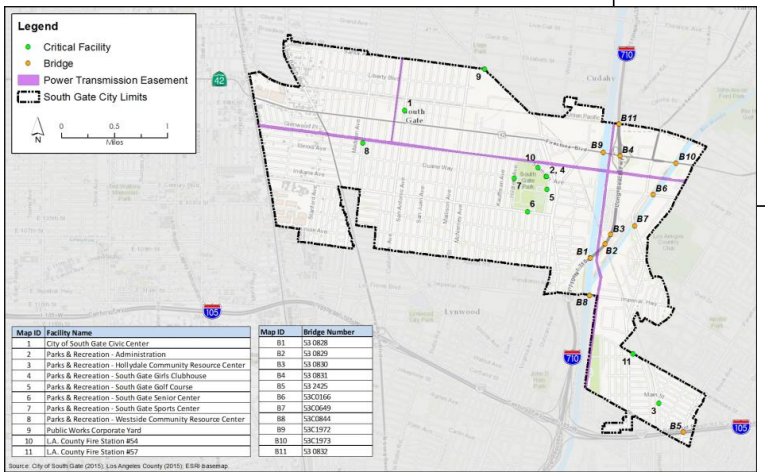
- Introductions and Project Background
  - Meeting #1 Summary
  - Goals + Hazard Priority
- Risk Assessment/Vulnerability Overview
- Mitigation Strategy
- Mitigation Action Discussion
- Community Outreach Update
- Next Steps
- Questions/additional Discussion

Introduction and Background

Background:
2017 City of South Gate HMP

- Prepared in 2017
- Approved July 24, 2018
- Expired July 23, 2023
- LHMP Findings
  - Profiled 12 hazards
  - Identified 11 critical facilities & 11 bridges
  - Identified 46 mitigation actions





Stakeholder Meetings

- Stakeholder Meeting #1
  - Monday, October 23, 2023 – 1:00 PM to 3:00 PM

- **Focus Group Meetings**
- Focus Group Meeting #1 – Internal City Staff
  - Monday, November 27, 2023 – 2:00 PM to 3:00 PM
- Focus Group Meeting #2 – Nonprofits/Schools
  - Tuesday, November 28, 2023 – 2:00 PM to 3:00 PM
- Focus Group Meeting #3 – Regional Partners
  - Wednesday, November 29, 2023 – 2:00 PM to 3:00 PM
- Focus Group Meeting #4 – Utilities + Public Safety Agencies
  - Thursday, November 30, 2023 – 2:00 PM to 3:00 PM

Updated Hazard Mitigation Goals

- Enhanced protection of life and property from hazard impacts.
- Municipal and emergency operations are fully functional during disasters.
- Strengthened partnerships with the community and the region that enhance hazard mitigation, preparation, response and recovery capabilities.
- Educated and empowered community members prepare for, mitigate, respond to, and recover from hazards that affect their family and property.

Updated Hazard Profiles

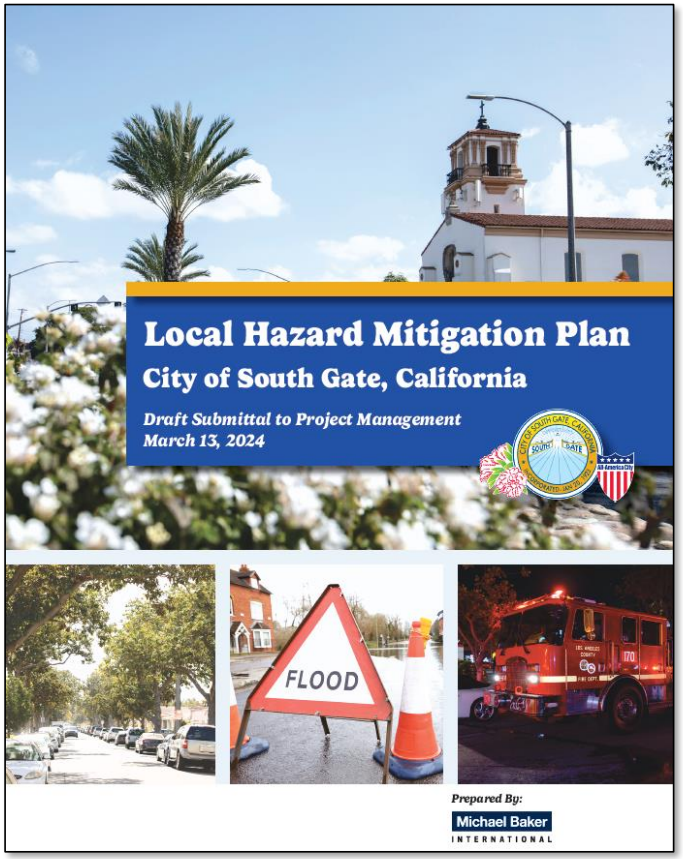
- Dam Failure
- Drought
- Extreme Heat
- Flood
- Hazardous Materials Spills
- Human-Caused Hazards (Terrorism/Active Shooter, Civil Unrest)
- Pandemic and Disease/Pest Management
- Seismic Hazards (Fault Rupture, Ground Shaking, Liquefaction, and Landslide)
- Severe Weather (High Winds/Windstorm, Heavy Rain/Hailstorm, Tornado, Power Outage)

Meeting #1 Overview – Hazard Prioritization

Hazard Type	Probability	Impact			Total Score	Hazard Planning Consideration
		Affected Area	Primary Impact	Secondary Impact		
Dam Failure	1.53	2.14	2.38	2.64	14.37	Medium
Drought	3.00	3.14	2.50	2.64	**33.50**	Medium
Extreme Heat	3.33	3.50	2.81	2.86	**41.27**	Medium
Flood	2.20	2.93	3.00	3.43	27.10	Medium
Hazardous Materials Spills	2.80	3.07	2.64	2.54	**31.22**	Medium
Human Caused - Civil Unrest	2.13	2.13	1.93	2.23	17.76	Medium
Human Caused - Terrorism/Active Shooter	2.07	2.20	1.93	2.15	17.33	Medium
Pandemic & Disease/Pest Management	2.07	2.93	2.29	2.38	21.26	Medium
Seismic Hazards - Fault Rupture	2.13	2.71	2.87	2.92	24.01	Medium
Seismic Hazards - Ground Shaking	2.87	3.50	3.33	3.38	**39.18**	Medium
Seismic Hazards - Landslide	1.60	1.36	1.67	1.77	10.05	Low
Seismic Hazards - Liquefaction	1.40	1.79	1.73	1.85	9.99	Low
Severe Weather - Heavy Rains/Hailstorm	2.87	3.14	3.00	2.71	**34.26**	Medium
Severe Weather - High Winds/Windstorm	2.40	2.86	2.69	2.50	26.01	Medium
Severe Weather - Tornado	1.27	1.71	1.63	1.43	8.18	Low

Today:
2024 City of South Gate HMP

- Prepared in 2023/2024
- LHMP Findings
  - Profiled 17 Hazards
    - 5 New Hazards
  - Identified 63 Critical Facilities
    - 39 New Critical Facilities
  - Identified 70 Mitigation Actions
    - 24 New Mitigation Actions



Risk Assessment and Vulnerability Overview

Hazards Profiled

- ***Mapped***
  - Flood
  - Hazardous Materials
  - Liquefaction
- ***Non-Mapped***
  - Dam Failure
  - Drought
  - Extreme Heat
  - Human-Caused Hazards (Terrorism/Active Shooter, Civil Unrest)
  - Pandemic and Disease/Pest Management
  - Seismic Hazards (Fault Rupture/Ground Shaking)
  - Severe Weather (High Winds/Windstorm, Heavy Rain/Hailstorm, Tornado, Power Outage)

Critical Facilities

- Serve important/critical functions in the operations of municipal government, serving the community, and responding in an emergency
- Failure of critical facilities would result in significant issues with response efforts and maintaining service
- Risk assessment looks at what facilities are in hazard zones
- Mitigation strategies reflect vulnerabilities of critical facilities

Community lifelines are defined by FEMA, a construct for objectives-based post-disaster stabilization efforts. A lifeline enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security.

- Lifelines are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function.
- Lifelines are the integrated network of assets, services, and capabilities that are used day-to-day to support the recurring needs of the community.
- When disrupted, decisive intervention (e.g., rapid service re-establishment or employment of contingency response solutions) is required to stabilize the incident.

SAFETY AND SECURITY

- Law Enforcement/Security (stations, staff, site security)
- Fire Service (stations, staff, resources)
- Search and Rescue
- Government Service (emergency operations centers, essential functions, schools, gov't offices)
- Community Safety (flood control, protective actions, other hazards)

FOOD, WATER, SHELTER

- Food (commercial food distribution, supply chains, food distribution programs)
- Water (drinking water utilities, wastewater systems, water supply chain)
- Shelter (housing, shelters, commercial facilities such as hotels)
- Agriculture (animals and agriculture)

HEALTH AND MEDICAL

- Medical Care (hospitals, dialysis, pharmacies, care facilities, vet services, home care)
- Public Health (epidemiological monitoring, labs, clinical guidance, behavioral health)
- Patient Movement (emergency medical services)
- Medical Supply Chain (products, manufacturing, distribution, research, sterilization)
- Fatality Management (mortuary and post-mortuary services)

ENERGY

- Power Grid (generation, transmission, distribution systems)
- Fuel (refineries, processing, storage, pipelines, distribution)

COMMUNICATIONS

- Infrastructure (wireless, cable, broadcast, satellite, internet, data centers)
- Responder Communications (LMR networks)
- Alerts, Warnings, and Messages (local and regional alerts)
- Finance (banking services, electronic payment processing)
- 911 and Dispatch

TRANSPORTATION

- Highway, Roadway, Motor Vehicle (roads, bridges)
- Mass Transit (bus, rail, ferry)
- Railway (freight, passenger)
- Aviation (commercial, general, military)
- Maritime (waterways, ports, port facilities)

HAZARDOUS MATERIALS

- Oil/HAZMAT Facilities (facilities, toxic incidents from facilities)
- Oil/HAZMAT, Pollutants, Contaminants (toxic incidents from non-fixed facilities)

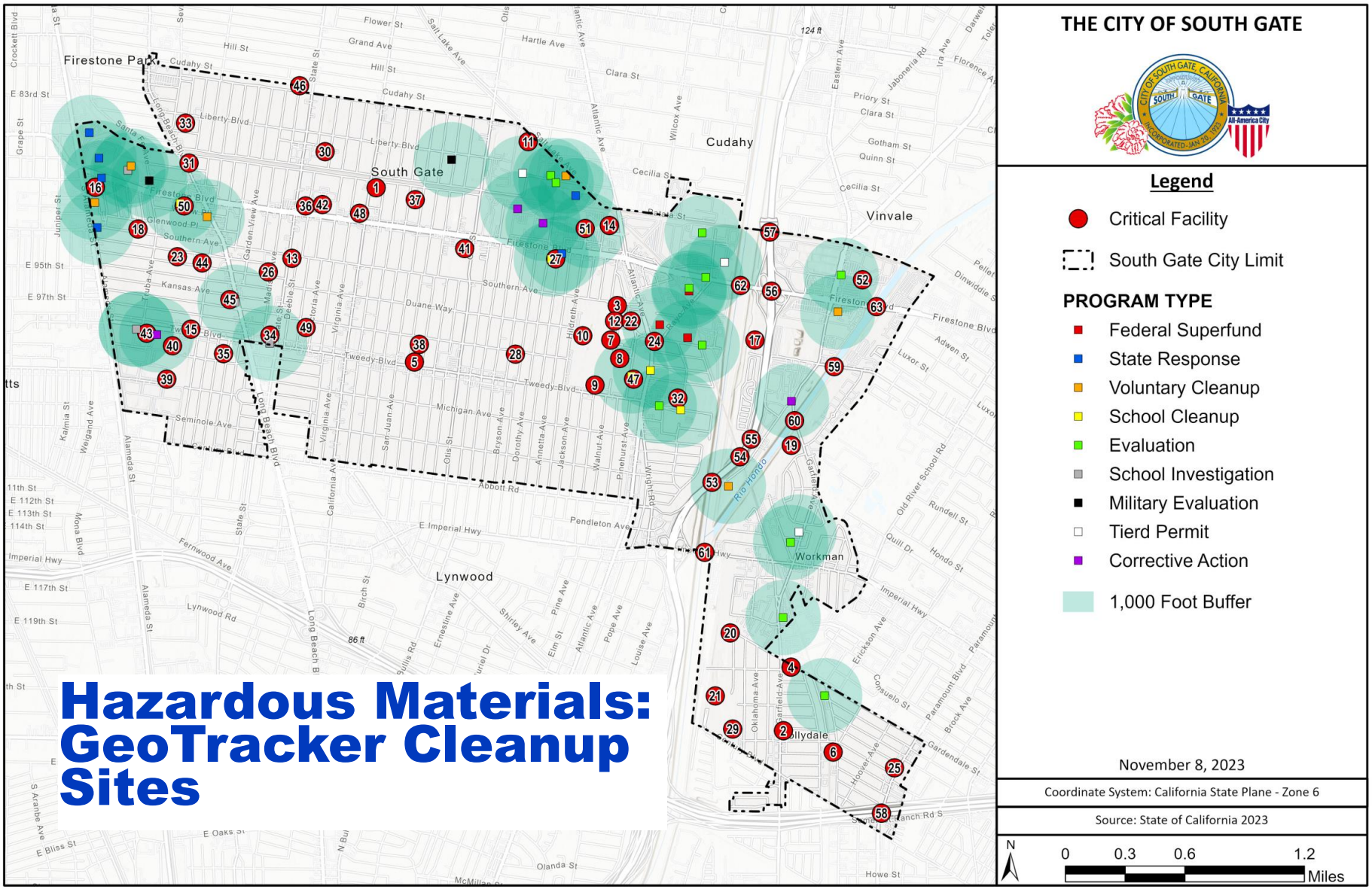
Critical Facilities Summary

- South Gate Civic Center
- Public Works Corporate Yard
- 2 LA County Fire Stations
- 2 Libraries
- 2 Medical Facilities
- 7 City Parks
- 7 City Parks and Recreation Buildings
- Parks Maintenance Yard
- 25 Schools (including public, private and charter)
- East Los Angeles College – South Gate Campus
- 2 Commercial Centers
- 10 Bridges

Mapped Hazards

Flood

Map ID	Name	Asset Type
53	Bridge Number 53 0828 (I-710 over the LA River)	Transportation - Bridge
59	Bridge Number 53C0166 (Southern Ave over Rio Hondo)	Transportation - Bridge
60	Bridge Number 53C0649 (Garfield Ave over Rio Hondo)	Transportation - Bridge
61	Bridge Number 53C0844 (Imperial Hwy over the LA River)	Transportation - Bridge
62	Bridge Number 53C1972 (Firestone Blvd over the LA River)	Transportation - Bridge
63	Bridge Number 53C1973 (Firestone Blvd over Rio Hondo)	Transportation - Bridge



Hazardous Materials: GeoTracker Cleanup Sites

THE CITY OF SOUTH GATE

Legend

- Critical Facility
- South Gate City Limit

PROGRAM TYPE

- Federal Superfund
- State Response
- Voluntary Cleanup
- School Cleanup
- Evaluation
- School Investigation
- Military Evaluation
- Tierd Permit
- Corrective Action

1,000 Foot Buffer

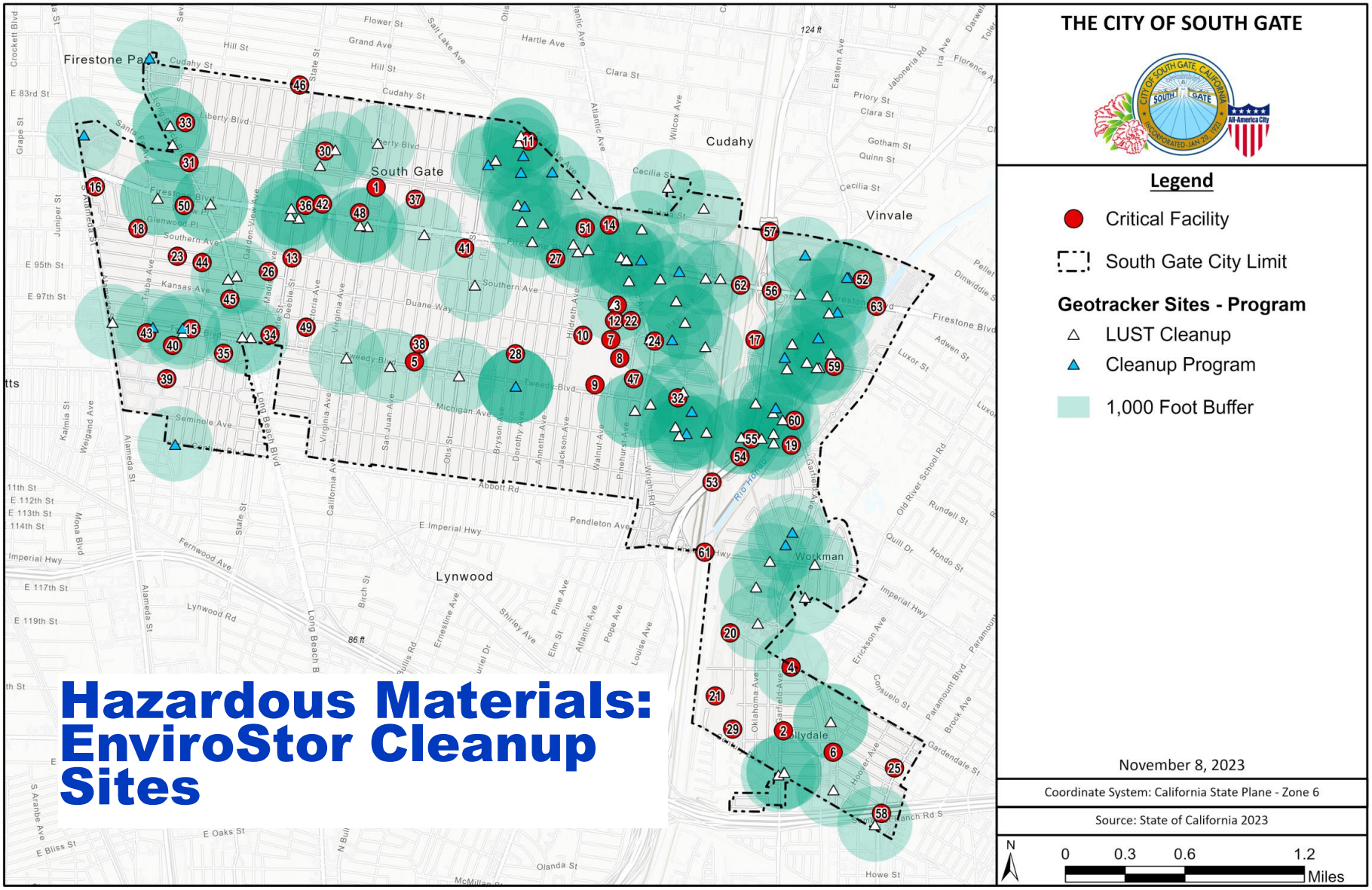
November 8, 2023

Coordinate System: California State Plane - Zone 6

Source: State of California 2023

N

0 0.3 0.6 1.2 Miles



Hazardous Materials: EnviroStor Cleanup Sites

THE CITY OF SOUTH GATE

Legend

- Critical Facility
- South Gate City Limit

Geotracker Sites - Program

- LUST Cleanup
- Cleanup Program
- 1,000 Foot Buffer

November 8, 2023

Coordinate System: California State Plane - Zone 6

Source: State of California 2023

N

0 0.3 0.6 1.2 Miles

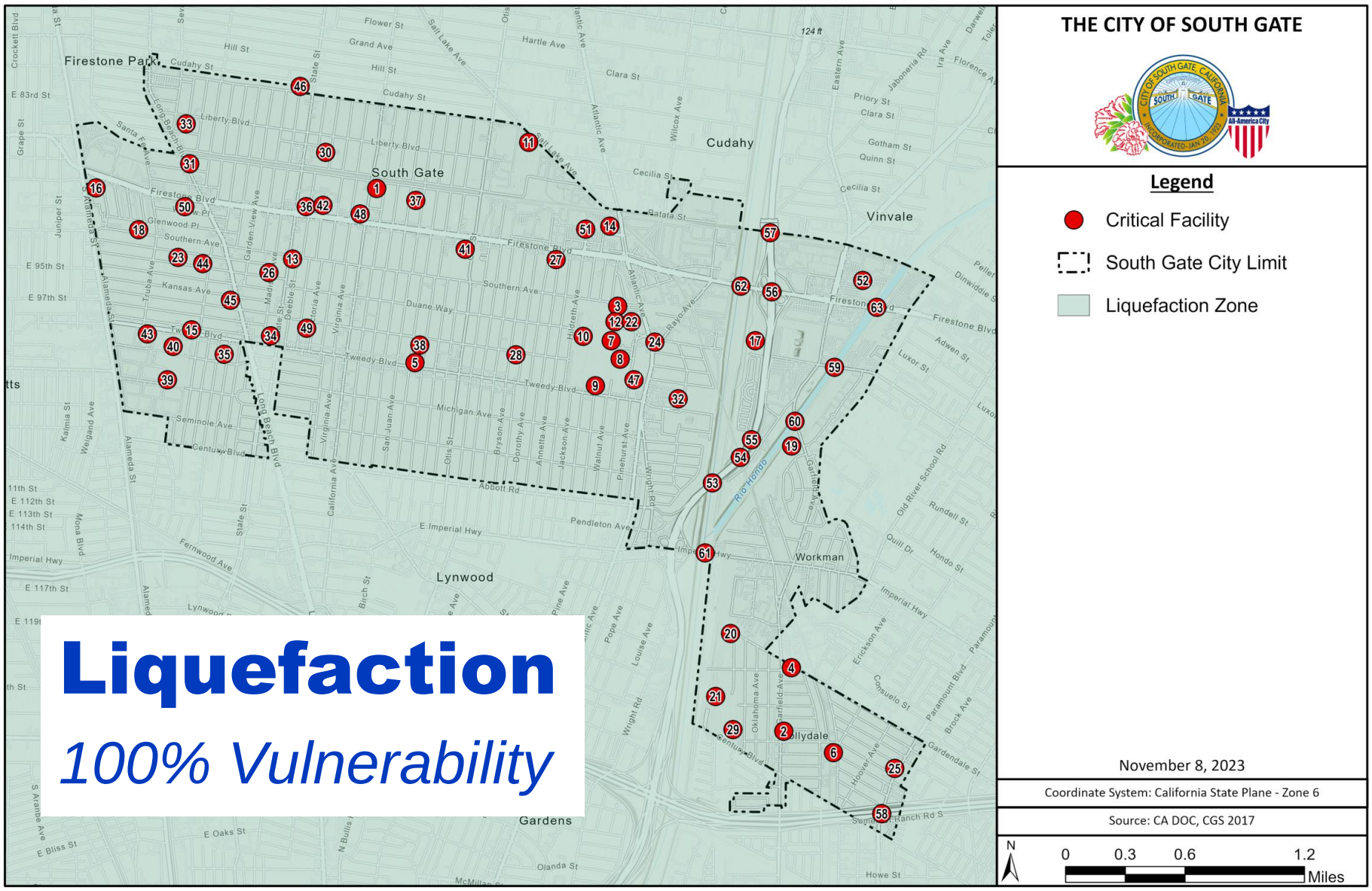
Hazardous Materials Vulnerability: 1,000-foot radius from any cleanup site

Map ID	Name	Asset Type
3	L.A. County Fire Station #54	Government Building
4	L.A. County Fire Station #57	Government Building
5	Leland R Weaver Library	Government Building
6	Parks & Recreation - Hollydale Community Resource Center	Government Building
7	Parks & Recreation - South Gate Girls Clubhouse	Government Building
8	Parks & Recreation - South Gate Golf Course	Government Building
11	Public Works Corporate Yard	Government Building
12	South Gate Park - Administration/Municipal Auditorium	Government Building
14	AltaMed Medical and Dental Group	Health Care
15	Urgent Care South Gate and Brookdale Medical Center	Health Care
16	East Los Angeles College - South Gate Campus	Higher Education
17	Urban Orchard Project - Phase I	Park and Recreation
18	Cesar Chavez Park	Parks and Recreation
19	Circle Park	Parks and Recreation
20	Gardendale Tot Lot	Parks and Recreation
22	Parks Maintenance Yard	Parks and Recreation
24	Triangle Park	Parks and Recreation
26	St. Helen Elementary	Private School

Map ID	Name	Asset Type
27	Aspire Academy Charter Elementary	Public School
28	Bryson Avenue Elementary	Public School
30	Independence Elementary	Public School
31	KIPP Corazon Academy Elementary	Public School
32	Legacy High School Complex	Public School
33	Liberty Boulevard Elementary	Public School
34	Madison Elementary	Public School
35	Montara Avenue Elementary	Public School
36	Odyssey Continuation School	Public School
37	San Gabriel Avenue Elementary	Public School
38	San Miguel Elementary	Public School
40	South East High	Public School
42	South Gate Senior High	Public School
43	Southeast Middle	Public School
44	Stanford Avenue Elementary	Public School
45	Stanford Primary Center Elementary	Public School
47	Tweedy Elementary	Public School
48	Valiente College Preparatory Charter School	Public School
50	Willow Elementary	Public School
51	Azalea Shopping Center	Commercial with Surface Parking Lot

Hazardous Materials Vulnerability: 1,000-foot radius from any cleanup site

Map ID	Name	Asset Type
52	El Paseo Shopping Center	Commercial with Surface Parking Lot
53	Bridge Number 53 0828	Transportation - Bridge
54	Bridge Number 53 0829	Transportation - Bridge
55	Bridge Number 53 0830	Transportation - Bridge
56	Bridge Number 53 0831	Transportation - Bridge
58	Bridge Number 53 2425	Transportation - Bridge
59	Bridge Number 53C0166	Transportation - Bridge
60	Bridge Number 53C0649	Transportation - Bridge
62	Bridge Number 53C1972	Transportation - Bridge


Liquefaction
100% Vulnerability
THE CITY OF SOUTH GATE
Legend
Critical Facility
South Gate City Limit
Liquefaction Zone
November 8, 2023
Coordinate System: California State Plane - Zone 6
Source: CA DOC, CGS 2017
N
0 0.3 0.6 1.2
Miles
Firestone Park
South Gate
Cudahy
Vinvale
Lynwood
Workman
Gardens
Firestone Blvd
Tweedy Blvd
Imperial Hwy
Rio Hondo

Non-Mapped Hazards

Hazards Profiled – Non-Mapped

- Dam Failure
- Drought
- Extreme Heat
- Human-Caused Hazards (Terrorism/Active Shooter, Civil Unrest)
- Pandemic and Disease/Pest Management
- Seismic Hazards (Fault Rupture/Ground Shaking)
- Severe Weather (High Winds/Windstorm, Heavy Rain/Hailstorm, Tornado, Power Outage)

Mitigation Actions

Mitigation Actions

- **Reduce the Potential for Damage** – Reduce damage to critical assets from natural and human-caused hazards;
- **Create a Decision Tool for Management** – To provide information so that the City may act to address vulnerabilities; and,
- **Promote Coordination and Compliance with State and Federal Program Requirements** – To ensure that the City can develop a relationship with surrounding agencies and take full advantage of state and federal grant programs, policies and regulations.

Mitigation Actions

- Mitigation Actions – reduce or eliminate long-term risk
  - **Different from actions to prepare or respond to an event**
- Mitigation activities lessen or eliminate the need for preparedness or response resources
- Emphasis on the impact of vulnerabilities – not on the hazard itself

STAPLE/E Review and Selection Criteria

Social
• Is the proposed action socially acceptable to the jurisdiction and surrounding community? • Are there equity issues involved that would mean that one segment of the jurisdiction and/or community is treated unfairly? • Will the action cause social disruption?
Technical
• Will the proposed action work? • Will it create more problems than it solves? • Does it solve a problem or only a symptom? • Is it the most useful action in light of other jurisdiction goals?
Administrative
• Can the jurisdiction implement the action? • Is there someone to coordinate and lead the effort? • Is there sufficient funding, staff, and technical support available? • Are there ongoing administrative requirements that need to be met?
Political
• Is the action politically acceptable? • Is there public support both to implement and to maintain the project?

STAPLE/E Review and Selection Criteria

Legal
• Is the jurisdiction authorized to implement the proposed action? • Are there legal side effects? Could the activity be construed as a taking? • Will the jurisdiction be liable for action or lack of action? • Will the activity be challenged?
Economic
• What are the costs and benefits of this action? • Do the benefits exceed the costs? • Are initial, maintenance, and administrative costs taken into account? • Has funding been secured for the proposed action? If not, what are the potential funding sources (public, nonprofit, and private)? • How will this action affect the fiscal capability of the jurisdiction? • What burden will this action place on the tax base or local economy? • What are the budget and revenue effects of this activity? • Does the action contribute to other jurisdiction goals? • What benefits will the action provide?
Environmental
• How will the action affect the environment? • Will the action need environmental regulatory approvals? • Will it meet local and state regulatory requirements? • Are endangered or threatened species likely to be affected?

Mitigation Prioritization & Timeframe

Category	Comments
High	Top organizational priority and is generally a well-detailed project idea. Protects population, resource or property at high risk, Uses feasible methods, techniques or technology.
Medium	A good idea that needs more information or is an action that addresses a moderate hazard.
Low	An idea that needs a lot more information or will take a lot of preliminary action to build support.

Category	Timeframe
Short-term	1-2 years
Mid-term	3-4 years
Long-term	5+ years
Ongoing	1-2 years and ongoing thereafter

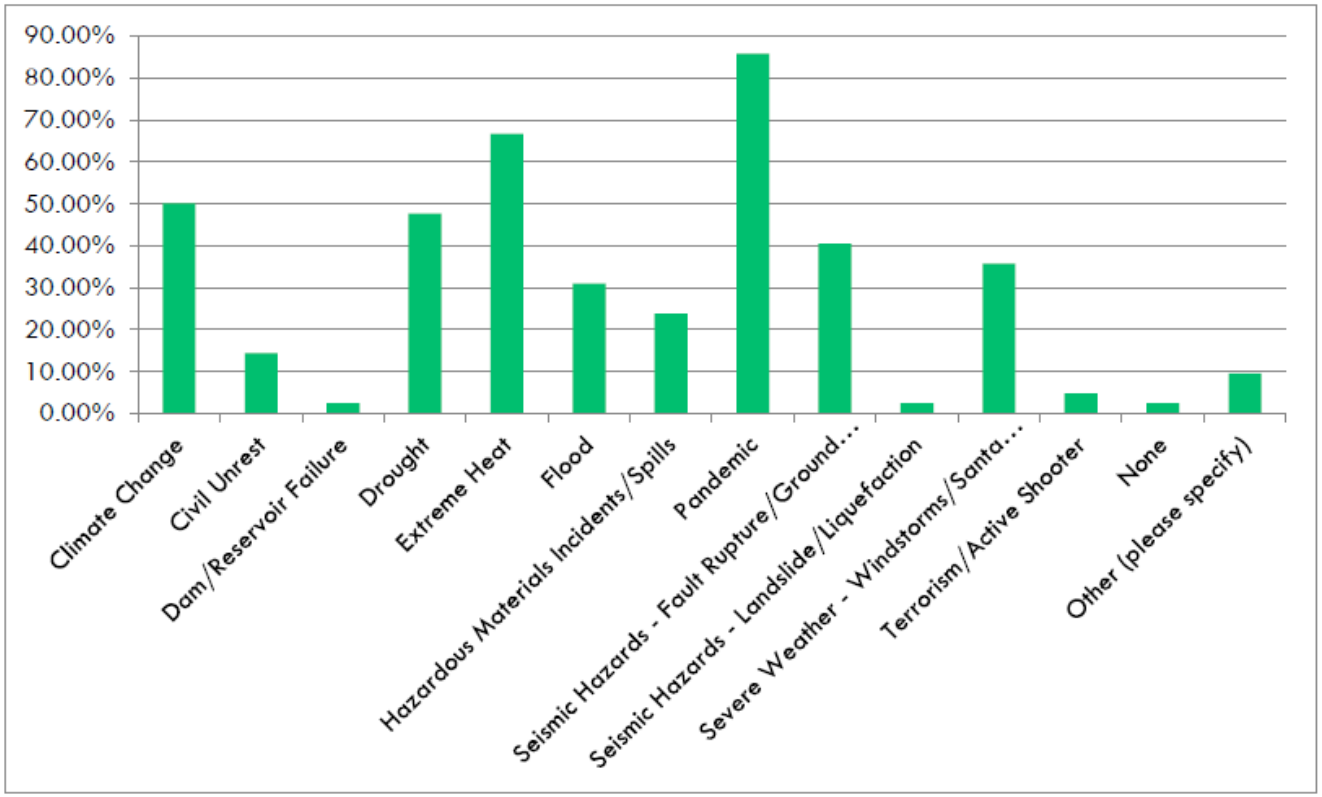
Mitigation Action Discussion

Next Steps

Public Involvement Update

- **In-Person Outreach**
  - February 12th, 2023
    8:30 AM – 11:30 AM
  - 50+ Attendees
- **Community Outreach Survey**
  - 42 Responses

Public Involvement Update



42 Responses

- 90% live within City of South Gate.
- 90% report feeling “not at all prepared” or “somewhat prepared” in the case of an emergency.
- Only 7% report feeling “well prepared” in the case of an emergency.

Timeline – Next Steps

- Draft LHMP for Planning Team Review
  - April 1, 2024 – April 8, 2024
- Draft LHMP for Public Review
  - April 10, 2024 – April 24, 2024
- Cal OES Submittal by May 1, 2024
- Cal OES/FEMA Review Time ~varies, appx. 2 – 3 months
  - FEMA issues “Approvable Pending Adoption”
- City Council Approval ~ summer 2024

Questions/Additional Discussion?

Forward all data/information to:

Lt. Sergio Camacho
Emergency Operations
[redacted]

Noelle Anderson
Project Manager
[redacted]

City of South Gate
Local Hazard Mitigation Plan
Meeting #2
April 1, 2024

First and Last Name	Title	Organization/Department	Mailing Address	E-Mail Address	Phone Number	Present ?
Alfred Martinez	Emergency Management	City of Huntington Park	[redacted]			
Arturo Cervantes	Director of Public Works	City of South Gate				
Ashley Greaney Catanzano	Public Information Officer	Downey Unified School District				
Brad Evans		LACFD				
Casey Marchese	Project Planner	Michael Baker International				✓
Chris Castillo	Water Division Manager	City of South Gate				✓
Cynthia Quimby	Public Affairs/Governmental Liason	Southern California Edison				
D Reyes	Emergency Management	City of Cudahy				
David Kingston	Chief of Emergency Management	LA District USACE				

City of South Gate
Local Hazard Mitigation Plan
Meeting #2
April 1, 2024

First and Last Name	Title	Organization/Department	Mailing Address	E-Mail Address	Phone Number	Present ?
Derwin Dy	Water Resources Section Manager	City of South Gate	[redacted]			✓
Diane Forte	Government Relations Manager	Southern California Edison				
E Wosick	Emergency Management	City of Paramount				
Eugenia (Gigi) Chan	Community Service Liaison	LACFD				
Francisco Martinez	Local Public Affairs	Southern California Edison				✓
Fredy Ceja		LA Department of Water and Power				
Glenn Massey	Parks Superintendent	City of South Gate				
Gymeka Williams	Emergency Management Coordinator	County of Los Angeles OEM				
Hailes Soto		South Gate Kiwanis Club				✓

City of South Gate
Local Hazard Mitigation Plan
Meeting #2
April 1, 2024

First and Last Name	Title	Organization/Department	Mailing Address	E-Mail Address	Phone Number	Present ?
Ileana Albert	Coordinator - Local District East	Los Angeles Unified School District	[redacted]			
Jeremy Gloer	Outreach Representative for South Gate	PATH Los Angeles				
Jillian De Vela	Emergency Management Coordinator	City of Los Angeles				
Jose Loera	City Traffic Engineer	City of South Gate				
Linda Cunningham	Capital Programs	Golden State Water Company				
Lt. Evelyn Garcia	Lieutenant	South Gate Police Department				
Lt. Sergio Camacho	Lieutenant/ South Gate Project Manager	South Gate Police Department				✓
Luis Osuna	Deputy City Engineer	City of South Gate				✓
M Williams	Emergency Management	City of Bell Gardens				

City of South Gate
Local Hazard Mitigation Plan
Meeting #2
April 1, 2024

First and Last Name	Title	Organization/Department	Mailing Address	E-Mail Address	Phone Number	Present ?
Meredith Elguira	Director of Community Development	City of South Gate	[redacted]			
Nick Berkuta		LA County Fire				
Noelle Anderson	Project Manager	Michael Baker International				✓
Osie Harrell	General Maintenance and Electrical Superintendent	City of South Gate				
Rakdy Khlok	Emergency Management	City of Downey				✓
Richard Lee	Operations Division	LA District USACE				
Rick Blackburn	Emergency Services	Southern California Gas				
Rosemary Vivero		LA County Fire				
S Plops	Operations Division (Hanson Dam) - LA Distict	US Army Corps of Engineers Los Angeles District				

City of South Gate
Local Hazard Mitigation Plan
Meeting #2
April 1, 2024

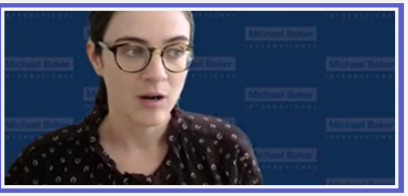
First and Last Name	Title	Organization/Department	Mailing Address	E-Mail Address	Phone Number	Present ?
Sandra Varela	Community Development Tech II	City of South Gate - Code Enforcement	[redacted]			✓
Sara Nazir	Risk and Safety Manager	City of Lynnwood				
Savanna Fiehler	Disaster Program Manager	American Red Cross				
Steve Costley	Director of Parks and Recreation	City of South Gate				
Terence Cheung	District Local Assistance Engineer	Caltrans				
Thevin Rajapaksha Arachchilage	Disaster Program Manager	American Red Cross				✓
Thurman Green	Risk Manager	City of South Gate – Human Resources				
Timothy Dahlum	Pacific Division Information and Planning Lead	American Red Cross				
Tina Fierro	Deputy Director of Parks and Recreation	City of South Gate				

City of South Gate
Local Hazard Mitigation Plan
Meeting #2
April 1, 2024

First and Last Name	Title	Organization/Department	Mailing Address	E-Mail Address	Phone Number	Present ?
Travon Espy	Battalion Chief	LA County Fire Department	[redacted]	[redacted]	[redacted]	✓
Victor Pelayo	Water Distribution Superintendent	Golden State Water Co	[redacted]	[redacted]	[redacted]	✓
Yalini Siva	Senior Planner	City of South Gate – Land Use and Development	[redacted]	[redacted]	[redacted]	
		South Gate Rotary Club	[redacted]	[redacted]	[redacted]	
		Tweedy Mile Association	[redacted]	[redacted]	[redacted]	

City of South Gate LHMP Stakeholder Meeting #2 ··· Michael Baker International

14:36 Take control Pop out Chat People 13 Raise React View Notes Apps More Camera Mic Share Leave



HS Hailes Soto... SC Sergio Cam... LO Luis H. Osu... RK Rakdy Khlo... View all

Updated Hazard Mitigation Goals

- Enhanced protection of life and property from hazard impacts.
- Municipal and emergency operations are fully functional during disasters.
- Strengthened partnerships with the community and the region that enhance hazard mitigation, preparation, response and recovery capabilities.
- Educated and empowered community members prepare for, mitigate, respond to, and recover from hazards that affect their family and property.

Anderson, Noelle

City of South Gate - Local Hazard Mitigation Plan Update

Participants

Type a name

Share invite

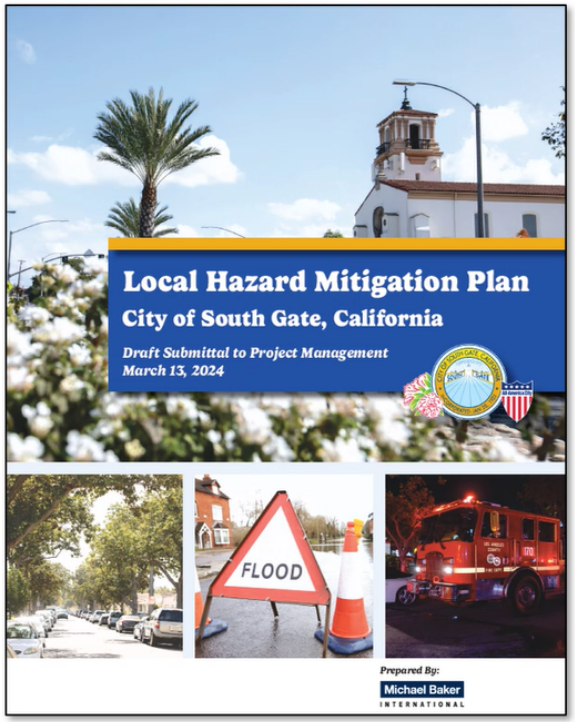
Organizer

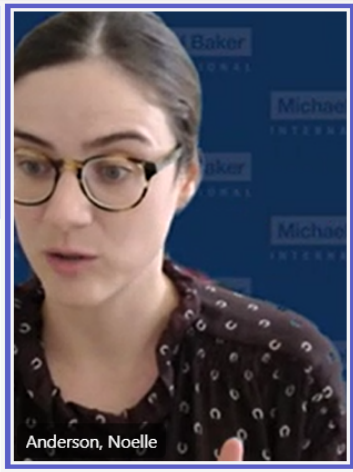
CC Chris Castillo (External)
DD Derwin Dy (External)
FM Francisco M M... (Unverified)
HS Hailes Soto (External)
LO Luis H. Osuna (External)
VP Pelayo, Victor- ... (External)
TA Rajapaksha ara... (Unverified)
RK Rakdy Khlok (C... (Unverified)
SV Sandra Varela (External)
SC Sergio Camacho (External)
TE Travon Espy (External)

2:08 PM 4/1/2024

Today:
2024 City of South Gate HMP

- Prepared in 2023/2024
- LHMP Findings
  - Profiled 17 Hazards
    - 5 New Hazards
  - Identified 63 Critical Facilities
    - 39 New Critical Facilities
  - Identified 70 Mitigation Actions
    - 24 New Mitigation Actions





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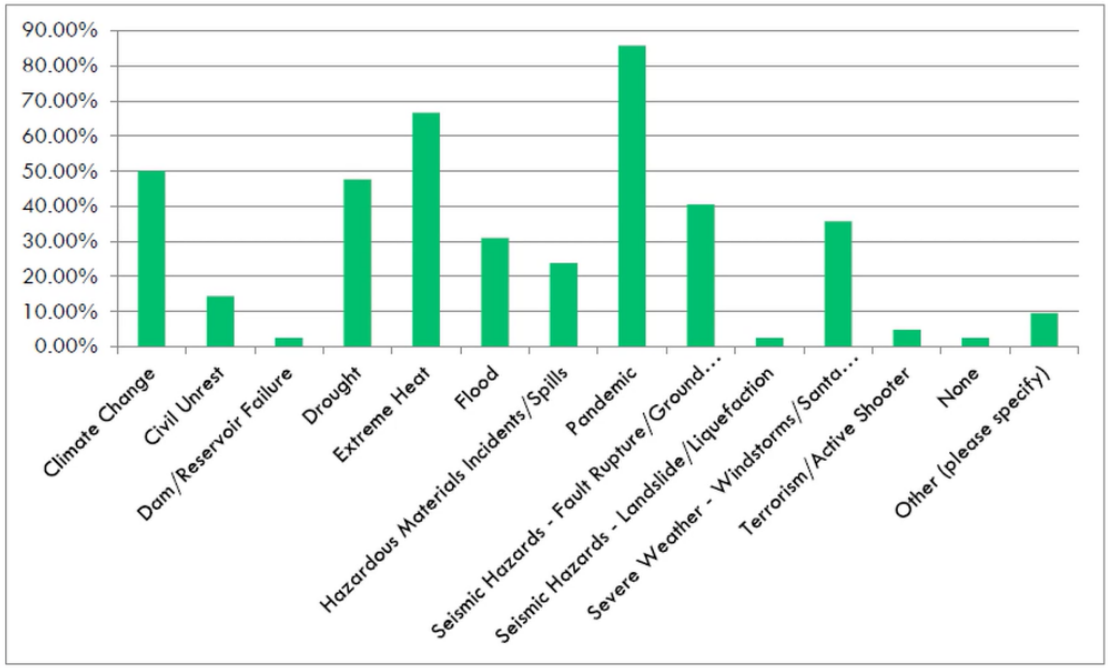
Public Involvement Update



42 Responses

- 90% live within City of South Gate.
- 90% report feeling “not at all prepared” or “somewhat prepared” in the case of an emergency.
- Only 7% report feeling “well prepared” in the case of an emergency.

HS Hailes Soto... SC Sergio Cam... DD Derwin Dy ... ... View all

B.2

Community Outreach

B.2 - 1

Community Outreach Survey

CITY OF SOUTH GATE
LOCAL HAZARD MITIGATION PLAN

Survey Summary
March 27, 2024

As part of the outreach for the Local Hazard Mitigation Plan (LHMP), the City of South Gate administered a survey to community members to help gauge the level of knowledge the community has about natural disaster issues and to obtain input about areas in the City of South Gate that may be vulnerable to various types of natural disasters. The information gained from the survey will help the City identify and coordinate projects focused on reducing the risk of injury or damage to property from future hazard events (e.g., earthquakes, drought, flood).

The survey was available from November 2023 to March 2024 and received 42 responses. It included multiple choice questions with the opportunity to provide comments, and covered demographic information, types of disasters and threats the community might anticipate, how community members would respond, how governing agencies should respond, and community members' readiness in the event of a disaster. The results of the survey are summarized below. Detailed graphs for each question and raw data from the survey questions is located within Appendix B.

Summary of Input

Key issues:
Approximately 90.48 percent of survey respondents live within the City of South Gate, and approximately 14.29 percent of respondents work within the City. Pandemics, extreme heat, climate change, drought and seismic fault ruptures were noted as the most common hazards that survey participants had previously experienced in the City. Respondents expressed the highest levels of concern for climate change, terrorism, extreme heat, floods, and hazardous materials incidents. Hazards of lesser concern include civil unrest, dam failure, and liquefaction/landslides.

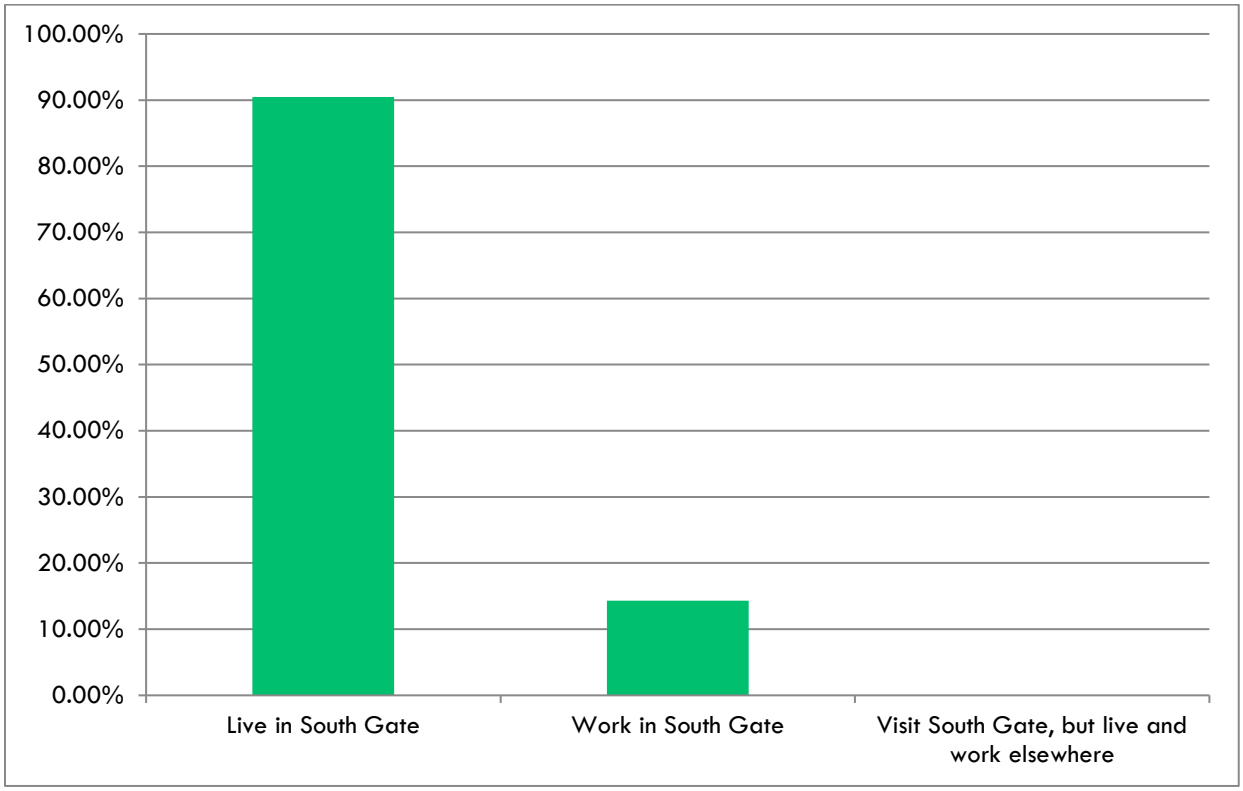
Preparedness:
In terms of preparedness, the majority of respondents indicated that they feel at least somewhat prepared or not prepared at all for a natural hazard; less than 10 percent of respondents said they feel well prepared. Preparedness actions currently employed by community members primarily consist of installing smoke detectors, vegetation management, structural maintenance, drought-tolerant landscaping, and emergency preparedness kits.

Outreach:
Responses to the most effective ways that respondents would like to receive information was fairly dispersed between the options provided, with direct mail and social media being the most preferred option. The following are the eight most highly ranked options:

1. Social media
2. Direct mail
3. City/Agency newsletters
4. Email
5. City/Agency website
6. Public meetings, workshops and/or classes
7. Informational brochures
8. CERT classes

Question 1: Do you – Check all that apply

About 90.48 percent of respondents live in the City of South Gate, and approximately 14.29 percent work within City. No respondents visit the City but live and work elsewhere.



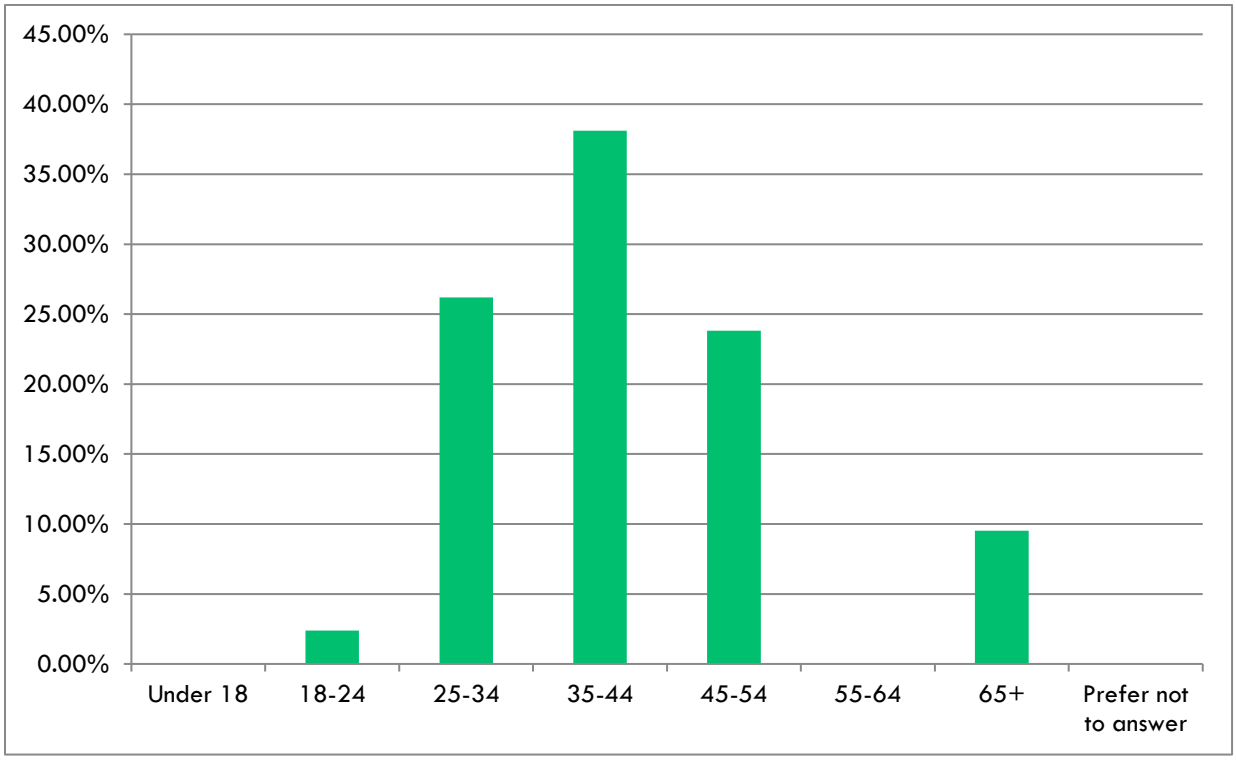
Question 2: What is your Zip Code?

The majority of survey respondents live in the 90280 zip code of the City of South Gate. Additional zip codes are listed in the table below.

Zip Code	Total Respondents
90280	39
90002	1
90255	1
90670	1

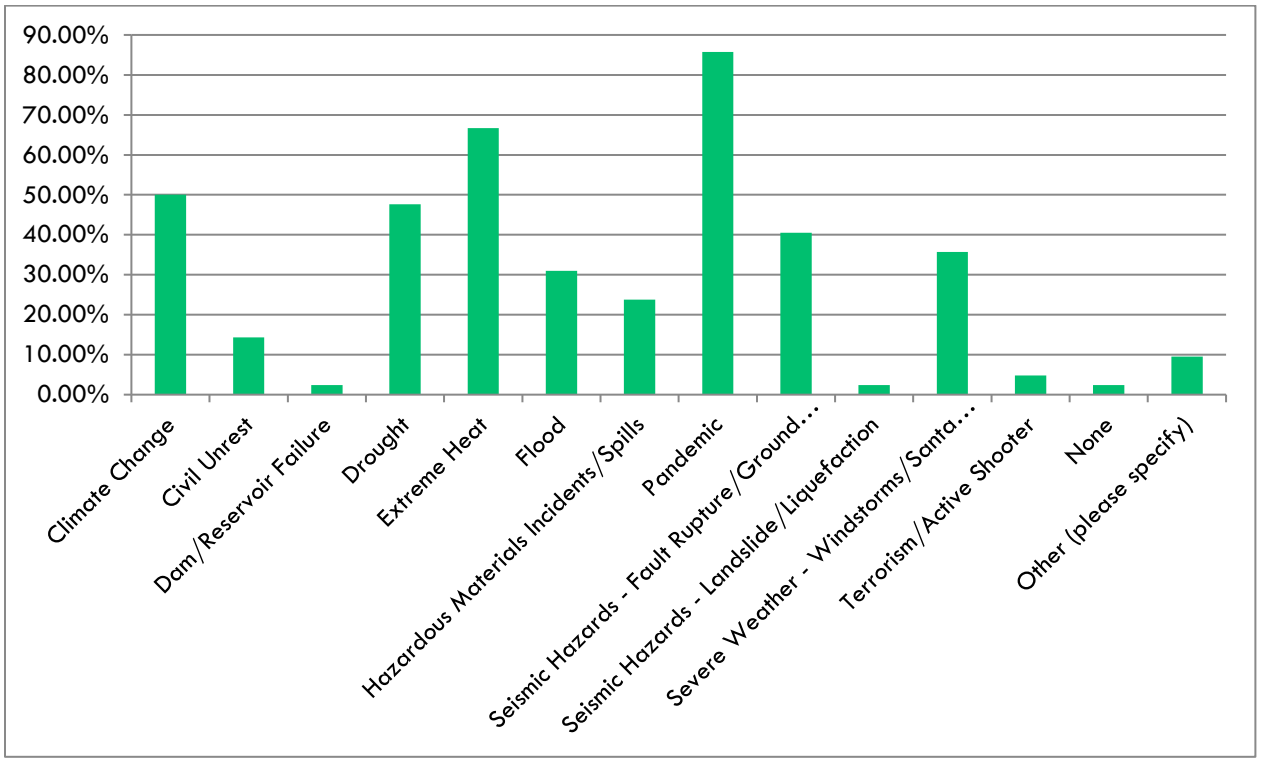
Question 3: What is your Age?

Respondents were fairly evenly distributed between age groups between 25 to 54 years old at around 25 to 37 percent per group. Zero respondents were under the age of 18 or between the ages of 55 to 64.



Question 4: Which of the following types of natural disasters have you or someone in your household experienced while residing and/or working within the City of South Gate?

Most survey respondents have experienced a pandemic (85.71 percent) and extreme heat (66.67 percent). A significant percentage of survey respondents have also experienced climate change (50 percent), drought (47.62 percent), and a seismic fault rupture (40.48 percent). Very little respondents have experienced landslides or liquefaction (2.38 percent) or dam failure (2.38 percent). Trees falling, jet fuel dumping, road damage, and broken gas lines were additional hazards that were noted but not included in this list.

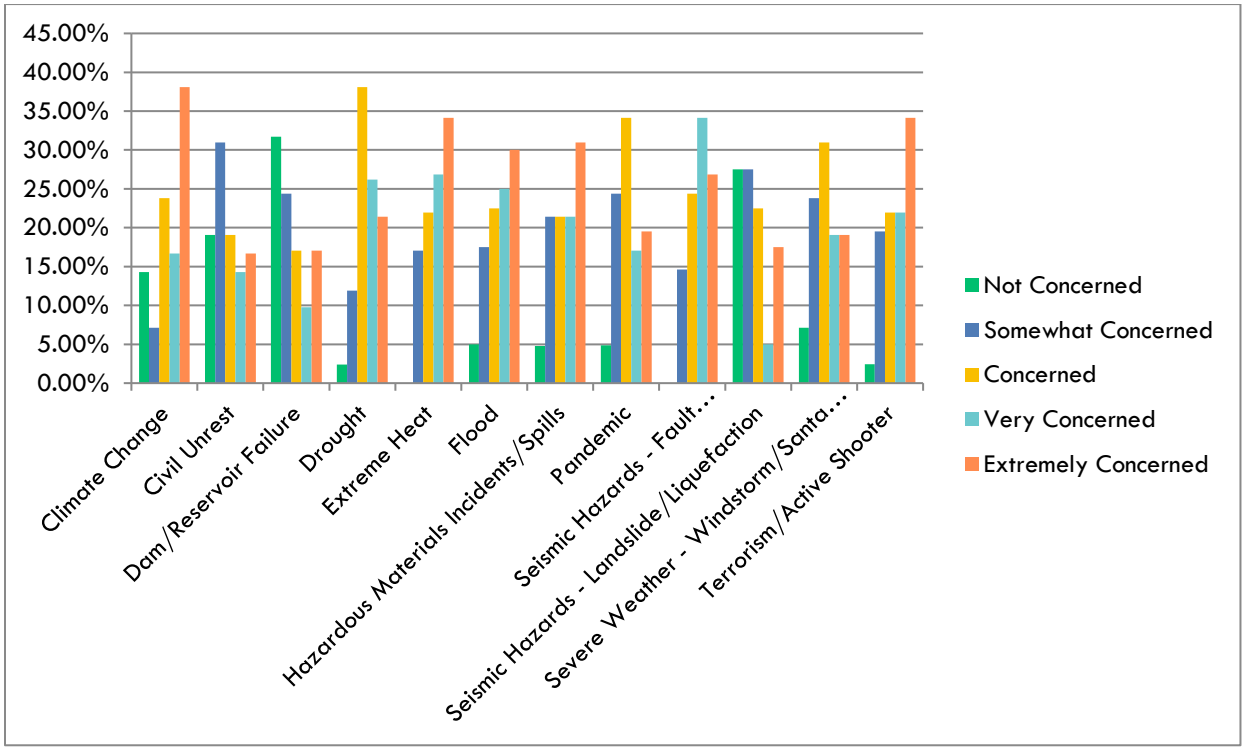


Additional Comments

- Jet fuel dumping
- Gas lines breaking and leaking
- Severe road damage
- Sometimes when it rains our streets get flooded. And trees fall over.

Question 5: The following hazards could potentially impact the City of South Gate and may be addressed in the Local Hazard Mitigation Plan. Please indicate the level of concern you perceive for each hazard that may affect you and the City of South Gate's critical facilities and infrastructure. (Please check ONE response for each hazard)

Question 5 asks which hazards that could potentially impact the City of South Gate are considered to be primary concerns for residents within the City. Climate change, terrorism, and extreme heat were ranked as having the most concern ("Extremely Concerned") for respondents. Hazards that are of least concern ("Not Concerned") include dam failure, landslide/liquefaction, and civil unrest.



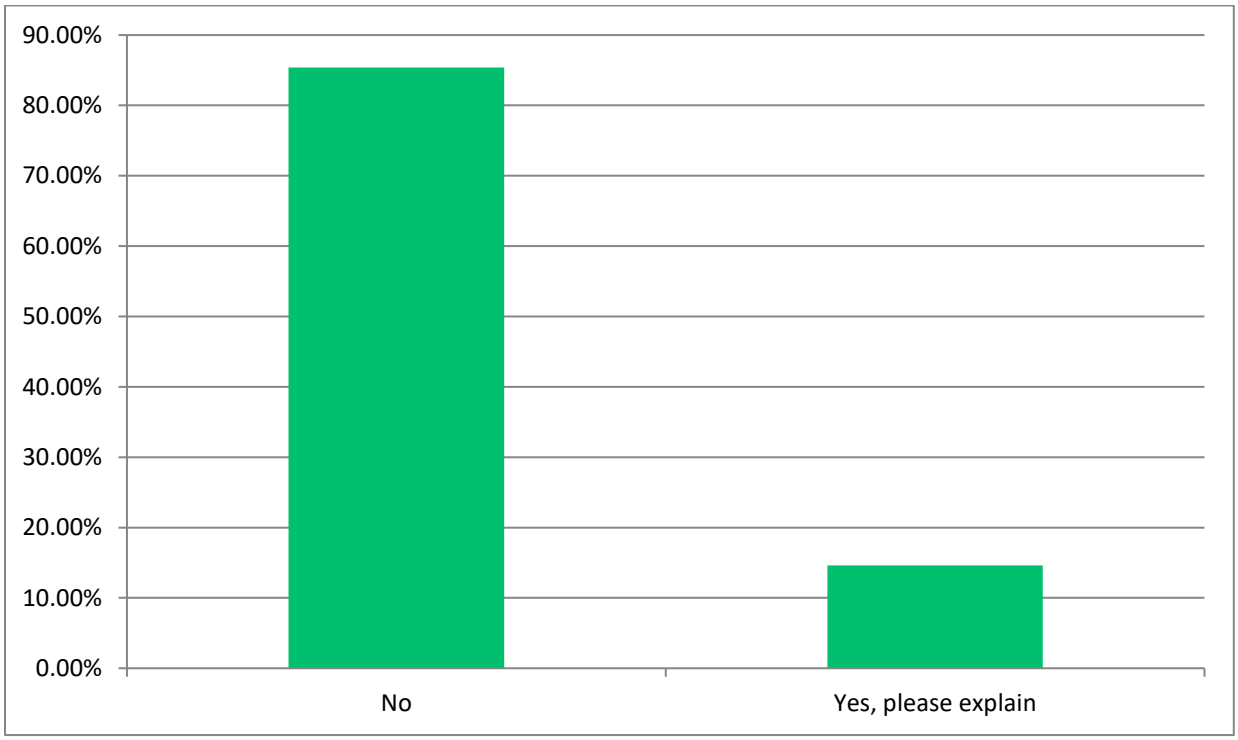
***Additional Comments*[1]**

- Concern over a mass shooting at El Paseo Shopping Center, specifically the Walmart store
- School safety
- Unsafe motorists

[1] Comments unrelated to the survey topic were not included in this summary, but can be viewed in Appendix B.

Question 6: Do you have professional or personal information on specific hazard issues or problem areas (localized flooding, power outages) that the planning committee should be aware of (please provide as much detail as possible, including location and type of hazard)?

The majority of respondents answered "No" to having information on specific hazard issues or problem areas.

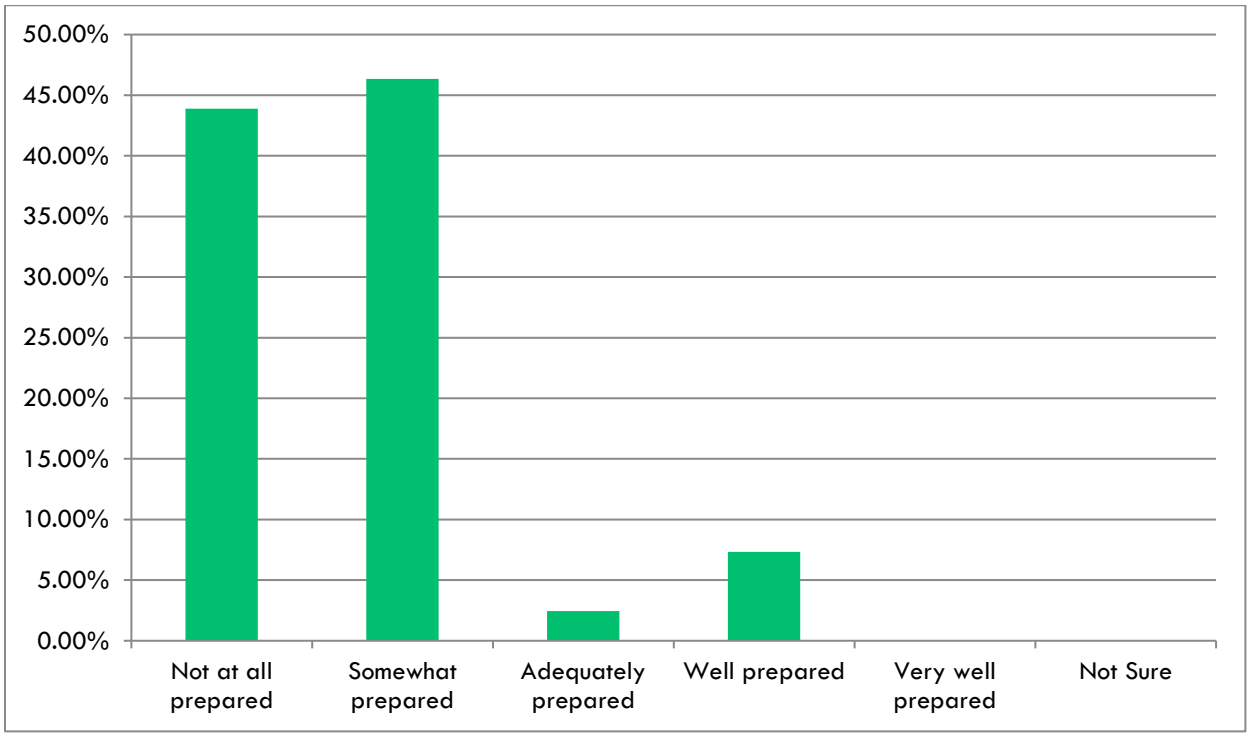


Additional Comments

- Flooding throughout the streets during heavy rain that result in areas with water that does not easily dry after rain. This causes mosquitos in the area, can't easily park in the street (Capistrano Ave, 90280)
- Residential streets always flooding Liberty Blvd & State between Mountain View & Otis
- Was a victim of the Delta Spill
- A few years ago, the sidewalk kept caving in along little Alameda, north of Nebraska.
- All I can say is that sometimes when it rains heavily our streets do get flooded. I would like for our city to have some solution as to minimizing the amount of rainwater that collects onto our streets during big down pours.
- Sink holes are developing in southern boundaries of South Gate

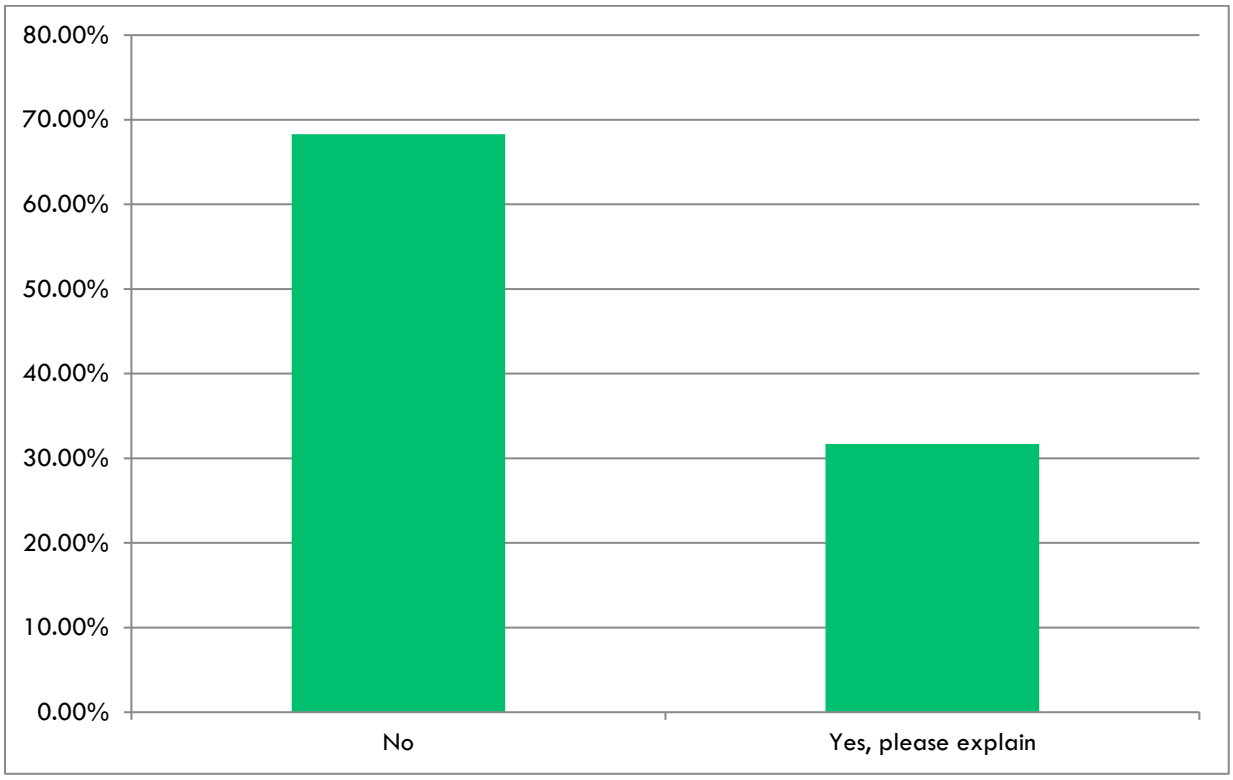
Question 7: How prepared is your household for a natural hazard or disaster (for example, wildfire, flood, earthquake, extended power outage)?

Only 7.32 percent of survey respondents stated that they felt "Well prepared" to deal with a natural hazard event likely to occur in the City of South Gate and/or the surrounding area, with 0 percent claiming to be "Very well prepared." 43.9 percent of respondents stated that they felt "Not at all prepared" and 46.34 percent claimed to be "Somewhat prepared."



Question 8: Have you taken actions to make your home, business, or neighborhood more resistant to hazards (such as anchored furniture and service utilities, installed smoke detectors, regularly trim trees, fire smart landscaping, install drought tolerant landscaping, etc.)?

The majority of respondents indicated that they had not taken actions to make their home, business, or neighborhood more resistant to hazards.



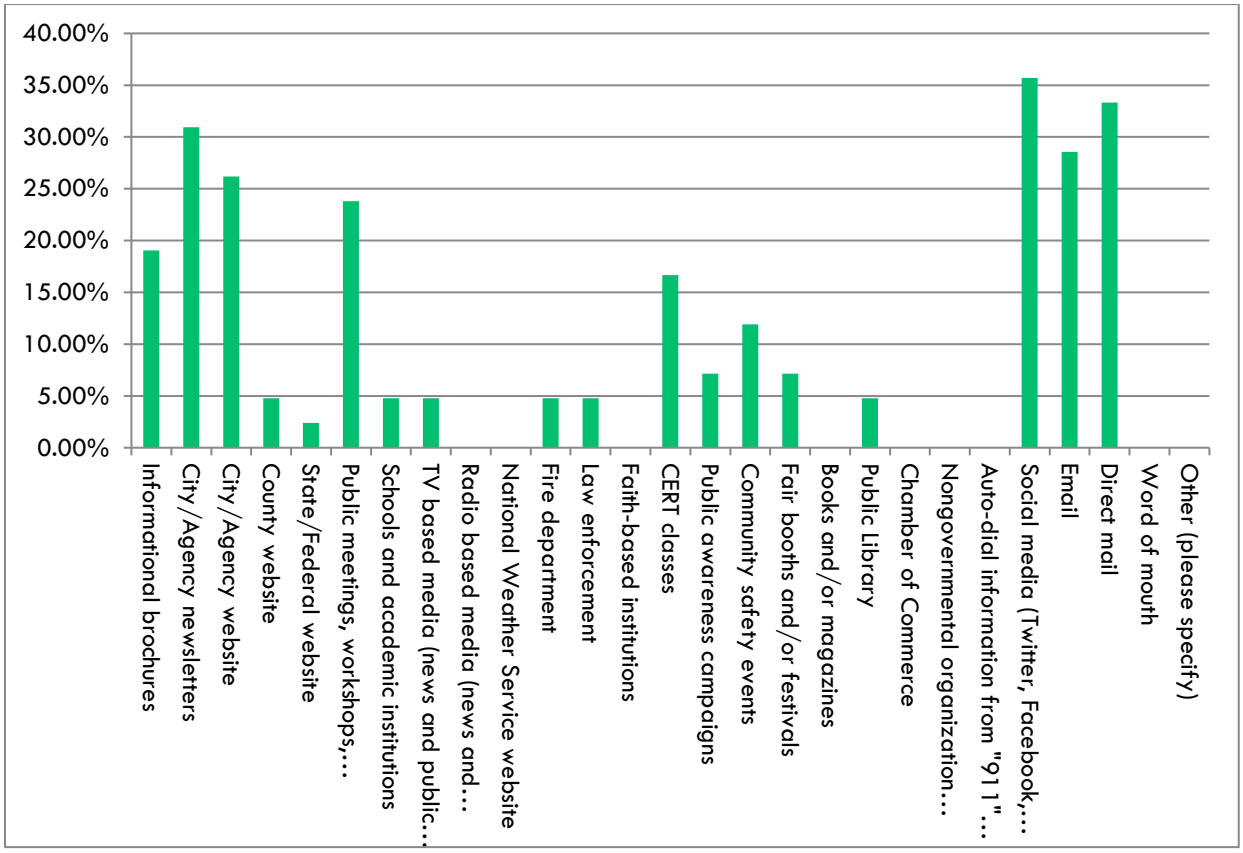
Additional Comments

- Smoke detectors*
- Carbon monoxide detectors
- Drought-friendly ground covering
- Regularly trim trees, fire smart landscaping*
- Annual repairs or repairs as required
- Emergency preparedness kit, including extra food and water*
- Anchored furniture*
- New roofs
- Backup generator
- Necessary essentials

**Repetitive comments were consolidated*

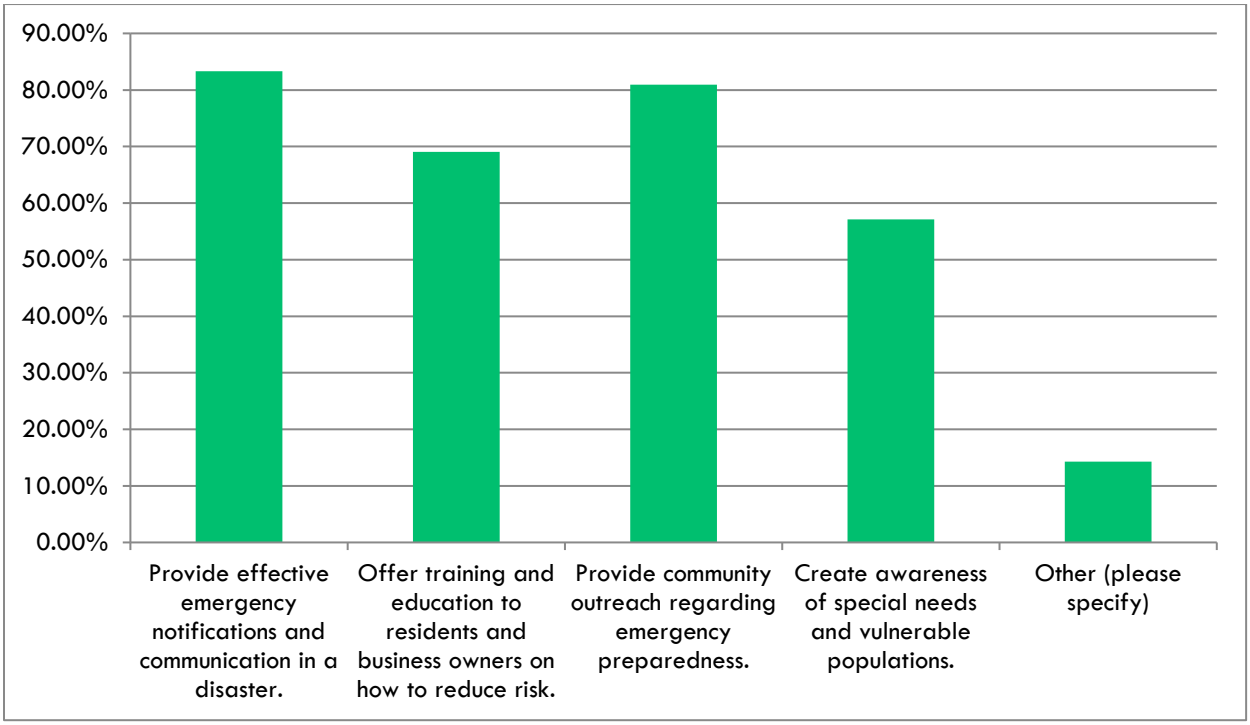
Question 9: Choose the top 3 ways you prefer to receive information about how to make your home and neighborhood more resistant to hazards?

About 30 to 35 percent of respondents listed social media and/or direct mail as one of their top three ways to receive information on making their homes safe. Other popular methods of communication include City/Agency website and newsletters, public meetings, and emails.



Question 10: How can your city help you become better prepared for a disaster? Choose all that apply.

Over 83 percent of respondents indicated that providing emergency notifications and communications in a disaster would be the best way for the City of South Gate and its partners to prepare residents for a natural disaster.

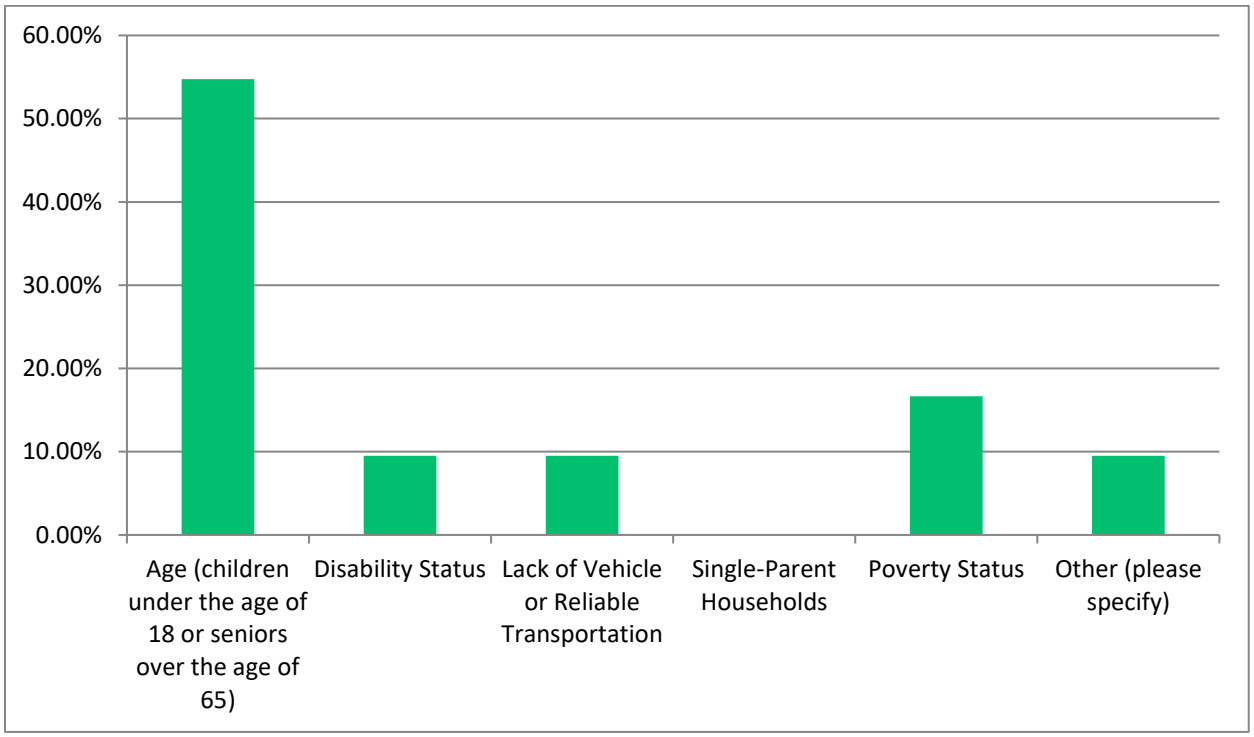


Additional Comments

- I would like to see our city put information that would help better prepare us on its city website. And for them to send out emails to the residents that have signed up to receive them
- Need a good emergency plan
- Provide these things in a timely manner unlike when the tropical storm hit us and South Gate was the last city to provide any information about sandbags. It was too little, too late. Do better time wise.
- The City of South Gate, in comparison to its immediate surrounding cities, is the slowest to update on any activity be they good or bad on all of its social media sites. Considering the fact that probably 99% of its population engages daily on Facebook, Instagram, and other platforms. It would be of great help if the cities social media group could be faster to update on events and emergencies.
- Provide community outreach regarding emergency preparedness materials in Spanish
- Social media posts/videos

Question 11: What characteristics make members of your community more vulnerable during a hazard event? Consider evacuation, sheltering in place, or recovery actions. Choose all that apply.

Respondents selected age (children under the age of 18 or seniors over the age of 65) as the most vulnerable during a hazard event (54.76 percent).



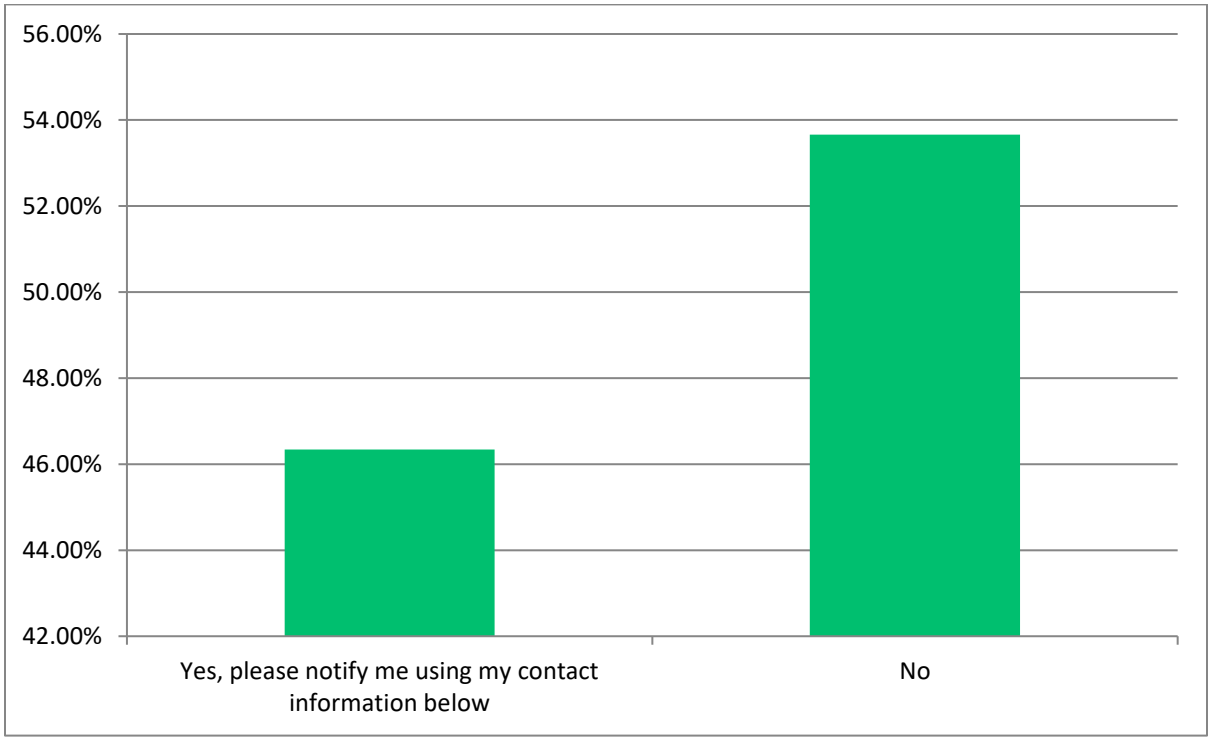
Comments received on Question 11 are provided in their entirety, below:

- This questions says "Choose all that apply" but respondents can only select one option
- All of the above
- All apply
- Pregnant

Question 12: Please utilize the space below to provide any additional comments or insight into how local natural or human-caused hazards or disasters should be mitigated.

- Not an answer to this question, but is this survey available in Spanish? It would be a disservice to South Gate residents to not survey monolingual Spanish speakers/readers.
- Provide emergency supplies/kits to families and aggressive community outreach events to provide emergency preparedness information and training.
- There needs to be better coordination between agencies during big event disasters. Especially during active shooter incidents.
- An app for South Gate residents/business owners that can alert of emergencies
- We need more green spaces and trees to help the high pollution we have in the area due to location of freeways and factories.
- Emergency preparedness webinars
- Proactively cleaning waste to prevent floods- taking care of potholes
- Residents need to be informed, via text or social media. Delta fuel dump was a disaster in every way. I personally didn't know what to do or what had happened when the smell showed up.
- More resources to help with community preparedness
- Investing in the infrastructure of our city, roads, local businesses and financial help for renters to be able to purchase their forever homes.
- I think South Gate should have a climate adaptation and mitigation plan, considering the amount of industry. Community engagement beyond a survey should also be a component.
- We need to remember that Hollydale is also part of South Gate and should also be taken care of.
- More involvement in the community
- The lack of trees in South Gate should be looked at to address climate change. The area get[s] very hot in the Summer. Most residents cannot afford air conditioning and suffer extreme heat. I worry about the elderly and children. Perhaps the city can fund more cooling stations during the summer.
- A local emergency notification system would have helped wonders during the delta fuel dump
- I would like to see more funding from the County, State and Federal Government into hazardous prevention.
- Living by the LA River, one of the biggest concerns for hazards I have, especially in a post-climate change future, is the potential for localized flooding in my area (Hollydale). Having studied green infrastructure in undergrad, I know how impactful such infrastructure can be in preventing damage and adapting our cities to our uncertain future. I recommend the City to use funds, whether from FEMA or other federal and state agencies, to develop and implement public works projects that make our communities more adaptable to water. Such projects can include amending the Hollydale Regional Park redesign to include a wetland component close to the river; replace impervious surfaces in alleyways/parking lots/other low traffic spaces with permeable pavements; establish a native landscape rebate program to encourage property owners to switch to water tolerable landscaping; and update storm water infrastructure and management practices.
- Improving surface to travel. I.e building bridges from southern to frontage road.

Question 13: Would you like to review and comment on the draft of the South Gate Local Hazard Mitigation Plan? *Names and contact information of responses are included under a separate cover.
46.34 percent of respondents would like to review and comment on the draft of the South Gate LHMP.

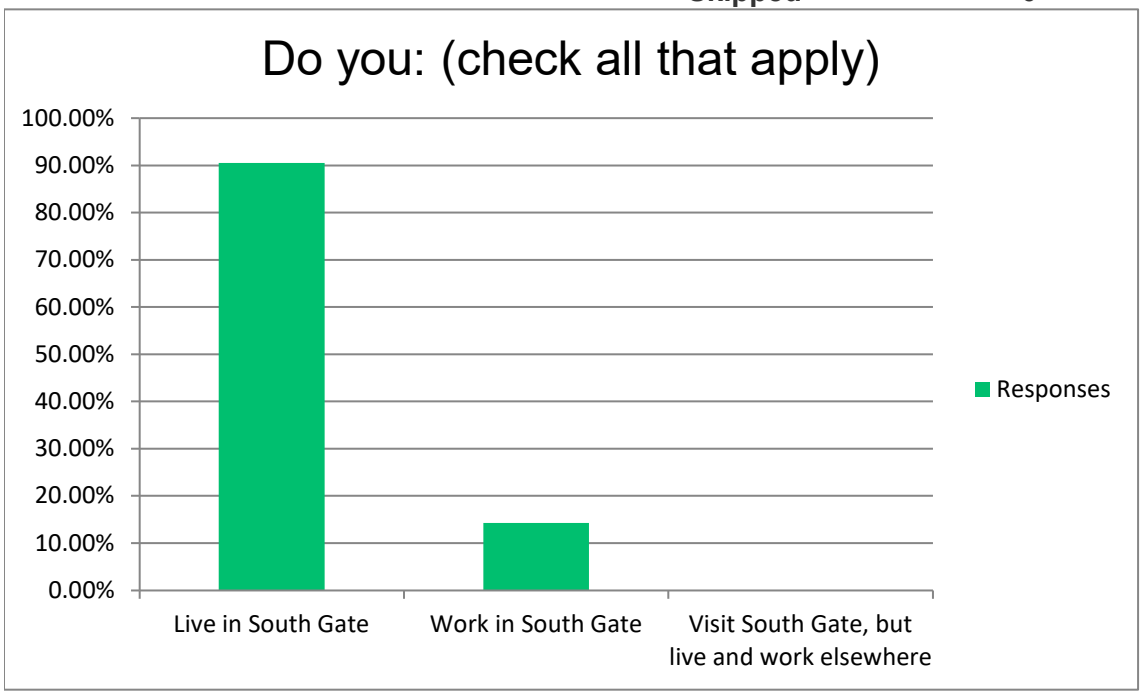


Appendix B: Survey Responses Raw Data

City of South Gate Local Hazard Mitigation Plan Community Survey

Do you: (check all that apply)

Answer Choices	Responses	
Live in South Gate	90.48%	38
Work in South Gate	14.29%	6
Visit South Gate, but live and work elsewhere	0.00%	0
	Answered	**42**
	Skipped	**0**



City of South Gate Local Hazard Mitigation Plan Community Survey

What is your home zip code?

Answered 42

Skipped 0

Responses	
90280	90280
90280	90280
90280	90280
90280	90280
90280	90670
90280	
90280	
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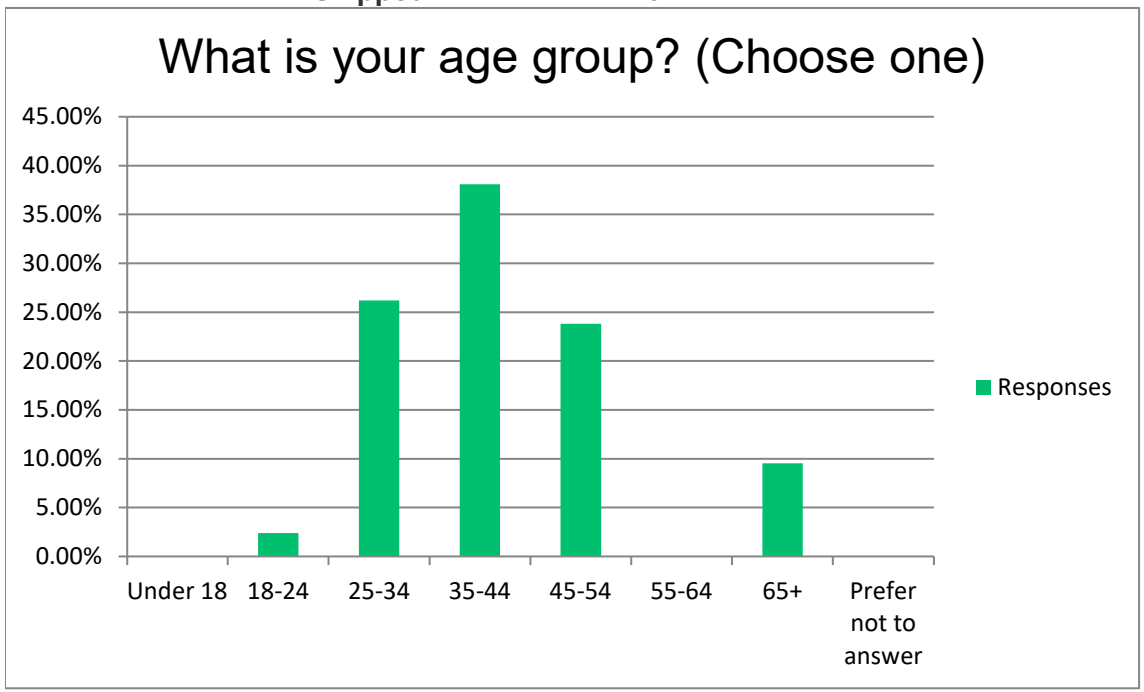
City of South Gate Local Hazard Mitigation Plan Community Survey

What is your age group? (Choose one)

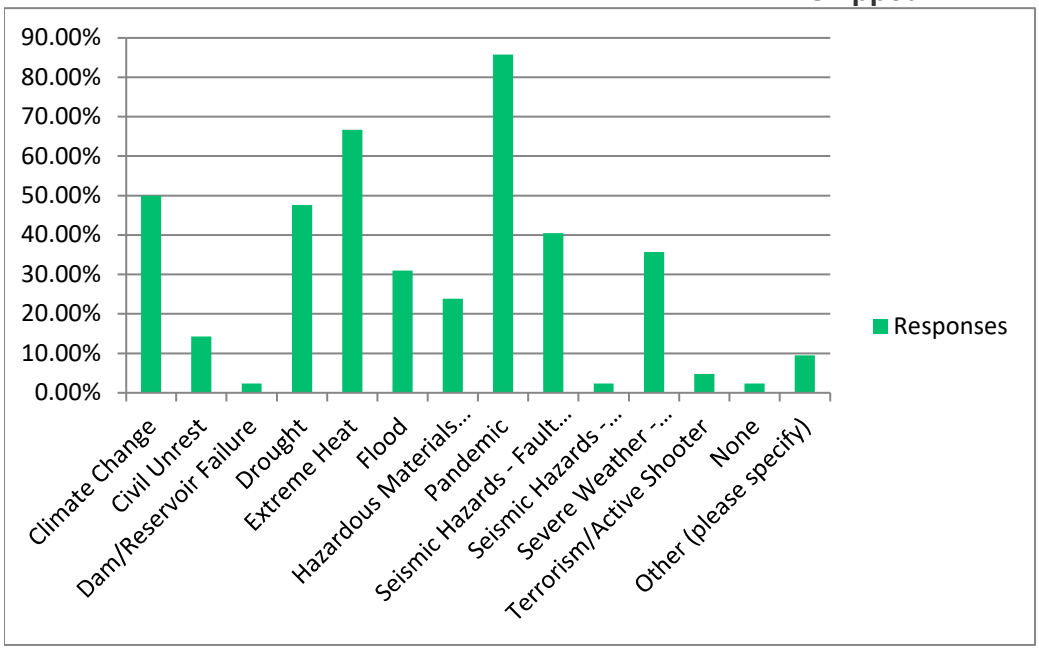
Answer Choices	Responses	
Under 18	0.00%	0
18-24	2.38%	1
25-34	26.19%	11
35-44	38.10%	16
45-54	23.81%	10
55-64	0.00%	0
65+	9.52%	4
Prefer not to answer	0.00%	0
	Answered	**42**
	Skipped	**0**



City of South Gate Local Hazard Mitigation Plan Community Survey

Which of the following types of disasters/hazards have you or someone in your household experienced while residing and/or working in South Gate? (Check all that apply)

Answer Choices	Responses	
Climate Change	50.00%	21
Civil Unrest	14.29%	6
Dam/Reservoir Failure	2.38%	1
Drought	47.62%	20
Extreme Heat	66.67%	28
Flood	30.95%	13
Hazardous Materials Incidents/Spills	23.81%	10
Pandemic	85.71%	36
Seismic Hazards - Fault Rupture/Ground Shaking	40.48%	17
Seismic Hazards - Landslide/Liquefaction	2.38%	1
Severe Weather - Windstorms/Santa Ana Winds/ Tornados	35.71%	15
Terrorism/Active Shooter	4.76%	2
None	2.38%	1
Other (please specify)	9.52%	4
	Answered	**42**
	Skipped	**0**

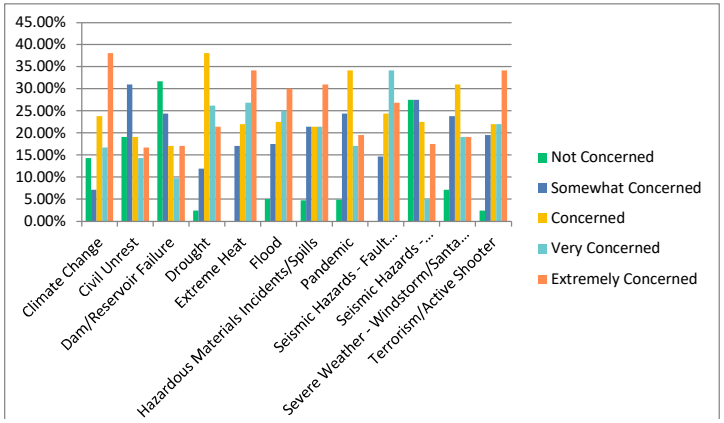


Other (please specify)
Sometimes when it rains our streets get flooded. And trees fall over.
Gas lines breaking and leaking
Jet fuel dumping
Severe road damage

City of South Gate Local Hazard Mitigation Plan Community Survey

The following hazards could potentially impact the City of South Gate and may be addressed in the Hazard Mitigation Plan. Please indicate the level of concern you perceive for each hazard that may affect you and the City's critical facilities and infrastructure. (Please check ONE response for each hazard)

	Not Concerned		Somewhat Concerned		Concerned		Very Concerned		Extremely Concerned		Total
Climate Change	14.29%	6	7.14%	3	23.81%	10	16.67%	7	38.10%	16	42
Civil Unrest	19.05%	8	30.95%	13	19.05%	8	14.29%	6	16.67%	7	42
Dam/Reservoir Failure	31.71%	13	24.39%	10	17.07%	7	9.76%	4	17.07%	7	41
Drought	2.38%	1	11.90%	5	38.10%	16	26.19%	11	21.43%	9	42
Extreme Heat	0.00%	0	17.07%	7	21.95%	9	26.83%	11	34.15%	14	41
Flood	5.00%	2	17.50%	7	22.50%	9	25.00%	10	30.00%	12	40
Hazardous Materials Incidents/Spills	4.76%	2	21.43%	9	21.43%	9	21.43%	9	30.95%	13	42
Pandemic	4.88%	2	24.39%	10	34.15%	14	17.07%	7	19.51%	8	41
Seismic Hazards - Fault Rupture/Ground Shaking	0.00%	0	14.63%	6	24.39%	10	34.15%	14	26.83%	11	41
Seismic Hazards - Landslide/Liquefaction	27.50%	11	27.50%	11	22.50%	9	5.00%	2	17.50%	7	40
Severe Weather - Windstorm/Santa Ana Winds/Tornados	7.14%	3	23.81%	10	30.95%	13	19.05%	8	19.05%	8	42
Terrorism/Active Shooter	2.44%	1	19.51%	8	21.95%	9	21.95%	9	34.15%	14	41
Other (please specify)											4
										Answered	**42**
										Skipped	**0**



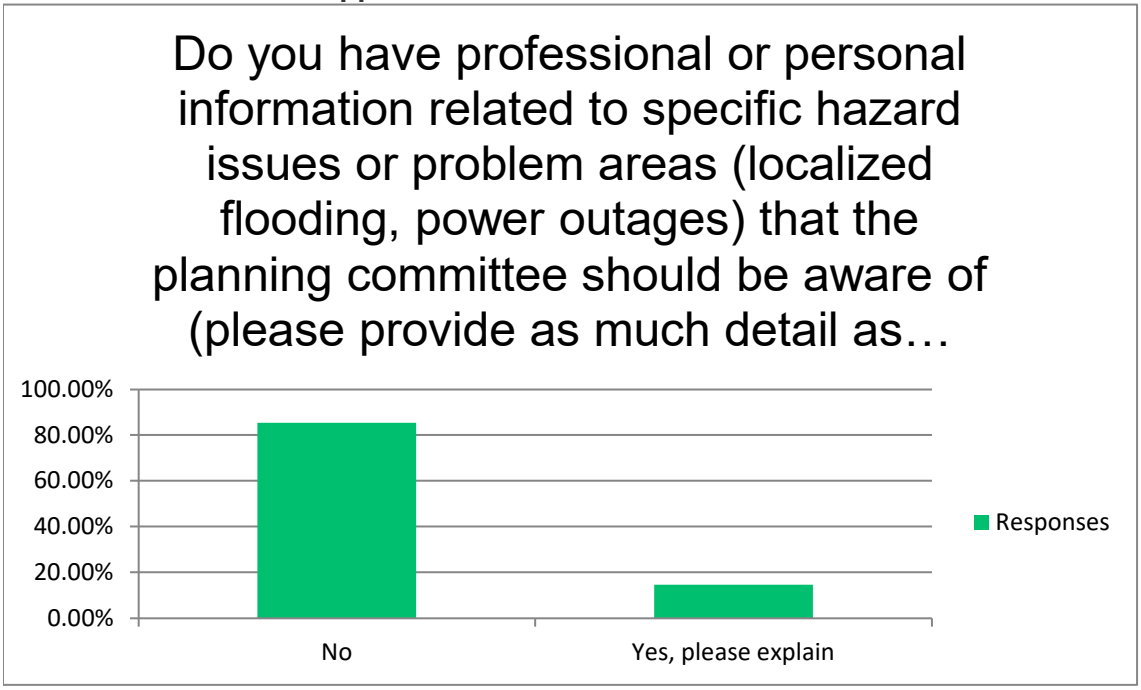
Other (please specify)
Concern over a mass shooting at el paseo shopping center specifically the Walmart store.
I'm scared of these crazy mother[Redacted] that are killing us with their (AR-15) assault rifle weapons. And these [Redacted] reckless [Redacted] that drive like NASCAR racecar drivers and are killing us with their cars.*
School safety

* Comment submitted twice

City of South Gate Local Hazard Mitigation Plan Community Survey

Do you have professional or personal information related to specific hazard issues or problem areas (localized flooding, power outages) that the planning committee should be aware of (please provide as much detail as possible, including location and type of hazard)?

Answer Choices	Responses	
No	85.37%	35
Yes, please explain	14.63%	6
	Answered	**41**
	Skipped	**1**

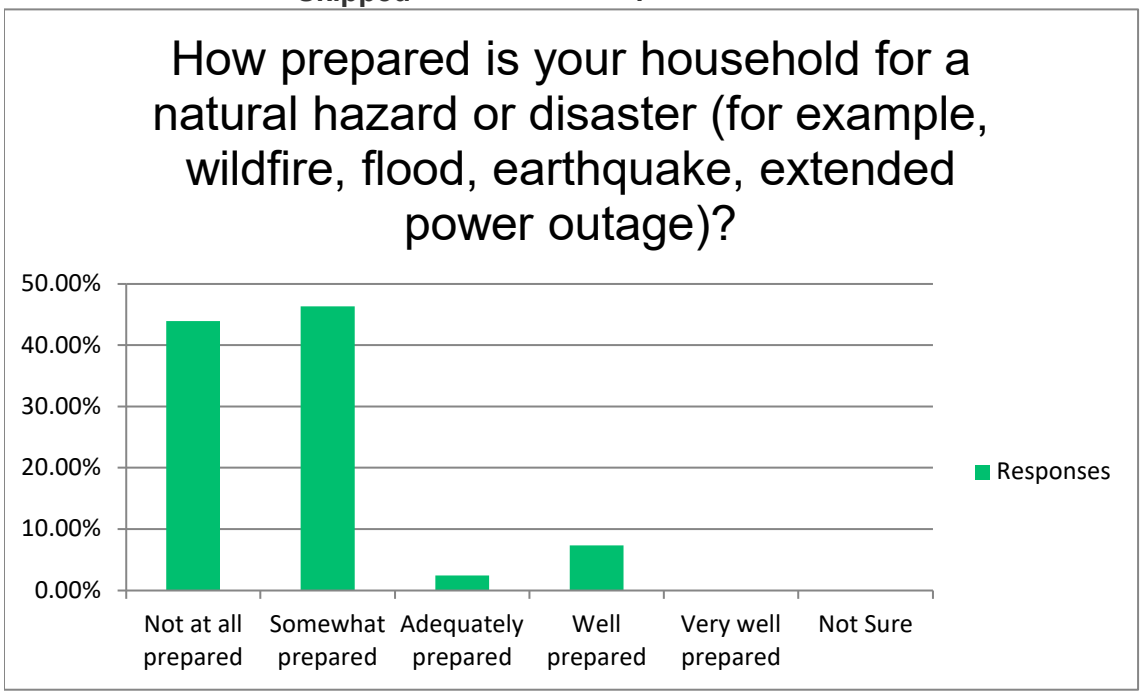


Responses
Flooding throughout the streets during heavy rain that result in areas with water that does not easily dry after rain. This causes mosquitos in the area, can't easily park in the street(capistrano ave 90280)
A few years ago sidewalk kept caving in along little Alameda, north of Nebraska I believe.
Residential streets always flooding Liberty Blvd & State between Mountain View & Otis
Was a victim of the delta spill
Sink holes are developing in southern boundaries of South Gate
All I can say is that sometimes when it rains heavily our streets do get flooded. I would like for our city to have some solution as to minimizing the amount of rainwater that collects onto our streets, during big down pours.

City of South Gate Local Hazard Mitigation Plan Community Survey

How prepared is your household for a natural hazard or disaster (for example, wildfire, flood, earthquake, extended power outage)?

Answer Choices	Responses	
Not at all prepared	43.90%	18
Somewhat prepared	46.34%	19
Adequately prepared	2.44%	1
Well prepared	7.32%	3
Very well prepared	0.00%	0
Not Sure	0.00%	0
	Answered	**41**
	Skipped	**1**



City of South Gate Local Hazard Mitigation Plan Community Survey

Have you taken actions to make your home, business, or neighborhood more resistant to hazards (such as anchored furniture and service utilities, installed smoke detectors, regularly trim trees, fire smart landscaping, install drought tolerant landscaping, etc.)?

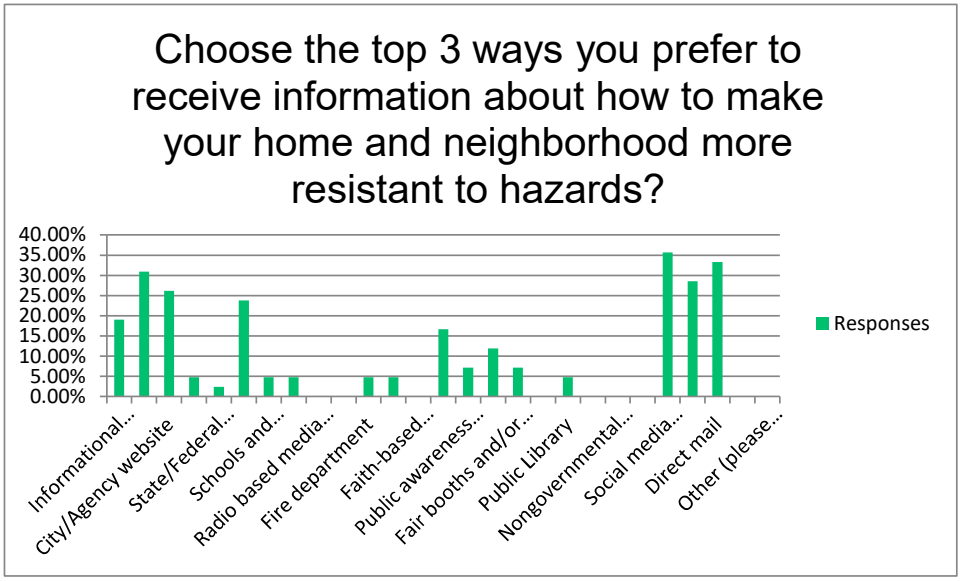
Answer Choices	Responses	
No	68.29%	28
Yes, please explain	31.71%	13
	Answered	**41**
	Skipped	**1**

Yes, please explain
Smoke detectors.
Smoke detectors, drought-friendly ground covering
installed smoke detectors, regularly trim trees, fire smart landscaping
We do have smoke detectors throughout the house.
Annual repairs or repairs as required
Almost all of the above, plus earthquake kit
Anchored furniture Smoke and carbon monoxide detectors The city is very slow on tree trimming
new roofs, trim trees, install smoke alarms.
Smoke detectors, extra water, furniture anchored
Smoke detectors
Necessary essentials
Smoke detectors, backup generator, emergency food, emergency bags
We do have smoke detectors throughout the house.

City of South Gate Local Hazard Mitigation Plan Community Survey

Choose the top 3 ways you prefer to receive information about how to make your home and neighborhood more resistant to hazards?

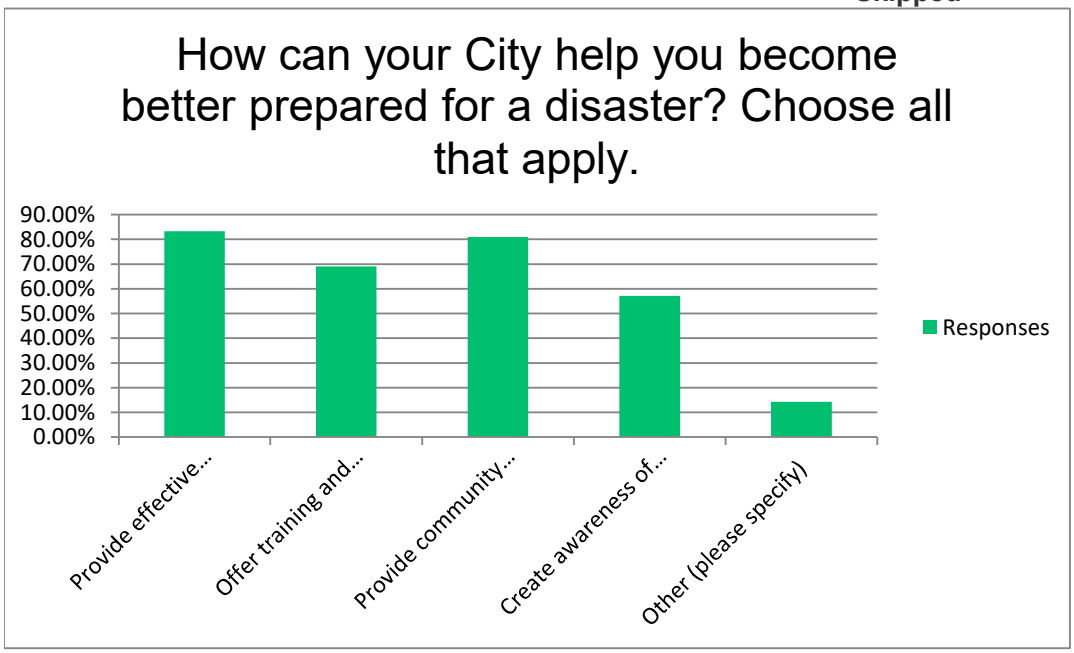
Answer Choices	Responses	
Informational brochures	19.05%	8
City/Agency newsletters	30.95%	13
City/Agency website	26.19%	11
County website	4.76%	2
State/Federal website	2.38%	1
Public meetings, workshops, and/or classes	23.81%	10
Schools and academic institutions	4.76%	2
TV based media (news and public service announcements)	4.76%	2
Radio based media (news and public service announcements)	0.00%	0
National Weather Service website	0.00%	0
Fire department	4.76%	2
Law enforcement	4.76%	2
Faith-based institutions	0.00%	0
CERT classes	16.67%	7
Public awareness campaigns	7.14%	3
Community safety events	11.90%	5
Fair booths and/or festivals	7.14%	3
Books and/or magazines	0.00%	0
Public Library	4.76%	2
Chamber of Commerce	0.00%	0
Nongovernmental organization (Red Cross)	0.00%	0
Auto-dial information from "911" center	0.00%	0
Social media (Twitter, Facebook, LinkedIn)	35.71%	15
Email	28.57%	12
Direct mail	33.33%	14
Word of mouth	0.00%	0
Other (please specify)	0.00%	0
	Answered	**42**
	Skipped	**0**



City of South Gate Local Hazard Mitigation Plan Community Survey

How can your City help you become better prepared for a disaster? Choose all that apply.

Answer Choices	Responses	
Provide effective emergency notifications and communication in a dis	83.33%	35
Offer training and education to residents and business owners on hov	69.05%	29
Provide community outreach regarding emergency preparedness.	80.95%	34
Create awareness of special needs and vulnerable populations.	57.14%	24
Other (please specify)	14.29%	6
	Answered	**42**
	Skipped	**0**

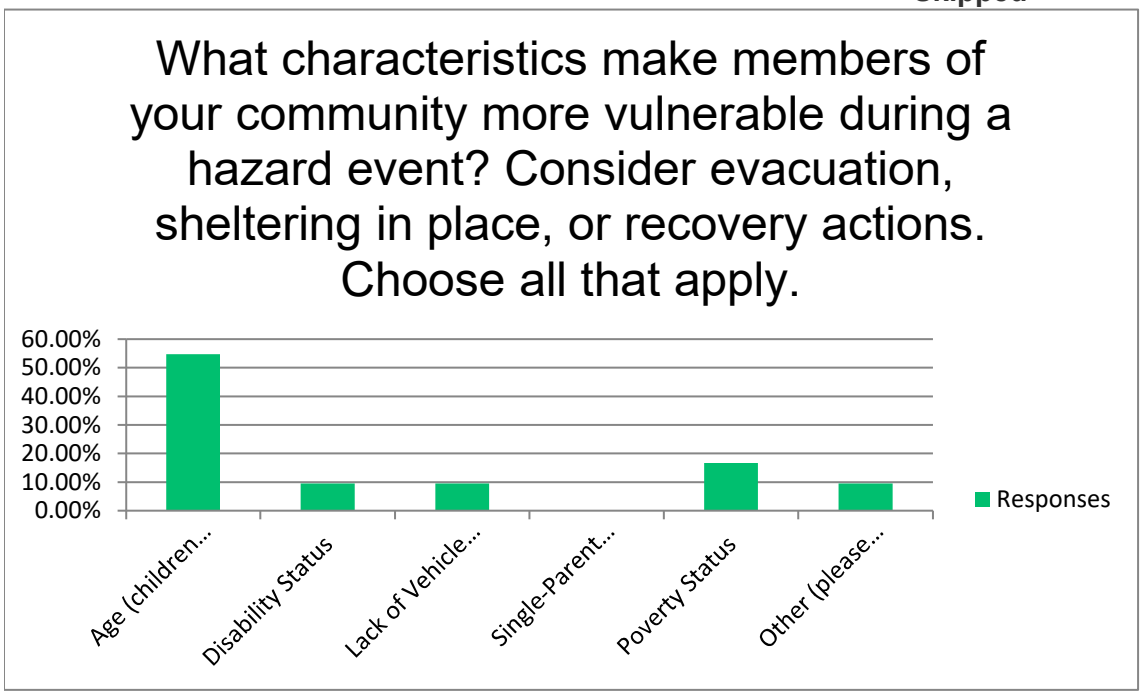


Other (please specify)
I would like to see our city put information that would help better prepare us on its city website. And for them to send out emails to the residents that have signed up to receive them.
Need a good emergency plan
Provide these things in a timely manner unlike when the tropical storm hit us and South Gate was the last city to provide any info about sandbags. It was too little, too late. Do better time wise
The city of South gate, in comparison to its immediate surrounding cities, is the slowest to update on any activity be they good or bad on all of its social media sites. Considering the fact that probably 99% of its population engages daily on Facebook, Instagram, and other platforms.. it would be of GREAT help if the cities social media group could be faster to update on events and emergencies. We shouldn't have to call and get a rude person to address valid questions that could have easily been a post.
Provide community ourtreach regarding emergency preparedness materials in Spanish
Social media posts/videos

City of South Gate Local Hazard Mitigation Plan Community Survey

What characteristics make members of your community more vulnerable during a hazard event? Consider evacuation, sheltering in place, or recovery actions. Choose all that apply.

Answer Choices	Responses	
Age (children under the age of 18 or seniors over the age of 65)	54.76%	23
Disability Status	9.52%	4
Lack of Vehicle or Reliable Transportation	9.52%	4
Single-Parent Households	0.00%	0
Poverty Status	16.67%	7
Other (please specify)	9.52%	4
	Answered	**42**
	Skipped	**0**



Other (please specify)
This questions says "Choose all that apply" but respondents can only select one option
All of the above
All apply
Pregnant

City of South Gate Local Hazard Mitigation Plan Community Survey

Please utilize the space below to provide any additional comments or insight into how local natural hazards or disasters should be mitigated.

Answered 24

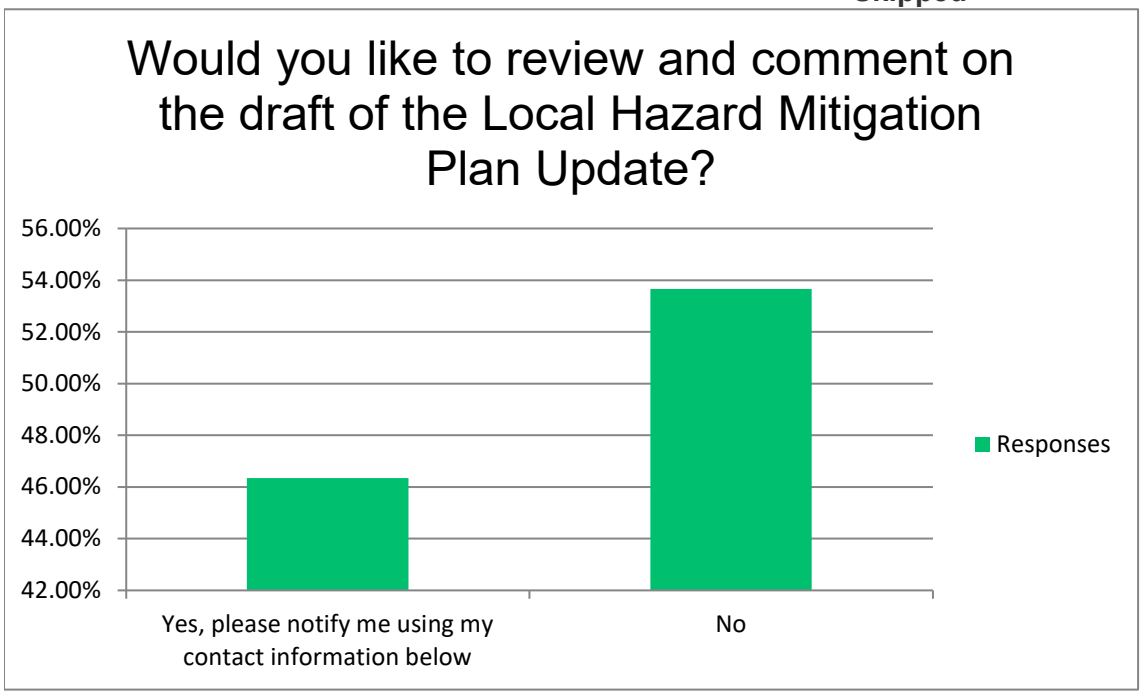
Skipped 18

Responses
Not an answer to this question, but is this survey available in Spanish? It would be a disservice to South Gate residents to not survey monolingual Spanish speakers/readers.
Provide emergency supplies/kits to families and aggressive community outreach events to provide emergency preparedness information and training.
None
There needs to be better coordination between agencies during big event disasters. Especially during active shooter incidents.
An app for South Gate residents/business owners that can alert of emergencies
Improving surface to travel. I.e building bridges from southern to frontage road.
We need more green spaces and trees to help the high pollution we have in the area due to location of freeways and factories
Emergency preparedness webinars
Proactively cleaning waste to prevent floods- taking care of potholes
Residents need to be informed, via text or social media. Delta fuel dump was a disaster in every way. I personally didnt know what to do or what had happened when the smell showed up.
More resources to help with community preparedness
Investing in the infrastructure of our city, roads, local businesses and financial help for renters to be able to purchase their forever homes.
I think sg should have a climate adaptation AND mitigation plan, considering the amount of industry. Community engagement beyond a survey should also be a componente
We need to remember that Hollydale is also part of South Gate and should also be taken care of.
More involvement in the community
The lack of trees in South Gate should be looked at to address climate change. The area get very hot in the Summer. Most residents cannot afford air conditioning and suffer extreme heat. I worry about the elderly and children. Perhaps the city can fund more cooling stations during the summer.
A local emergency notification system would have helped wonders during the delta fuel dump
I would like to see more funding from the County, State, and Federal Government into hazardous prevention.
Living by the LA River, one of the biggest concerns for hazards I have, especially in a post-climate change future, is the potential for localized flooding in my area (Hollydale). Having studied green infrastructure in undergrad, I know how impactful such infrastructure can be in preventing damage and adapting our cities to our uncertain future. I recommend the City to use funds, whether from FEMA or other federal and state agencies, to develop and implement public works projects that make our communities more adaptable to water. Such projects can include amending the Hollydale Regional Park redesign to include a wetland component close to the river; replace impervious surfaces in alleyways/parking lots/other low traffic spaces with permeable pavements; establish a native landscape rebate program to encourage property owners to switch to water tolerable landscaping; and update storm water infrastructure and management practices.

City of South Gate Local Hazard Mitigation Plan Community Survey

Would you like to review and comment on the draft of the Local Hazard Mitigation Plan Update?

Answer Choices	Responses	
Yes, please notify me using my contact information below	46.34%	19
No	53.66%	22
	Answered	**41**
	Skipped	**1**



If you would like to be notified of future opportunities to participate in hazard mitigation and resiliency planning, please provide your name and contact info:

Answer Choices	Responses	
Name	100.00%	21
Email	100.00%	21
Phone	85.71%	18
	Answered	**21**
	Skipped	**21**

B.2 - 2

LHMP Web Content

Local Hazard Mitigation Plan

The City of South Gate recently initiated a comprehensive update of their safety and emergency planning strategy and planning documents including the General Plan Safety Element, Emergency Operations Plan (EOP) and Local Hazard Mitigation Plan (LHMP).

The LHMP presents a strategy for reducing the City's vulnerability to the impacts of natural hazard events such as wildfire, earthquakes, and drought. This plan will identify opportunities for the City of South Gate to become more resilient to hazards in the future.

What is a Hazard Mitigation Plan?

A Hazard Mitigation Plan is a framework that guides our community in making decisions and developing policies to reduce or eliminate risk to life and property. The plan identifies the types of hazards that threaten our community, evaluates our vulnerability to those threats, and outlines a strategy to reduce or eliminate the risk posed by those threats.

Why is the plan important?

The Federal Disaster Mitigation Act of 2000 (DMA 2000) requires that a community have an approved hazard mitigation plan to be eligible to for and receive certain types of FEMA hazard mitigation funds. Receip these funds can be critical to implementation of identified hazard miti programs that break the cycle of disaster, damage, restoration, and repeated damage.

How is a Local Hazard Mitigation Plan developed?

The ultimate goal of a LHMP is to identify and address hazards specific South Gate, identify mitigation actions to reduce the severity and impa each hazard, and achieve certification by FEMA for hazard mitigation funding.

The LHMP primarily consists of three components:

- Hazard Profiles: type, location, extent, previous occurrences, probabi future events.
- Vulnerability Assessment: impacts of hazards, vulnerability to each l repetitive loss, potential dollar losses
- Mitigation Strategies: overarching goals, specific actions, and priorit of those actions to reduce hazard impacts

The LHMP is developed from a process-oriented approach, utilizing the experience from community partners such as neighboring cities and L Angeles County, as well as outside agencies and nonprofit organizatic The community partners provide key stakeholder input on the hazard profiles, vulnerability assessment and mitigation strategies as outlined above. This participation is documented and incorporated into the LHI Additionally, the LHMP will identify how the plan will be monitored, eval and updated within a five-year cycle.

Once completed, the LHMP is submitted to the California Governor's Of Emergency Services (Cal OES) and FEMA for review and comment. Onc conditional approval is received from Cal OES and FEMA, the LHMP is approved locally by the City of South Gate.

How can the public become involved in the hazard mitigation planning process?

Public participation in the process is important because it helps raise awareness of the hazards we face in South Gate and the actions neec mitigate those hazards. By participating in the process, you will be tak time to consider the hazards in our community, the impact of those ha on life and property, actions that need to be taken to reduce that impa and the priority of these actions. The LHMP Planning Team will conside input from the public and integrate it into the plan where appropriate. Opportunities for the community to provide input, ask questions, and review/comment on draft documents will be provided throughout the planning process. Your comments, questions, ideas, and concerns wil a significant role in the plan's preparation.

TAKE OUR SURVEY (https://www.surveymonkey.com/r/KCS7J5R). Beginning this fall, the LHMP community survey will be available via SurveyMonkey. This survey will help the LHMP Planning Team better understand the community's concerns about natural hazards and ide policies and projects that can help lessen the impact of future hazard events. The survey provides the opportunity for you to share your opir and participate in the mitigation planning process. The survey should approximately 10 minutes to complete and is anonymous. Your inform will be kept confidential. The final results of the survey will be included the LHMP.

COMMUNITY OUTREACH EVENT. A community outreach event will be h order to engage the public and provide further opportunity for commu input. You are encouraged to attend the community outreach event a

share your specific knowledge about hazards and hazard mitigation i
community. This is also an opportunity to be informed on the progress
status of the LHMP process.

PUBLIC REVIEW DRAFT LHMP. The LHMP will be made available for a tw
public review period (anticipated to occur in early Fall 2023), where th
welcomes your comments and questions.

CONTACT US

Contact the City with questions and comments via email:
scamacho@sogate.org

DRAFT DOCUMENTS

Once available, draft documents will be posted here for review and comment

This survey will help the LHMP Planning Team better understand the community's concerns about natural hazards and identify policies an projects that can help lessen the impact of future hazard events. The provides the opportunity for you to share your opinions and participat mitigation planning process. The survey should take approximately 10 to complete and is anonymous. Your information will be kept confiden final results of the survey will be included within the LHMP.

Contact Us

Lieutenant Sergio Camacho
[redacted]

B.2 - 3

Community Outreach Event


Welcome!
¡Bienvenido!
City of South Gate
Ciudad de South Gate
Hazard Mitigation
free snacks!
Mitigación de Riesgos
¡merienda gratis!


Hazard Ranking Activity
INSTRUCTIONS: Use the provided dot stickers to select 5 natural hazards you are most concerned about in South Gate.
Earthquake/Fault Rupture
Sudden violent shaking of the ground due to seismic activity
El terremoto
Extreme Heat
Period of high heat and humidity
Calor extremo
Es un período de mucho calor y humedad
Flood
Overflow of water beyond normal confines
Las inundaciones
Ocurren cuando el agua inunda un terreno que normalmente está seco
Hazardous Materials Spill
Uncontrolled release of material posing risk to humans or environment
Los derrames de materiales peligrosos

Hazard Ranking Activity

INSTRUCTIONS: Use the provided dot stickers to select 5 natural hazards you are most concerned about in South Gate.

Civil Unrest
Mass public disturbance involving acts of violence

Disturbios civiles
una alteración del orden público que se produce como consecuencia de violencia masiva

Dam/Reservoir Failure
Structural failure characterized by the sudden, uncontrolled release of impounded water

La falla de una presa
Un tipo de falla catastrófica que se caracteriza por la liberación repentina, rápida y descontrolada de agua embalsada

Disease & Pest
Pathogenic or disease-carrying organisms that cause harm to plants, animals, or humans

Las enfermedades y plagas
Las enfermedades tienen unos organismos que dañan las plantas, los animales y los seres humanos

Drought
Prolonged period of abnormally low rainfall

La sequía
Tiempo seco de larga duración

Earthquake/Fault Rupture
Sudden violent shaking of the ground due to seismic activity

El terremoto
Los movimientos bruscos y repentinos de la Tierra. es el resultado del deslizamiento y la fricción entre las placas tectónicas

Extreme Heat
Period of high heat and humidity

Calor extremo
Es un período de mucho calor y humedad

Flood
Overflow of water beyond normal confines

Las inundaciones
Ocurren cuando el agua inunda un terreno que normalmente está seco

Hazardous Materials Spill
Uncontrolled release material posing risk t humans or environme

Los derrames de materiales peligrosos
Las emanaciones o pérdid de gases peligrosos o sustancias químicas al ambiente


Hazard Ranking Activity
INSTRUCTIONS: Use the provided dot stickers to select 5 natural hazards you are most concerned about in South Gate.
Landslide
Hillside failure due to over saturation or seismic activity
El corrimiento de tierra
Pandemic
Widespread or worldwide occurrence of infectious disease
Pandemia
Heavy Rain or Hail
Period of uncharacteristically heavy precipitation
Las fuertes lluvias o el granizo
Un tiempo de lluvia excesivas y fuertes
Terrorism/Active Shooter Threat
Violence against civilians in the pursuit of political aims
Un incidente terrorista o de tirador activo
Violencia contra los civiles en la búsqueda de objetivos políticos
Power Outage
A disruption in the supply of electricity
Apagón / corte de energía
Cuando la energía se corta inesperadamente
Liquefaction
When Earth's surface acts as a liquid because of seismic ground shaking
La licuefacción de suelos
Un fenómeno por el cual el suelo se vuelve "líquido"
Windstorm/ Tornado
Period of uncharacteristically strong wind
El ventarrón/ el tornado
Viento que sopla con mucha fuerza y una columna de aire con alta velocidad


Welcome!
¡Bienvenido!
City of South Gate
Ciudad de South Gate
Hazard Mitigation
free snacks!
Mitigación de Riesgos
¡merienda gratis!
ADMINISTRATION


¡Bienvenido!
Ciudad de South Gate
Mitigación de Riesgos
¡merienda gratis!
What are Community Lifeli
Safety & Security
Food, Water, Shelter
Energy
Communications
Transportation

B.3

Public Review Documentation

Marchese, Casey

From: Anderson, Noelle
Sent: Friday, April 5, 2024 10:55 AM
To: [redacted]
Cc:
Subject: RE: City of South Gate LHMP Stakeholder Meeting #2

All,

A friendly reminder that all comments/feedback on the City of South Gate LHMP are due by COB, **Monday, April 8th.** Please reach out if there are any questions or comments regarding the LHMP.

Thank you, and have a wonderful weekend –

Noelle

Noelle Anderson | Project Manager – Planning Department
5 Hutton Centre Drive, Suite 500 | Santa Ana, CA 92707 | [O] 949-855-3683 | [M] 949-633-6183
noelle.anderson@mbakerintl.com | www.mbakerintl.com

Michael Baker INTERNATIONAL | *We Make a Difference*

From: Anderson, Noelle
Sent: Monday, April 1, 2024 6:17 PM
To: Marchese, Casey [redacted]
Subject: RE: City of South Gate LHMP Stakeholder Meeting #2

All,

Thank you for your continued collaboration regarding the South Gate Local Hazard Mitigation planning process. As promised, please find the draft South Gate LHMP available for review and comment via the SharePoint link below: https://mbakerintl.sharepoint.com/:f:/r/sites/SouthGateLHMPforStakeholderReview/Shared%20Documents/General?csf=1&web=1&e=wxCcIj. Please provide comments/feedback on the relevant LHMP Sections by **COB, April 8th.**

Please note this document is not for public review – do not distribute the LHMP for public review at this time.

- Documents are included in the teams channel in Microsoft Word and PDF – please make any comments or changes in redline/strikeout within any relevant Word files.
- Note that differences in downloaded fonts and accessing Word Documents via Microsoft Teams may alter our formatting in Microsoft Word – just pointing out for awareness if there are misplaced table breaks/line breaks in the document, and refer to our PDFs for final formatted documents.
- Also understand that the LHMP is long and includes a ton of content. If anyone is short on time in reviewing – the most critical plan content is located within Section 5 (Mitigation Actions) and Section 4 (Hazard Profiles and Vulnerability Assessment). Time focused on review/feedback within this section is most valuable for our team.

Please let me know if there's any issues with document access or retrieval. Thank you again for your assistance in helping our team prepare this deliverable on behalf of the City of South Gate.

Noelle

Noelle Anderson | Project Manager – Planning Department
5 Hutton Centre Drive, Suite 500 | Santa Ana, CA 92707 | [redacted]
[redacted] | www.mbakerintl.com

Michael Baker INTERNATIONAL | *We Make a Difference*

-----Original Appointment-----
From: Anderson, Noelle
Sent: Monday, March 18, 2024 2:55 PM
To: [redacted]
Subject: City of South Gate LHMP Stakeholder Meeting #2
When: Monday, April 1, 2024 2:00 PM-3:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

All – Looking forward to our meeting this coming Monday. Please find the attached agenda and mitigation action matrix for use during our final meeting. Please note this mitigation action matrix is still in draft form and not for

public distribution. We will have the opportunity to review, discuss and add mitigation actions during this stakeholder meeting. Thank you! – Noelle

Hello,

You were selected by the City of South Gate as a member of the Local Hazard Mitigation Plan (LHMP) Stakeholder Committee, and were invited to participate during the LHMP Stakeholder Meeting #1 (October 2023) and Focus Group Meetings (November 2023). The **Local Hazard Mitigation Plan** is a key City document that evaluates risk to natural and human-caused hazards, and identifies mitigation actions to reduce vulnerability from those hazards.

Please join the LHMP Stakeholder Committee for a conclusionary meeting to discuss key vulnerability findings and mitigation actions. The LHMP will be presented to the Stakeholder Committee for a one-week review and comment period. We understand the importance of your time – meetings will be structured to maximize results and minimize "homework" outside of the meeting block. **If you are unable to participate, please forward this meeting invitation to another representative in your organization.**

Agendas will be provided prior to each meeting via this email chain.

The City previously prepared a Local Hazard Mitigation Plan with their contractor Michael Baker International in 2018. The previous LHMP can be found here: https://www.cityofsouthgate.org/Business-Development/City-Growth-Plans-Strategy/Local-Hazard-Mitigation-Plan

We appreciate your time and commitment. Your involvement will ensure a comprehensive and robust update that meets Cal OES/FEMA requirements. Please reach out if you have any questions regarding the LHMP or the update process.

Thank you,

Noelle Anderson

Noelle Anderson | Project Manager – Planning Department
5 Hutton Centre Drive, Suite 500 | Santa Ana, CA 92707 | [redacted]
[redacted] | www.mbakerintl.com

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Microsoft Teams meeting

Join on your computer, mobile app or room device
Click here to join the meeting

[redacted]

[redacted]

Download Teams | Join on the web

Join with a video conferencing device

[redacted]

[redacted]

Alternate VTC instructions

Or call in (audio only)

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[redacted]

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