



Berger N. Firefighters work to keep the Oak Fire from reaching a home in the Jerseydale community of Mariposa County, Calif., on Saturday, July 23, 2022. Associated Press. <https://apnews.com/article/wildfires-fires-california-evacuations-department-of-forestry-and-fire-protection-3b924a9d041b37acdc57e4b4eb8a64fe> Published July 23, 2022. Accessed April 12, 2023.

WILDFIRE OUTBREAK

Emergency Operations Plan

County of Los Angeles, CA



NYU

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Spring 2023 | GPH-GU 5210 - Global Health Disaster Preparedness & Response

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PREFACE

Fire is integral to a healthy ecosystem, clearing decayed growth while preparing seed beds for new life (1). Wildfires, however, have a significant environmental impact because they disrupt ecosystems, cause soil erosion, and release large amounts of carbon dioxide into the atmosphere. California’s topography, climate, and vegetation unfortunately creates a “world class” fire environment (1). Wildfire season typically begins in late summer or early fall, when vegetation has dried up after months of hot weather and the Santa Ana winds strengthen, pushing hot, dry air toward the coast. There are immense economic and social impacts from wildfires, as these disrupt the lives of residents, force businesses to close, cause power outages and lead to evacuations.

The top seven largest fires (by acreage) in California occurred in the last five years, five of which were between August to September 2020 (2), including the unprecedented August Complex fire of August 2020 spanned 1,032,648 acres, destroyed 935 structures, and threatened seven counties (2). As of April 12, 2023, the California Department of Forestry and Fire Protection (CAL FIRE) and the United States Forest Service has recorded 340 wildfires and 110 acres burned (3).

LOS ANGELES COUNTY

Approximately 9.8 million people reside in Los Angeles (LA) County, 49.1% of which identify as Hispanic or Latino, 25.3% White, 15.6% Asian and 9.0% Black (4). 21.1% are aged under 18 years while 14.6% are over the age of 65 (4). There is approximately 2.94 persons per household. The 2021 median household income is \$76,367, and a 14.1% poverty rate (4).

DEPARTMENT OF PUBLIC HEALTH

LA County’s 4,300 square miles is divided into eight service planning areas: Antelope Valley, San Fernando Valley, San Gabriel Valley, Metro, West, South, East, and South Bay (including Catalina Island) (Figure 1) (5). The Los Angeles County Department of Public Health (LADPH) operates fourteen public health centers that provide free or low-cost services, focusing on population-level interventions such as immunizations and testing (6).

This wildfire-specific plan is the LADPH’s contribution to the Los Angeles Operational Area Emergency Response Plan (OAERP), last updated June 2012 (7). With increasing occurrences of extreme weather in Southern California, it is imperative that we remain vigilant and prepared to protect and care for Angelenos.



Figure 1: Map of LADPH Service Planning Areas (SPAs) (6)

SIGNATURE PAGE

The undersigned have reviewed, approved in full, and will support implementation of the following Wildfire Outbreak Response for Los Angeles County, California.

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Interim Fire Chief, Los Angeles County Fire Department

Date

Jon O'Brien
Acting Chief Deputy, Los Angeles County Fire Department - Emergency Operations

Date

MISSION

The Los Angeles County Department of Public Health's mission is to advance the conditions that support optimal health and well-being for all persons in Los Angeles County while reducing risk factors and disease burdens of preventable communicable diseases. Wildfires are a common occurrence in Los Angeles County and can harm not only the LA community, but outside communities as well.⁸ The LADPH educates the public and takes steps to ensure public safety from the drifting smoke and damage caused by wildfires.

PLAN OBJECTIVES

The main objectives of this plan are to:

1. Identify the authorities most responsible for carrying out effective emergency response in the event of a wildfire in Los Angeles County.
2. Outline both internal and external communications to facilitate response.

AUTHORITIES

Local:

Emergency Management Council (EMC)
Emergency Network Los Angeles (ENLA)
Los Angeles County Fire Department - Fire Hazard Reduction Program
MySafe: LA - Fire safety and community resilience
Office of Emergency Management (OEM)
Sirens of Silence- LA County Fire Department's program for those with special needs

State:

California Emergency Council
California Air Resources Board (CARB)
California Department of Forestry and Fire Protection (CAL FIRE)
PUBLIC RESOURCES CODE - PRC
DIVISION 4. FORESTS, FORESTRY AND RANGE AND FORAGE LANDS [4001 - 4958](Division 4 repealed and added by Stats. 1965, Ch. 1144.)

PART 2. PROTECTION OF FOREST, RANGE AND FORAGE LANDS [4101 - 4789.7]
(Part 2 added by Stats. 1965, Ch. 1144.)

State Board of Forestry

Partners:

American Red Cross
Federal Emergency Management Agency (FEMA)
FireGuard (National Guard Wildfire-fighting program)

DEFINITIONS

The Los Angeles Wildfire Outbreak refers to a period of time when multiple wildfires occur in and around the Los Angeles metropolitan area. These wildfires are typically caused by a combination of factors, including dry weather, high winds, and human activities such as campfires or discarded cigarettes. The severity of the wildfires can vary from year to year, but they often have a significant impact on the environment, wildlife, and local communities.

To prevent wildfires from starting, governments and organizations in the region (for example: Community Emergency Response teams, the Emergency Survival Program (ESP) and the Fire Hazard Reduction Program) will take steps such as enforcing fire restrictions during the drought and clearing houses and power lines surrounding vegetation, and controlled burning to reduce the amount of fuel available for wildfires. When wildfires break out, firefighters and first responders work around the clock to contain the fires and protect affected communities.

Pertinent terms delineated in the Los Angeles Operational Area Emergency Response Plan (OAERP) Glossary (7):

- **Community Emergency Response Team (CERT):** Provide CERT training to communities to equip them to better prepare and respond to emergency situations. When emergencies happen, CERT members can give critical support to first responders, provide immediate assistance to victims, and organize spontaneous volunteers at a disaster site.
- **Disaster Communication Services (DCS):** Established in the 1950's as a Civil Defense Operation. Designed to enhance communication in the County by augmenting communication when normal communication systems are impacted.
- **Emergency Alert System (EAS):** A system that enables the President and Federal, State, and local government to communicate through commercial radio and television broadcast stations with the general public in the event of a disaster.
- **Emergency Management Council (EMC):** Created by the Emergency Ordinance to oversee the preparedness activities of the various County departments. This includes preparation of plans, training of County employees for emergency and disaster-related functions, and related emergency preparedness activities.
- **Emergency Network Los Angeles (ENLA):** A network of County of Los Angeles nonprofit CBOs; and VOADs that provide assistance to individuals, families, and organizations following emergencies and disasters.
- **Emergency Operations Center (EOC):** A location from which centralized emergency management can be performed. EOC facilities are established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency. EOCs carry out the role of the multi-agency coordination entity as described in NIMS.
- **Operational Area (OA):** An intermediate level of the State emergency organization, consisting of a county and all political subdivisions within the county area. The County of Los Angeles serves as the lead agency for the County of Los Angeles OA.
- **Office of Emergency Management (OEM):** Created by the Emergency Ordinance. Pursuant to the Emergency Ordinance, the CEO as Director of OEM has complete authority for organizing, directing and coordinating the emergency organization of the County of Los Angeles, consistent with the Sheriff's authority as Director of Emergency Operations.
- **Response Information Management System (RIMS):** The computerized database utilized by State Cal EMA for emergency management information.
- **Wildland Fire:** Any instance of uncontrolled burning in grasslands, brush, or woodlands.

COMMUNICATIONS PLANS

INTERNAL

Community-based surveillance has been identified for wildfire outbreaks and in the event of the first sign of a wildfire, the Los Angeles County Fire Department acts alongside the Department of Public Health for both internal and external communication. The EMC, ENLA, OEM, the Emergency Survival Program (ESP) and the Fire Hazard Reduction Program will enable the Department of Public Health to maintain structure and follow up with all agencies within the local jurisdiction of Los Angeles County responsible for ensuring Community Emergency Response teams (CERT) support all first responders, help victims and maintain order at local assistance centers. Accessibility and communications for those with disabilities will be carried out by the California Department of Rehabilitation as well as the LA Fire Department to ensure that all evacuation and preparedness plans are accessible to those with disability and/or limited mobility. In addition, MySafe: LA is a local organization that works to promote fire safety and community resilience in the aftermath of a wildfire disaster. All internal communications will take place within assigned response groups and any additional communication will be done via cellphone.

EXTERNAL

The Los Angeles County Department of Public Health along with local authorities and national partners are responsible for providing pre and post wildfire outbreak awareness, education and outreach. The DCS, EAS, and EOC work together to disseminate timely and accurate information to civilians in reference to the RIMS emergency management system information. This includes working with local and national media entities to relay important information to the public, as well as hospitals, other emergency centers, businesses, CAL Fire, CARB, The State Board of Forestry, and FireGuard, the National Guard's wildfire fighting program. Public communications regarding the emergency response will be updated and disseminated via the LA DPH website, the Alert LA cellphone app, social media and mass text notification systems.

MUTUAL AID AGREEMENTS

Local authorities will initiate response and recovery from wildfire outbreaks. The local Office of Emergency Management (OEM) will provide leadership and interagency coordination throughout the emergency planning and response. OEM will be the primary agency for shelters and operating the County Emergency Operations Center. Planning and prevention services will be aided by MySafe: LA who will offer community-based fire education and risk prevention, including but not limited to inspection forms, escape plans, and fire safety courses.

While immediate fire response and mitigation efforts will be led by Los Angeles County Fire Department, California Department of Forestry and Fire Protection (CAL FIRE), California Governor's Office of Emergency Services, and Federal Emergency Management Agency will be available to assist in the event that the disaster escalates passed the capacity of Los Angeles County Fire Department.

Los Angeles County Department of Public Social Services (DPSS) will coordinate response efforts by the private and non-profit organizations, like Emergency Network Los Angeles (ENLA), the American Red Cross, the Grocery Industry Mutual Aid Council, and others.

REFERENCES

1. *California Fire Plan*. California Department of Forestry and Fire Protection. Accessed February 25, 2023. <https://www.fire.ca.gov/media/4934/fireplan.pdf>
2. *Top 20 Largest California Wildfires*. California Department of Forestry and Fire Protection. October 24, 2022. Accessed February 25, 2023. https://www.fire.ca.gov/media/4jandlhh/top20_acres.pdf
3. *Statistics*. California Department of Forestry and Fire Protection. Updated April 10, 2023, 2023. Accessed April 12, 2023. <https://www.fire.ca.gov/stats-events/>
4. U.S. Census Bureau. *QuickFacts Los Angeles County, California*. Updated July 1, 2021. Accessed February 26, 2023. <https://www.census.gov/quickfacts/fact/table/losangelescountycalifornia/PST045221>
5. LA County Department of Public Health. *Service Planning Areas*. Accessed February 26, 2023. <http://publichealth.lacounty.gov/chs/SPAMain/ServicePlanningAreas.htm>
6. LA County Department of Public Health. *Public Health Centers*. Accessed February 26, 2023. <http://publichealth.lacounty.gov/chs/Docs/DPH-Clinics.pdf>
7. County of Los Angeles. *Los Angeles County Operational Area Emergency Response Plan*. June 2012. Accessed February 26, 2023. <https://ceo.lacounty.gov/wp-content/uploads/2019/12/OAERP-Approved-Adopted-Version-6-19-2012.pdf>
8. Los Angeles County Department of Public Health. *Wildfire smoke in Los Angeles County*. *Wildfire Smoke | Los Angeles County Department of Public Health - Environmental Health*. <http://www.publichealth.lacounty.gov/eh/safety/wildfire-smoke.htm>. Accessed February 24, 2023.



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Published July 23, 2022. Accessed April 12, 2023.

Public Health Concept of Operations

Wildfire Outbreak Emergency Operations Plan COUNTY OF LOS ANGELES, CALIFORNIA



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Assessing the needs of affected populations during a wildfire

In California, participation in the CDC National Syndromic Surveillance Program¹ allows independently participating local health jurisdictions to offer technical assistance, guidance, and resources¹ to civilians. Public Health and emergency response officials are able to define specific monitoring and response needs that differ based on wildfire proximity and magnitude, and establish relationships and direct lines of communication with other locations (1). In particular, assessing needs begins with defining the priority populations which could be adversely affected by the fires.

When assessing the needs of the affected populations during a wildfire, the various agencies will use a variety of assessment tools. Immediately following the wildfire's outbreak, rapid needs assessments will be conducted in order to assess the health care needs of the residents. Furthermore, assessments will survey injuries and impacts on infrastructure. This phase will not only include assessment, but also emergency dispatches, search and rescue, and other health services as needed. Assessments will take place on a continuous basis during active burning and authorities will continue to monitor the needs of vulnerable populations with decreasing frequency.

In addition to immediate surveys of the affected populations, physical assessments of key infrastructure will be conducted. Assessments of major highways and evacuation routes will be necessary in the beginning in order to assess damage and inform rebuilding efforts. In the event of environmental health hazards, these assessments will provide the proper authorities with an entry point for remediation. Surveillance from healthcare facilities will be important in the long-term to ensure that the affected population are monitored for the health effects of wildfires that might arise in future years.

Vulnerable populations that might require special attention and adaptation resources after the disaster include those in nursing homes, non-English speaking populations, and those with special health care needs. Los Angeles is a very linguistically diverse city and over half of people don't speak English at home (2). These residents require that alert systems and assessments be culturally sensitive and translated into multiple languages, when possible.

References:

1. Wildfires in California | CDC. www.cdc.gov. Published August 21, 2020.
<https://www.cdc.gov/nssp/success-stories/CA-Wildfires.html>
2. Barragan B. More than half of Los Angeles speaks a language other than English at home. Curbed. Nov 4, 2015. Available from: <https://la.curbed.com/2015/11/4/9904020/los-angeles-languages>.

Matched Resources

In recent years, Los Angeles has experienced a series of devastating wildfires, including the Woolsey Fire in 2018 and the Getty Fire in 2019. These fires caused significant damage to homes, businesses, and natural habitats, as well as posing a threat to the safety of individuals in affected areas. To address the needs of those affected by the outbreak, the following resources and actions can be matched.

Emergency Medical Services: Emergency medical services will be made available to individuals who require medical attention due to the outbreak. These services will be equipped with necessary medical supplies and staff to provide immediate assistance to those in need. For example, the Los Angeles County Fire Department has a Wildland Fire Division that is responsible for fighting wildfires and providing medical care to firefighters and other responders. The department also has a specialized Air Operations team that provides air medical transport and support during wildfires.

Information Dissemination: During a wildfire in Los Angeles, information dissemination is crucial for keeping the public informed and safe. There are several local and state agencies that are responsible for providing information to the public during emergencies, including wildfires.

The Los Angeles Fire Department and Los Angeles County Fire Department provide regular updates on the status of wildfires and emergency evacuations through their websites, social media accounts, and emergency alert systems. They also work closely with other local agencies, such as the Los Angeles County Sheriff's Department and the California Highway Patrol, to coordinate emergency response efforts and disseminate information to the public. In addition to these agencies, the California Governor's Office of Emergency Services (Cal OES) and the California Department of Forestry and Fire Protection (Cal Fire) also provide updates and information on wildfires throughout the state, including in Los Angeles.

References:

1. Hauser C. In the path of wildfires, vulnerable communities wait and pray for relief. New York Times. October 2019. Accessed March 10, 2023.
<https://www.nytimes.com/2019/10/31/us/wildfires-vulnerable-communities-california.html>
2. Medina J, Bogel-Burroughs N. Getty Fire: Mandatory evacuations ordered as wildfire rages in Los Angeles. New York Times. October 2019. Accessed March 10, 2023.
<https://www.nytimes.com/2019/10/28/us/getty-fire-los-angeles.html>
3. Vives R, Tchekmedyian A, Stiles M, Mazingo J. Woolsey Fire: Here's what we know and where the fire is burning. Los Angeles Times. November 2018. Accessed March 10, 2023.
<https://www.latimes.com/local/lanow/la-me-ln-woolsey-fire-what-we-know-20181109-story.html>

Evaluating Effectiveness

Like City of Los Angeles requirements for After Action Reporting, LADPH will compile an After Action Report (AAR) within fourteen (14) days following emergency operations deactivation (1). This is to ensure accurate and timely assessment of LADPH's disaster response strengths and opportunities for improvement. Team Leads should take daily notes, paying attention to any trends that may emerge. These will be included in the appendix of the final After Action Report.

Adapted from the County of Los Angeles Emergency Medical Services (EMS) Agency's Incident After-Action Report (AAR): COVID-19 Pandemic, an AAR should include an Executive Summary, Table of Contents, Introduction, Incident Context, Timeline of Events and Actions, Narratives and Analysis, Conclusion, References, and Appendix (2). An Analysis of Capabilities matrix should also be included (3). A sample Executive Summary, Table of Contents, Analysis of Capabilities, and Timeline is attached (Appendix).

References:

1. City of Los Angeles. Emergency Operations Plan. November 2018. Accessed March 4, 2023.
https://emergency.lacity.gov/sites/g/files/wph1791/files/2021-04/comprehensive_emergency_operations_plan_eop-2018.pdf
2. County of Los Angeles Emergency Medical Services (EMS) Agency. Incident After-Action Report (AAR): COVID-19 Pandemic. April 21, 2022. Accessed March 4, 2023.
https://file.lacounty.gov/SDSInter/dhs/1123780_LACountyEMSAgencyCOVID-19AARJan2020-April2021.pdf
3. Los Angeles County Burn Resource Manual Review. Los Angeles County Burn Resource Manual Review in conjunction with the Western Region Burn Disaster Consortium Creek Fire Tabletop Exercise. May 3, 2022. Accessed March 4, 2023.
https://file.lacounty.gov/SDSInter/dhs/1133174_BurnAAR2022.pdf
4. LA County Department of Public Health. Service Planning Areas. Accessed February 26, 2023.
<http://publichealth.lacounty.gov/chs/SPAMain/ServicePlanningAreas.htm>

APPENDIX

AFTER ACTION REPORT Executive Summary (Adapted from County of Los Angeles Emergency Medical Services (EMS) Agency's <i>Incident After-Action Report (AAR): COVID-19 Pandemic</i>)	
Organization	Los Angeles County Department of Public Health (LADPH)
Organization Type	County Department
Service Planning Area (SPA)⁴	Indicate: <ol style="list-style-type: none"> 1. Antelope Valley 2. San Fernando Valley 3. San Gabriel Valley 4. Metro 5. West 6. South 7. East 8. South Bay (including Catalina Island)
Incident	Incident Name (Year)
Type of Hazard	Wildfire
Incident Duration	Starting Month Year - Ending Month Year or ongoing
Situation Overview	Brief synopsis of incident cause and LADPH's roles and responsibilities.
Strengths	List of strengths
Areas for Improvement	List of challenges and areas for improvement
Modified Procedures for Future Incidents	Using the lessons learned from areas for improvement, list the modified procedures for future incidents.
Action Items	Immediate, short-term, and long-term action items.
Points of Contact	Author(s) Title/Role Address Phone Email

AFTER ACTION REPORT

Timeline of Events and Actions

(Adapted from County of Los Angeles Emergency Medical Services (EMS) Agency's
Incident After-Action Report (AAR): COVID-19 Pandemic)

Color-Coding Key: General Event, LADPH, EMS, Federal, State, City

Date	Agency	Action
		Event Start
	EMS	Description
	LADPH	Description

AFTER ACTION REPORT

Analysis of Capabilities

(Adapted from the *Los Angeles County Burn Resource Manual Review in conjunction with the Western Region Burn Disaster Consortium Creek Fire Tabletop Exercise*)³

Narrative	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Operational Response				
Disaster Response and Adaptability				
Resource Management				
Inter-Agency Relations				

SAMPLE TABLE OF CONTENTS

1. Introduction
2. Incident Context
3. Timeline of Events and Actions
4. Narratives and Analysis
 - a. Operational Response: Defined as “the actions, processes, and resources employed that allowed” the LADPH to continue standard procedures (2).
 - i. Summary
 - ii. Strengths
 - iii. Areas for Improvement
 1. Analysis
 2. Recommendations
 - b. Disaster Response and Adaptability
 - i. Summary
 - ii. Strengths
 - iii. Areas for Improvement
 1. Analysis
 2. Recommendations
 - c. Resource Management
 - i. Summary
 - ii. Strengths
 - iii. Areas for Improvement
 1. Analysis
 2. Recommendations
 - d. Inter-Agency Relations
 - i. Summary
 - ii. Strengths
 - iii. Areas for Improvement
 1. Analysis
 2. Recommendations
5. Conclusion
6. References
7. Appendix
 - a. Daily Team Lead Reports

ANNEX

THREAT AND HAZARDS ASSESSMENT TABLE

Natural	Technological	Human-caused
Resulting from acts of nature	Involves accidents or the failures of systems and structures	Caused by the intentional actions of an adversary
<ul style="list-style-type: none"> ● Wildfires and Pollution California's intense wildfire seasons worsen Los Angeles' poor air quality and pollution. Interactive maps of fire hazard zones are available, with multiple government agencies tasked with fire prevention, preparedness and response.¹ ● Earthquakes The USGS determined a 60% probability that a 6.7 magnitude earthquake will occur in the LA region within the next 30 years.² The city's earthquake-specific plan was last updated July 2021.³ ● Severe Weather Los Angeles is prone to extreme heat, major thunderstorms and high winds. Hot temperatures increase the risk of heat-related illnesses. Thunderstorms could lead to flash floods, landslides and mudslides.⁴ ● Public Health Like other highly and densely populated cities, LA is at risk for public health threats such as outbreaks, epidemics, and pandemics. The city's Pandemic Annex for their Emergency Operations Plan (EOP) was last updated May 2019.⁵ 	<ul style="list-style-type: none"> ● Hazardous Materials Accidents can occur during the transportation of hazardous materials⁴ and are also possible at research laboratories, such as those at the University of Southern California (USC). The city's EOP Chemical, Biological, Radiological and Nuclear (CBRN) Hazard Specific Annex was last updated January 2021.⁶ ● Transportation Disaster Major freeways, such as the 10, 101 and 405, cause heavy traffic. Public transportation options include bikes, buses, trains and subways. Union Station is located in downtown LA. 	<ul style="list-style-type: none"> ● Terrorist Attack As a world-famous and highly populated city, LA is at risk for terrorist attacks. The city's EOP Terrorism Prevention and Protection Hazard Specific Annex was last updated July 2019.⁷ ● Violence / Crime While annual violent crime rates are decreasing in the county, gang-related violent crime remains an issue.⁸ Additionally, people intentionally set fire to things (intentional arson.) This can result in lots of loss acreage, whether the fire began in the wild or not. The 2011-2012 Los Angeles arson attacks resulted in an estimated \$2 million in damages.⁹ ● Active Shooter In October 2017, there was a false report of an active shooter at the USC campus. Students received text messages from the TrojanAlert system. Figueroa St and Exposition Blvd were immediately closed to traffic. Local law enforcement were praised for their timely and coordinated response.

REFERENCES

1. Schnalzer R. House-hunting? How to learn the wildfire risk of every L.A. neighborhood. *Los Angeles Times*. September 7, 2021. Accessed February 9, 2023. <https://www.latimes.com/business/story/2021-09-07/wildfire-risks-los-angeles-california>
2. United States Geological Survey. What is the probability that an earthquake will occur in the Los Angeles Area? In the San Francisco Bay area? Accessed February 9, 2023. <https://www.usgs.gov/faqs/what-probability-earthquake-will-occur-los-angeles-area-san-francisco-bay-area>
3. City of Los Angeles. *EARTHQUAKE Hazard Specific Annex*. July 2021. <https://emergency.lacity.org/sites/g/files/wph1791/files/2022-09/Earthquake%20Annex%20%282021%29.pdf>
4. City of Los Angeles Emergency Management Department. LA Emergencies and Threats. Accessed February 9, 2023. <https://emergency.lacity.org/la-hazards/la-emergencies-and-threats>
5. City of Los Angeles. *PANDEMIC ANNEX*. May 21, 2019. Accessed February 9, 2023. https://emergency.lacity.org/sites/g/files/wph1791/files/2021-04/pandemic_annex_01.17.2019.pdf
6. City of Los Angeles. *CHEMICAL, BIOLOGICAL, RADIOLOGICAL AND NUCLEAR (CBRN) Hazard Specific Annex*. January 2021. Accessed February 9, 2023. <https://emergency.lacity.org/sites/g/files/wph1791/files/2022-09/CBRN%20Annex%20%282021%29.redacted.pdf>
7. City of Los Angeles. *TERRORISM PREVENTION AND PROTECTION Hazard Specific Annex*. July 2019. Accessed February 9, 2023. <https://emergency.lacity.org/sites/g/files/wph1791/files/2022-09/Terrorism%20Prevention%20and%20Protection%20Annex%20%282019%29.pdf>
8. Brantingham, P.J., Yuan, B. & Hertz, D. Is Gang Violent Crime More Contagious than Non-Gang Violent Crime?. *J Quant Criminol* 37, 953-977 (2021). <https://doi.org/10.1007/s10940-020-09479-1>
9. Blankstein, Andrew; Winton, Richard; Bloomekatz, Ari (January 2, 2012). "Suspect Arrested in String of Fires". *Los Angeles Times*. Retrieved May 1, 2023.