MAY 18, 2026

COUNTY OF LOS ANGELES FIRE DEPARTMENT

INVESTIGATION REPORT
OF THE EATON FIRE EVACUATION ALERTS

CITYGATE ASSOCIATES

WWW.CITYGATEASSOCIATES.COM
111 WOODMERE ROAD, SUITE 170
FOLSOM, CA 95630
P: (916) 458-5100
F: (916) 983-2090

TABLE OF CONTENTS

Table of Tables

Table of Figures

Cover photo: Depicts the Altadena tree canopy in 2019, facing south from the foothills on Chaney Trail north of W Loma Alta Drive. (Approximate photo location 34°12'35.3"N 118°08'48.2"W)

Abbreviations and Definitions

A-Rep	Los Angeles County Office of Emergency Management Agency Representative
AAR	After Action Review
ANF	Angeles National Forest
Cal OES	California Governor's Office of Emergency Services
DIVS	Division/Group Supervisor
EOC	Emergency Operations Center
Evacuation Orders	Orders regarding evacuations sent by LACoOEM following Incident Command notifying LACoOEM to do so; these are mandatory.
Evacuation Warnings	Warnings regarding evacuations sent by LACoOEM following Incident Command notifying LACoOEM to do so; these are not mandatory.
FBAN	Fire Behavior Analyst
ICP	Incident Command Post – Geographic location where Incident Command and general staff are physically located during the incident
Incident Command	The Incident Commander or any member of the Unified Command staff
JPL	Jet Propulsion Laboratory
LACoFD	Los Angeles County Fire Department
LACoOEM	Los Angeles County Office of Emergency Management
LACoSD	Los Angeles County Sheriff's Department
LAFD	City of Los Angeles Fire Department
MTZ	Mutual Threat Zone
NWS	National Weather Service
OPBD	Branch Director

Operations	Operations Section Chief, responsible for developing and implementing tactics to achieve Incident Command's goals and strategies
PAS FD	City of Pasadena Fire Department
PDS	Particularly Dangerous Situation
PSPS	Public Safety Power Shut-Off
SCE	Southern California Edison
UC	Unified Command

EXECUTIVE SUMMARY

Initiated by the Los Angeles County Fire Department (LACoFD), Los Angeles County (County) retained Citygate Associates, LLC (Citygate) to conduct an additional independent review into the Eaton Fire of January 2025 at the request of LACoFD. Specifically, Citygate's investigation focused on the reported 3-hour delay by LACoFD personnel before Evacuation Orders were issued for areas of the unincorporated community of Altadena west of Lake Avenue during the first night of the fire.

Citygate was tasked to review available evidence the County had to date, interview key personnel, and conduct additional research as needed into the Eaton Fire behavior as it drove Incident Command decisions during the hours under review. Key areas of assessment included the following:

- Analyzing key events from 9:00 p.m. on January 7, 2025, through 6:00 a.m. on January 8, 2025.
- Understanding the fire's complexities as it expanded over the hours under review.
- Reviewing Incident Command's decisions based on what could have reasonably been known over time as the fire progressed.
- Identifying facts relative to the timing of Evacuation Warnings and Evacuation Orders.
- Identifying obstacles that might have interfered with Incident Command's decisions.

Overall, this report contains **23 findings** supported by verified evidence along a fire progression timeline. Citygate did not rely on Incident Command and County staff's oral recollections alone. Further, Citygate did not accept elements as presented in the already-completed After Action Reviews (AARs) of the Eaton Fire by various consultants without cross-verification.

Citygate understands the Altadena community's need for an unbiased, comprehensive review, and the need to hold institutions accountable if warranted. Nothing in this review can mitigate the tragic losses of the Eaton Fire disaster, including the horror of trying to escape, in darkness, from what became a wildfire-initiated community conflagration ("community conflagration").

From this review, Citygate reviewed western Altadena's street development layout against the topography of the area so it could understand how the Eaton Fire moved quickly under historically high wind into the neighborhoods west of Lake Avenue. Citygate's work included a review of community members' published recollections, some of which Citygate found to be *very credible*.

Due to the catastrophic nature of the fires in January 2025, there simply were not enough fire department and sheriff's department resources available when the Eaton Fire impacted neighborhoods, despite there also being mutual aid resources assisting from other jurisdictions. This was due to the historically high winds and two other major fires in Los Angeles County that same evening that impacted available response resources. LACoFD, the Los Angeles County Sheriff's Department (LACoSD), and allied agency personnel assisted who they could, but could not help everyone. These factors drove Citygate's team to find the best evidence possible to accurately tell the story of the firefighting efforts that first night.

CAPSTONE FINDINGS

Finding #1:	There was no failure by Incident Command to request Evacuation Orders west of Lake Avenue sooner, nor would they have reasonably done so under the circumstances; Evacuation Warnings and Evacuation Orders were subsequently issued as the fire's spread into northwestern Altadena became known to Incident Command at approximately 2:18 a.m.
Finding #9:	The cell phone conversations and text messages between Incident Command and the Operations Section Chief (Operations) from 11:24 p.m. to 11:32 p.m. related to fire impacts on the eastern, not western, end of the Eaton Fire front in northern Sierra Madre and identified 2 more zones to evacuate in Sierra Madre, which had already been issued an Evacuation Order at 11:08 p.m.
Finding #10:	Previously reported communications between Incident Command and Operations in an earlier AAR and by the media implying the 11:24 p.m. communications were regarding expansion of evacuations in Altadena all the way west to La Canada could not be cross-verified. Four (4) separate individuals across several communications were clearly focused on the deteriorating conditions in Sierra Madre at that hour. The unit communications at that hour do not support a deterioration of conditions west of Lake Avenue in Altadena that would have been of prime concern to Operations from Operations' location east of Kinneloa Mesa. FireGuard fire progression maps reviewed after the incident also do not show the Eaton Fire directly impacting western neighborhoods at that time.

This report details in-depth, critical factors that materially influenced Incident Command's initial response strategies, placing life safety first:

- Due to high winds grounding all aircraft, there was no real-time aerial fire spread intelligence in the mountains above the communities impacted by the Eaton Fire, or anywhere in the communities.
- Absent aerial fire spread information, response resources were focused on life safety missions as the fire impacted neighborhoods, initially in the communities east of Altadena.
- The alignment of the winds to steep terrain and street development of the different neighborhoods varied from east to west as the Eaton Fire burned over the course of 10 hours overnight, presenting differing and extreme challenges.

As this review details, the Eaton Fire did <u>not</u> proceed in 1 unified direction, but rather in 4 main movements for which LACoFD did not have aerial visibility due to the grounding of all aircraft.

1. The area of origin of the Eaton Fire was in the steep upper mountain slopes and canyons where it moved east and west over the first 10 hours.
2. The first main spread of the Eaton Fire was toward populated areas eastward from the origin, following local slope winds that pushed the fire around/into Kinneloa Mesa by 8:40 p.m., and then Sierra Madre neighborhoods at the toe of the slopes by 10:50 p.m. Structures continued to burn in these neighborhoods overnight.
3. The initial western flank of the Eaton Fire spread more slowly from the origin due to it being partially shielded from the worst winds because the ridge to the west of the Eaton Fire origin was about 680 feet higher in elevation. Once the fire burned up and over the ridge into Eaton Canyon, the winds were in full alignment, eventually driving the Eaton Fire down slope to the populated area just below Eaton Canyon, as it had initially done in the Sierra Madre area.
4. The final Eaton Fire push to the west occurred when the fire reached out of Eaton Canyon into Rubio Canyon and then Echo Canyon, aligning all 3 canyons with the strongest winds, and began the first of 4 strong fire front pushes into north/northwestern Altadena. The main fire front crossed west of Lake Avenue at around 5:13 a.m. and the community conflagration reached devastating proportions between then and 9:00 a.m.

CONCLUSIONS

When Incident Command had evidence that its strategy being used on the eastern side of the fire was eroding in the west, it initiated the expanded evacuation zone tasks at 2:18 a.m. and coordinated with the LACoOEM agency representative (A-REP), who relayed Evacuation Order and Warning zones to the Emergency Operations Center (EOC) staff at approximately 3:00 a.m., which resulted in the release of Evacuation Orders by 3:25 a.m. These procedural steps are documented in a prior AAR.

The Eaton Fire evolved into an atypical, 2-front fire, behaving differently on each front. In the east, it presented as a more traditional serious fire that penetrated into the suburban areas but did not initially start a wide-area building-to-building conflagration. Initially, this was a fire responding agencies were experienced with, and it behaved as others had before it. On the western end of the fire, all the critical fire behavior factors came into the worst possible alignment as the Eaton Fire impacted Altadena. From the ignition point of the Eaton Fire on the steep slopes, to the historic winds, lack of aerial fire spread intelligence, and the alignment of the street layouts with the canyons, the result was a fire exploding into older neighborhoods with dense residential structures and a heavy tree canopy, all of which made stopping the fire spread impossible.

Incident Command was forced to fight a fire while blind to its movements, in the dark, during extreme weather, and had no choice but to protect lives and deploy apparatus and law enforcement as neighborhoods were sequentially impacted. Thus, the focus of Incident Command had to shift with the fire from *east to west.* Before the last fire movement to the lower, western-side canyon slopes abutting Altadena, Incident Command had deployed its fire and law enforcement resources to the neighborhoods initially impacted and shifted limited available fire and law resources west when they could as events unfolded. Incident Command triaged fire and law enforcement resources to life safety, scouted ahead for fire progression on the ground since they could not fly, handled the evacuation of several residential care facilities, and progressively issued Evacuation Warnings and Evacuation Orders from the *east to the west*.

The initial evacuation notices covered areas up to the east side of Lake Avenue in Altadena, starting with advisory notifications at 6:48 p.m., which were then upgraded to Evacuation Orders at 7:26 p.m. as the fire on the east side approached Kinneloa Mesa. At that hour, Incident Command believed the Evacuation Orders covering from east of the point of origin up to Lake Avenue created a large buffer zone below and west of the fire's origin.

Citygate understands that some in Altadena believe the long north/south alignment of Lake Avenue can be interpreted as a dividing line. However, the evacuation planners who created the evacuation zone areas[1] *well before the fire* tried to use, where possible, major north/south and east/west streets

[1] Los Angeles County uses the Genasys ALERT system to send wireless emergency alerts (WEAs). WEAs can be targeted to specific pre-established evacuation zones within Genasys ALERT by identifying evacuation zones in Genasys EVAC.

and natural landmarks. Thus, Lake Avenue was a natural, very long street that could be utilized as an anchor for creating evacuation zones.

Further, in decision making for evacuation notifications of any type, there is a constructive tension regarding how much action to take and when to take it. During evacuation planning in the early evening of the Eaton Fire, there was considerable discussion between Incident Command and some cities on the eastern side of the point of origin of the fire regarding the number of people to displace and when to displace them.

Finally, Citygate's review of the prior design of the evacuation zones, their use during the fire, and the Incident Command decisions never revealed they were based on race, age, or socioeconomics. Further, some resources were appropriately triaged to perform evacuations, rescues, and structure protection of assisted living centers and homes where many seniors and people with disabilities lived. To firefighters, law enforcement, and emergency medical personnel, there were simply lives at risk. Emergency crews from across the County deployed to the Eaton Fire to assist in the emergency response, and multiple successful evacuations, rescues, and structure defenses did occur. However, for any wind-driven community conflagration, like the Eaton Fire, with other competing fires in the region, there were limited resources available for the first 12 hours of the fire.

The practice of issuing Evacuation Warnings to zones adjacent to Evacuation Order zones was not policy in January 2025, although it did occur occasionally during the Eaton Fire on a case-by-case basis. Homes were burning in the east, and Incident Command believed that the mid-evening Evacuation Order and Evacuation Warning buffer issued at 7:26 p.m. and 7:55 p.m. up to Lake Avenue were sufficient considering the eastern fire front spread.

Absent real-time aerial fire spread intelligence, Incident Command employed strategies and tactics that had been successful for decades before aerial observation support became common. Incident Command for the Eaton Fire prioritized life safety first, followed by perimeter control, and structure defense through primarily direct attack, with some fire front following firefighting. Evacuation Orders and Evacuation Warnings were issued ahead of the fire front and were effective until 2:18 a.m. Therefore, the Evacuation Orders for west of Lake Avenue were not held back by Incident Command. As the most uncontrollable and destructive fire to ever hit this area of the San Gabriel Mountains bore down on Altadena, there was no process for Incident Command to step outside of the strategy to plan for the developing community conflagration.

In light of our investigation of the Eaton Fire evacuation command decisions within the overall timeline of the fire, Citygate also offers the following broad recommendations.

- **Implement the actionable recommendations of the other comprehensive After Action Reviews.**
- **Develop alternative intelligence processes to improve management of potentially catastrophic wildfires when advanced fire spread intelligence technology fails and the fire conditions are extreme.**
- **At the start of very dangerous or unpredictable fires, immediately designate a technical specialist dedicated to incident intelligence, *not consumed by immediate command,* to focus solely on advising Incident Command regarding effectiveness of their strategy and tactics. If strategy and tactics may not be effective, identify the necessary alerts, warnings, and tactical changes far in advance.**

FINDINGS

The following is a list of Citygate's findings, in report/chronological order.

Finding #1: There was no failure by Incident Command to request Evacuation Orders west of Lake Avenue sooner, nor would they have reasonably done so under the circumstances; Evacuation Warnings and Evacuation Orders were subsequently issued as the fire's spread into northwestern Altadena became known to Incident Command at approximately 2:18 a.m.

Finding #2: The loss of aircraft to provide real-time aerial fire behavior information in the mountains and communities forced Incident Command to deal with the fire where it emerged off the mountains at the toe of the slope and spread into developed areas —as had been done for decades on prior fires in these mountains and elsewhere in Los Angeles County.

Finding #3: The 6:48 p.m. advisory notifications for 5 Altadena zones, Kinneloa Mesa, and 6 Pasadena zones were issued considering Lake Avenue as a very large western perimeter line at that time that factored in the 1993 Kinneloa Fire's easterly movement and the early eastern spread of the Eaton Fire. This early, preemptive decision was beneficial and remained effective for hours as the Eaton Fire's impacts to communities began to the east of the fire's origin.

Finding #4: Initial advisory notifications for the Eaton Fire were issued at 6:48 p.m. on January 7, 2025, for 12 zones on the 3 populated sides of the fire's origin to the east, south, and west.

Finding #5: The first Evacuation Orders were issued at 7:26 p.m. for 5 Altadena zones east of Lake Avenue, Kinneloa Mesa, and 1 Pasadena zone.

Finding #6: Initial fire spread was more east/southeast toward Kinneloa Mesa, with erratic spread to the north and northwest in the mountains.

Finding #7: Incident Command's initial incident strategy focused on assisting/rescuing persons being impacted by the fire and unable to self-evacuate, and defending buildings from ignition where possible as the fire spread from the slopes into communities on the eastern fire front.

Finding #8: Evacuation Orders were issued at 9:00 p.m. for 2 additional Altadena zones immediately east of Lake Avenue.

Finding #9: The cell phone conversations and text messages between Incident Command and Operations from 11:24 p.m. to 11:32 p.m. related to fire impacts on the eastern, not western, end of the Eaton Fire front in northern Sierra Madre and identified 2 more zones to evacuate in Sierra Madre, which had already been issued an Evacuation Order at 11:08 p.m.

Finding #10: Previously reported communications between Incident Command and Operations in an earlier AAR and by the media implying the 11:24 p.m. communications were regarding expansion of evacuations in Altadena all the way west to La Canada could not be cross-verified. Four (4) separate individuals across several communications were clearly focused on the deteriorating conditions in Sierra Madre at that hour. The unit communications at that hour do not support a deterioration of conditions west of Lake Avenue in Altadena that would have been of prime concern to Operations from Operations' location east of Kinneloa Mesa. FireGuard fire progression maps reviewed after the incident also do not show the Eaton Fire directly impacting western neighborhoods at that time.

Finding #11: By 12:00 a.m. on January 7, 2025, there were approximately 127 LACoFD plus other fire agencies' resources assigned to the Eaton Fire, with additional mutual aid resources to arrive before dawn. Additional law enforcement personnel from various LACoSD stations and search and rescue teams continued to arrive on the Eaton Fire throughout the evening and into the early morning.

Finding #12: Many of the mid-evening to pre-midnight fires ahead of the fire front in Altadena were most likely started by power lines being blown down or trees/branches falling into the power lines rather than ember cast; by 1:00 a.m., heavy smoke conditions and ember cast were significantly hampering visibility in the existing evacuation zones east of Lake Avenue.

Finding #13: As soon as LACoSD deputies arrived at the Eaton incident, they and other law enforcement personnel conducted evacuations and assisted fire resources throughout Altadena.

Finding #14: At or approximately around 1:00 a.m., Incident Command was still blind to the fire's movements above them in the canyons. Where Operations was located at 12:56 a.m., the significant fire front on the ridge between Eaton Canyon and Rubio Canyon was 1,200 vertical feet above; there was no way to see or estimate fire spread.

Finding #15: By 2:00 a.m., the fire was ember casting more heavily and beginning to exit from Rubio Canyon.

Finding #16: All the radio reports from 2:00 a.m. to 2:18 a.m. were identifying fire on the mountains and entering the edges of northern Altadena.

Finding #17: The process of evaluating the expansion of Evacuation Orders and Evacuation Warnings west of Lake Avenue began at 2:18 a.m. following Incident Command hearing critical radio communications about the fire's spread west. Incident Command identified the evacuation zones needing Evacuation Orders and Evacuation Warnings and communicated them to the Los Angeles County Office of Emergency Management's (LACoOEM) staff in the field, who then contacted the EOC. LACoOEM's staff in the EOC then prepared and sent the Evacuation Orders and Evacuation Warnings for Altadena zones west of Lake Avenue.

Finding #18: Between approximately 1:00 a.m. and 2:00 a.m., as the fire moved out of upper Eaton Canyon into Rubio Canyon, fire and law enforcement field resources were dealing with approximately 30 separate structure fires. On average, this was a new fire response request to a specific address every 2 minutes. Operations was receiving these requests and triaging them to the few available resources while taking the same action on the still-very-active east end of the fire.

Finding #19: Between 1:00 a.m. and 2:00 a.m., unseen to Unified Incident Command, all of whom possessed no aerial fire spread intelligence, the Eaton Fire overcame the strategy of keeping pace with where the fire was thought to be as it impacted more neighborhoods.

Finding #20: Evacuation Orders for 13 Altadena zones west of Lake Avenue were issued at 3:25 a.m.

Finding #21: The fire front was still approximately 2 blocks east of Lake Avenue at approximately 3:53 a.m., according to FireGuard data.

Finding #22: The fire front had extended 1 block west of Lake Avenue between Concha Street and East Los Flores Drive by 5:13 a.m., according to FireGuard data.

Finding #23: By 6:00 a.m., the community conflagration was well underway.

SECTION 1—INTRODUCTION AND BACKGROUND

Initiated by the Los Angeles County Fire Department (LACoFD), Los Angeles County (County) through Office of the County Counsel, retained Citygate Associates, LLC (Citygate) on January 12, 2026, to review and evaluate key events and factors influencing decisions to issue Evacuation Warnings and Evacuation Orders for the Eaton Fire from the evening of January 7, 2025, through the early morning of January 8, 2025.[2] Specifically, Citygate's investigation focused on the reported 3-hour delay by LACoFD personnel before Evacuation Orders were issued for areas of the unincorporated community of Altadena west of Lake Avenue during the first night of the fire.

1.1 PROJECT APPROACH AND RESEARCH METHODOLOGY

1.1.1 Project Approach

To understand the events and factors influencing the decisions to issue Evacuation Warnings and Evacuation Orders, Citygate gathered and evaluated anecdotal and digital evidence from multiple sources. No anecdotal recall or testimony was considered without other corroborating evidence. Citygate's approach to this investigation involved not merely studying 1 or 2 evacuation decisions in isolation, but also assisting readers of this report in understanding evolving key events from mid-evening on January 7, 2025, to dawn on January 8, 2025, to understand the challenges Incident Command faced, the knowledge possessed by Incident Command, and when this knowledge was obtained. In addition, Citygate utilized that perspective to identify what an incident management team could have done differently. A retrospective examination of events, such as this investigation, can also be used to inform and improve future responses.

1.1.2 Research Methodology

Citygate's research methodology for this investigation included the following:

- Interviews of 14 key LACoFD, Los Angeles County Sheriff's Department (LACoSD), and Los Angeles County Office of Emergency Management (LACoOEM) personnel involved in incident management, evacuations, and rescues for the Eaton Fire.
- Review of personal notes and telephone records of key LACoFD and LACoOEM personnel for the relevant dates and times.

[2] As directed by County Counsel, Citygate's activities and work product pertaining to this report are confidential and subject to the attorney-client privilege and attorney work product doctrines, and notwithstanding this report, privilege is not waived. Rather, privilege is expressly reserved.

- Review of the 2 previous After Action Review (AAR) reports published by the McChrystal Group[3] and the Underwriters Laboratories Fire Safety Research Institute (FSRI).[4]
- Review of LACoOEM's Genasys ALERT records for the relevant dates and times.
- Review of LACoFD dispatch logs for the relevant dates and times.
- Review of records related to Southern California Edison's (SCE) Public Safety Power Shut-Off (PSPS) for the relevant dates and times.
- Review of FireGuard[5] fire progression data and maps for the relevant dates and times.
- Review of relevant local weather data for the relevant dates and times.
- Comparison of evidence of actual versus predicted fire spread.
- Evaluation of Incident Command actions based on what was known and acted upon as the fire progressed.

1.2 Background

On December 31, 2024, the National Weather Service (NWS) issued an alert for a predicted severe Santa Ana wind event and Red Flag fire conditions[6] in Southern California for January 7–9, 2025. On January 2, 2025, the NWS extended this extreme fire weather warning to January 6–9, 2025, followed by a Fire Weather Watch[7] issued on January 3, 2025, and a Red Flag Warning[8] issued on January 5, 2025. On January 6, 2025, the NWS updated its forecast to a life-threatening event warning of a Particularly Dangerous Situation (PDS), a term used in rare situations when long-lived, strong, and violent winds are possible.

In anticipation of this predicted critical wind event, many local public safety agencies, including LACoFD, LACoSD, and LACoOEM, began taking proactive measures and implementing strategies to enhance the readiness of their personnel and the public. For LACoFD, this included

[3] After Action Review of Alert Notification Systems and Evacuation Policies for the Eaton and Palisades Fires, McChrystal Group (n.d.).
[4] Southern California Fires Timeline Report (Phase One), UL Fire Safety Research Institute, November 20, 2025.
[5] FireGuard is a National Guard program that provides unclassified satellite and drone-based thermal imagery to detect wildfires and create products for firefighting networks.
[6] Red Flag conditions include a combination of high temperature, low humidity, high wind, and low fuel moistures conducive to wildfire ignitions and rapid fire spread.
[7] A Fire Weather Watch is issued when the combination of dry fuels and weather conditions that support extreme fire danger are expected to occur within 72 hours.
[8] A Red Flag Warning is issued when red flag conditions are occurring or are expected to occur within the next 24 hours.

an augmented staffing plan that involved holding off-going shift personnel on duty the morning of January 7, 2025, effectively doubling the number of response personnel available when combined with the on-coming shift personnel, to staff all available fire apparatus and provide extra personnel for critical command and control positions; pre-positioning fire engine strike teams and other response resources to provide faster response coverage; placing hand crews on duty for 24 hours instead of their normal 8-hour workday; enhancing dispatch center staffing; placing Incident Management Team #2 (IMT-2) on standby status; and placing all other LACoFD personnel on telephone standby effective January 7, 2025.

The Palisades Fire ignited at approximately 10:30 a.m. on January 7, 2025, in the Santa Monica Mountains in the Los Angeles City section of Pacific Palisades, and received a full brush fire response from both the Los Angeles City Fire Department (LAFD) and LACoFD. Within an hour, the fire had grown to 200 acres due to the high winds, making direct fire suppression efforts extremely challenging. The fire subsequently spread to the unincorporated areas of Sunset Mesa and down the coastline to eastern Malibu, both served by LACoFD.

The Eaton Fire started at approximately 6:15 p.m. on January 7, 2025, in the Eaton Canyon area of the San Gabriel Mountains north of the unincorporated community of Altadena and the City of Pasadena. LACoFD, the City of Pasadena, and the Angeles National Forest (ANF) are signatories to a Mutual Threat Zone (MTZ) agreement that results in each agency sending a full response to reported wildfires, which results in triple the normal number of resources initially dispatched. Based on this agreement, the initial LACoFD response included 7 engines, 1 patrol, 1 squad, 3 helicopters, 1 bulldozer team, 1 water tender, 3 hand crews, 3 crew superintendents, and 2 Battalion Chiefs. The City of Pasadena Fire Department (PAS FD) also dispatched 5 engines, 1 engine strike team (5 engines and 1 leader in a separate vehicle), 1 patrol, and 1 Battalion Chief; and ANF dispatched 8 engines, 2 bulldozers, 2 water tenders, and 1 air attack supervisor.[9]

The first-arriving LACoFD Battalion Chief established Unified Command (UC) with the on-scene PAS FD Battalion Chief and established an initial structure defense / life safety strategy considering the rapid wind-driven fire spread to the southeast and immediate threat to the Kinneloa Mesa community.

LACoFD dispatched an additional 4 engines, 3 hand crews, 1 crew superintendent, and 3 chief officers within the next 12 minutes, followed by 2 additional engine strike teams, 1 single engine, 1 hand crew, 1 crew superintendent, and 6 chief officers within 37 minutes of the initial dispatch. An additional 8 engines, 1 squad, 1 patrol, 1 water tender, 3 hand crews, 2 chief officers, and 1 safety officer were dispatched within the first hour following the initial dispatch. Within the first hour, there were approximately 85 fire response resources assigned to the Eaton Fire.

[9] Source: Los Angeles County Fire Department dispatch records.

1.2.1 Fire Behavior Prediction – Methods and Limitations

All fire aircraft operations were halted at 6:45 p.m. due to the high winds. While this has been frequently reported since the Eaton Fire, losing aircraft operations negatively impacted not only direct fire suppression, but also Incident Command's ability to understand the fire's location and its likely direction of spread and speed. As this report discusses, given the terrain where the fire started, the lack of real-time aerial fire behavior information was a critical missing factor in the decisions made that first night.

Utilized for over 2 decades, specially trained personnel certified as Fire Behavior Analysts (FBAN) can input weather, vegetation type, density, and terrain (slope) into a software prediction model. In the last few years, advanced aerial imagery has enabled more powerful modeling; however, there are at least 2 limitations to that modeling. First, it only works across vegetative fuels, not developed areas with buildings including residential structures. Second, an FBAN needs periodic real-time fire data to true up the model to actual conditions. As these technologies take time and specialized capabilities, most fire agencies depend initially on the fire attack aircraft to relate fire behavior information to Incident Command.

Even if fire spread modeling had been immediately available to Incident Command, it would not have been effective since there were no overflights to verify actual fire conditions. Further, the early fire spread into the Kinneloa Mesa area would not have been informative due to the simulation modeling not working in developed areas. Even the California Governor's Office of Emergency Services' (Cal OES) fixed-wing observation aircraft that gathers data for the larger computer center model was grounded due to the severe winds. All these limitations critically impaired Incident Command. The loss of aerial validation of fire spread shortly after initial ignition, and it being after dark in heavy wind and smoke conditions, blinded Incident Command to what was occurring in the steep mountains and, ultimately, in the communities. *Nothing could fly.*

Finding #2:	The loss of aircraft to provide real-time aerial fire behavior information in the mountains and communities forced Incident Command to deal with the fire where it emerged off the mountains at the toe of the slope and spread into developed areas—as had been done for decades on prior fires in these mountains and elsewhere in Los Angeles County.

Another wildfire intelligence tool is FireGuard,[10] which utilizes Federal National Guard satellite thermal imagery to periodically produce a heat map of a fire's spread at the most intense area of the fire front at the time of observation in approximately 15- to 45-minute increments. FireGuard does **not** *predict* fire spread but instead tracks it. Citygate used the FireGuard time-stamped static

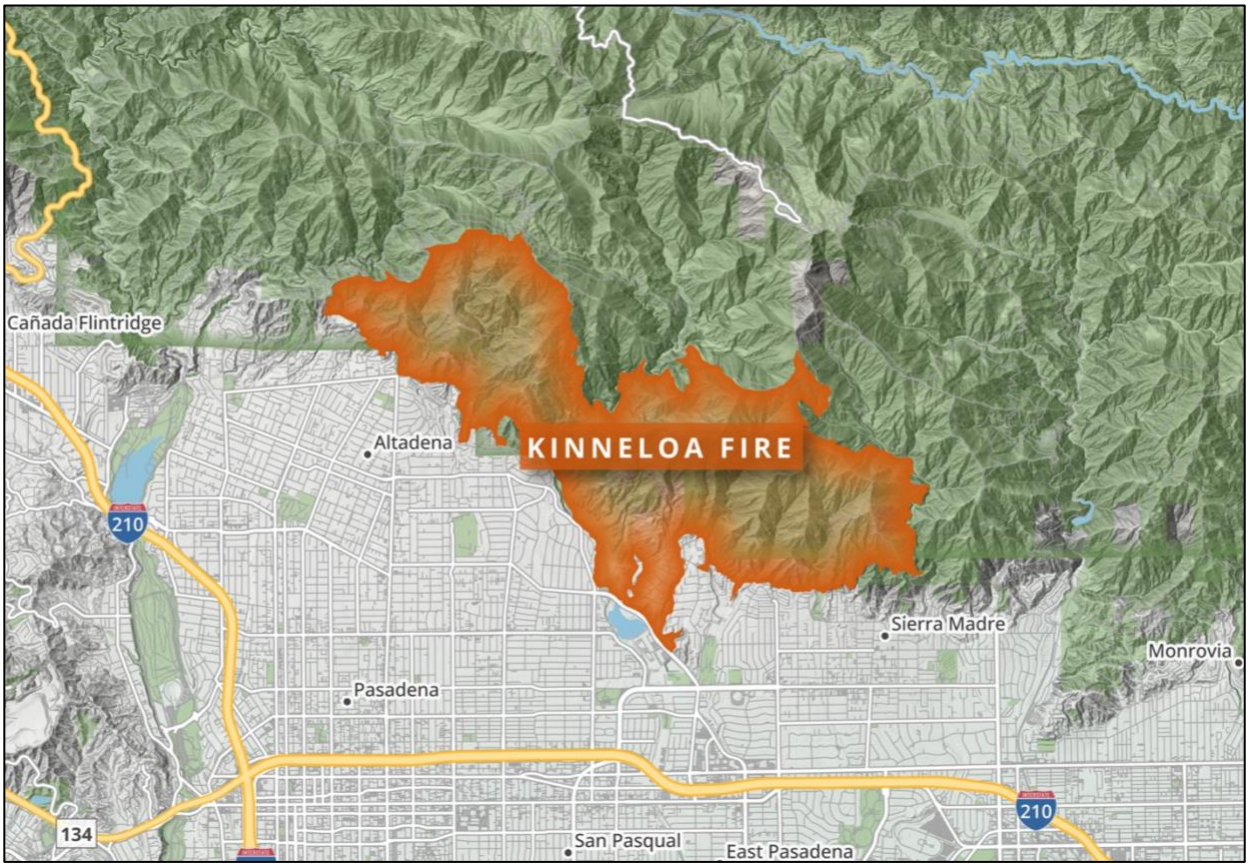
[10] GIS Data by the California National Guard FireGuard Program | Via Los Angeles County | Images in Pacific Time

images to *retrospectively* provide insight into the times of the Eaton Fire's major advancements. These static images were not available to Incident Command that night.

1.2.2 Fire History in the Mountains – Early Informed Decisions

There were 2 prior wildfires in the mountain region of the Eaton Fire: the Kinneloa Fire and the Glen Allen Fire, both in 1993. The fire of most decision-making relevance for the Eaton Fire is the Kinneloa Fire in October 1993. The Kinneloa Fire destroyed 196 buildings in the communities of Altadena, Kinneloa Mesa, and Sierra Madre in the foothills of the San Gabriel Mountains. Figure 1 shows the footprint of the Kinneloa Fire. Even with strong winds, the Kinneloa Fire did not start a community conflagration. It was stopped before penetrating deeply into the communities. However, most of the major suppression effort was at or after dawn during daylight hours. Fire aircraft were used and Incident Command knew what it was dealing with. That fire, like Eaton, also became a "2-front" fire, with the initial heavy push eastward, like Eaton, into Kinneloa Mesa and Sierra Madre.

Figure 1—1993 Kinneloa Fire Location[11]



[11] Penitentes, Public domain, via Wikimedia Commons.

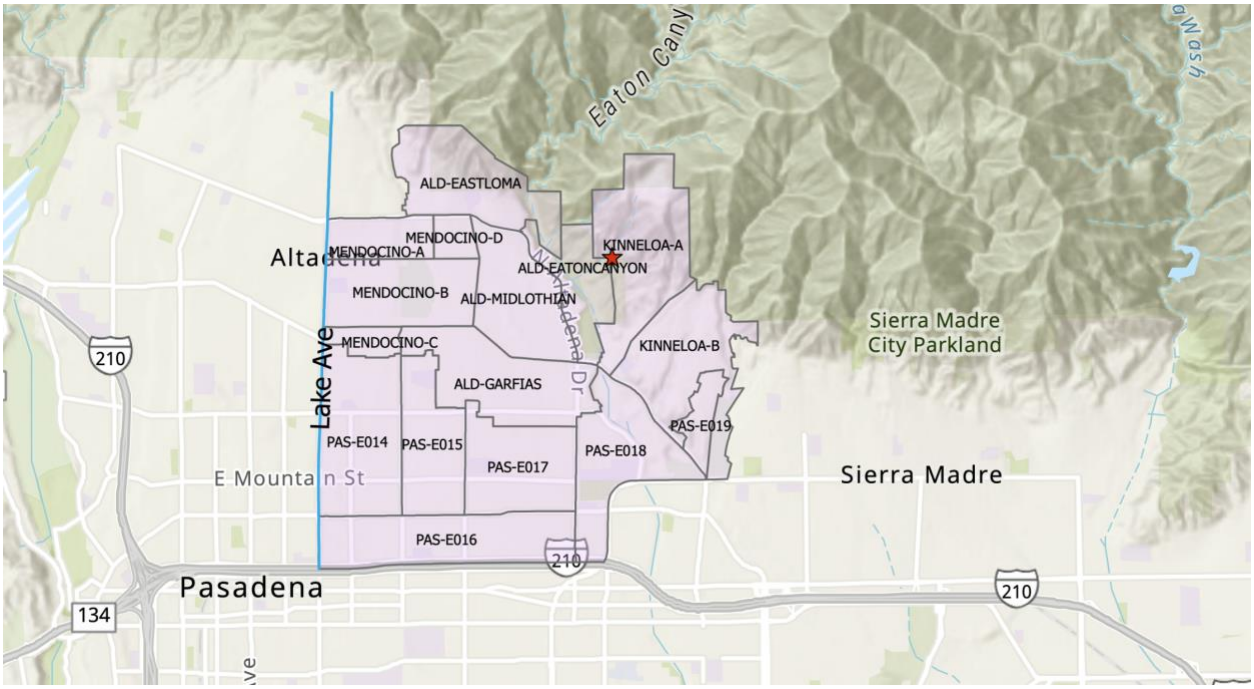
At dawn on the day the Eaton Fire started, LACoFD held the entire off-going shift of personnel on duty due to the observed dangerous wind conditions.

From their location at the Palisades Fire, LACoFD Executive Command requested LACoOEM send *advisory* notifications that were issued at approximately 6:48 p.m. for 5 Altadena zones from east of Lake Avenue, Kinneloa Mesa, and 6 Pasadena zones to alert people of the wildfire in the Eaton Canyon area, as summarized in Table 1 and Figure 2.

Table 1—Eaton Fire Significant Events: January 7, 2025 (6:48 p.m.)

DATE	TIME	SIGNIFICANT EVENT
1/7	**6:48 p.m.**	**ADVISORY NOTIFICATIONS ISSUED:** • **ALD-EASTLOMA** • **ALD-EATONCANYON** • **ALD-GARFIAS** • **ALD-MENDOCINO** • **ALD-MIDLOTHIAN** • **KIN-KINNELOA** • **PAS-E014** • **PAS-E015** • **PAS-E016** • **PAS-E017** • **PAS-E018** • **PAS-E019**

Figure 2—Initial Eaton Fire Advisory Notification Zones[12] (6:48 p.m. January 7, 2025)



Finding #3:	The 6:48 p.m. advisory notifications for 5 Altadena zones, Kinneloa Mesa, and 6 Pasadena zones were issued considering Lake Avenue as a very large western perimeter line at that time that factored in the 1993 Kinneloa Fire's easterly movement and the early eastern spread of the Eaton Fire. This early, preemptive decision was beneficial and remained effective for hours as the Eaton Fire's impacts to communities began to the east of the fire's origin.

Over the next 2 hours to about 9:00 p.m., the fire continued to burn aggressively to the southeast, as summarized in Table 2 and fire progression maps in Figure 3. The first Evacuation Orders were issued at 7:26 p.m. for 5 Altadena zones, Kinneloa, and 1 Pasadena zone; and an Evacuation Warning was issued at 7:55 p.m. for 1 additional Altadena zone immediately east of Lake Avenue.

At 8:04 p.m., flames were reported threatening the Pasadena Park Convalescent Hospital on East Washington Boulevard in Pasadena, approximately 1.5 miles east of Lake Avenue in the noticed evacuation alert area, which required a large commitment of law enforcement, fire, and other personnel to evacuate approximately 250 patients.

At 8:13 p.m., Operations announced the fire was approximately 400 acres as shown in Table 2. By 8:40 p.m., the fire had spread into Kinneloa Mesa and Hastings Ranch with multiple residences on

[12] Los Angeles County OEM.

fire. At 8:52 p.m., Operations announced the Incident Command Post (ICP) was being moved to the Rose Bowl to better accommodate the growing Incident Command and support organization.

Table 2—Eaton Fire Significant Events: January 7, 2025 (6:50 p.m. to 9:00 p.m.)

DATE	TIME	SIGNIFICANT EVENT
1/7	**6:54 p.m.**	LACoFD Helicopter Coordinator (HLCO) advises Incident Command (IC) that fire is making a strong push to the east, skirting along Altadena Drive, and will be pushing parallel to New York Drive; suggested Kinneloa Road as next priority. Spot fires also seen in front of fire line there impacting short of Kinneloa Canyon. IC acknowledges and advises he will get resources to that location.
1/7	**7:06 p.m.**	Incident Command Post (ICP) being moved to Farnsworth Park in Altadena.
1/7	**7:18 p.m.**	HLCO returned to Barton due to high winds.
1/7	**7:20 p.m.**	Operations reiterates leader's intent to all field resources that we are in life priority mode; keep your resources mobile, we are not anchoring in, all focus is on life priority.
1/7	**7:26 p.m.**	**EVACUATION ORDERS ISSUED:** • **ALD-EASTLOMA** • **ALD-EATON CANYON** • **ALD-GARFIAS** • **ALD-MENDOCINO** • **ALD-MIDLOTHIAN** • **KIN-KINNELOA** • **PAS-019**
1/7	**7:35 p.m.**	Operations requests that a Law Branch be established for evacuations.
1/7	**7:55 p.m.**	**EVACUATION WARNINGS ISSUED, INCLUDING FOR:** • **ALD-MOUNTLOWE** • **PAS-E014, PAS-E015, PAS-E016, PAS-E017, PAS-E018**
1/7	**8:04 p.m.**	Flames reported threatening the Pasadena Park Convalescent Hospital on East Washington Boulevard in Pasadena with evacuations in progress (approx.1.5 miles east of Lake Avenue).
1/7	**8:13 p.m.**	Operations announces fire is approximately 400 acres.
1/7	**8:40–9:09 p.m.**	Fire has spread into Kinneloa Mesa and Hastings Ranch with multiple houses on fire.
1/7	**8:52 p.m.**	Operations announces the ICP is being relocated to the Rose Bowl.

The FireGuard maps in Figure 3 show the most significant fire front spread at the times the images were taken. The fire front centered around the point of origin and expanded east and west in the mountains over the next few hours, following terrain, surface winds, and differing fuel densities.

Figure 3—FireGuard Fire Perimeter Progression Maps with Hottest Areas Highlighted

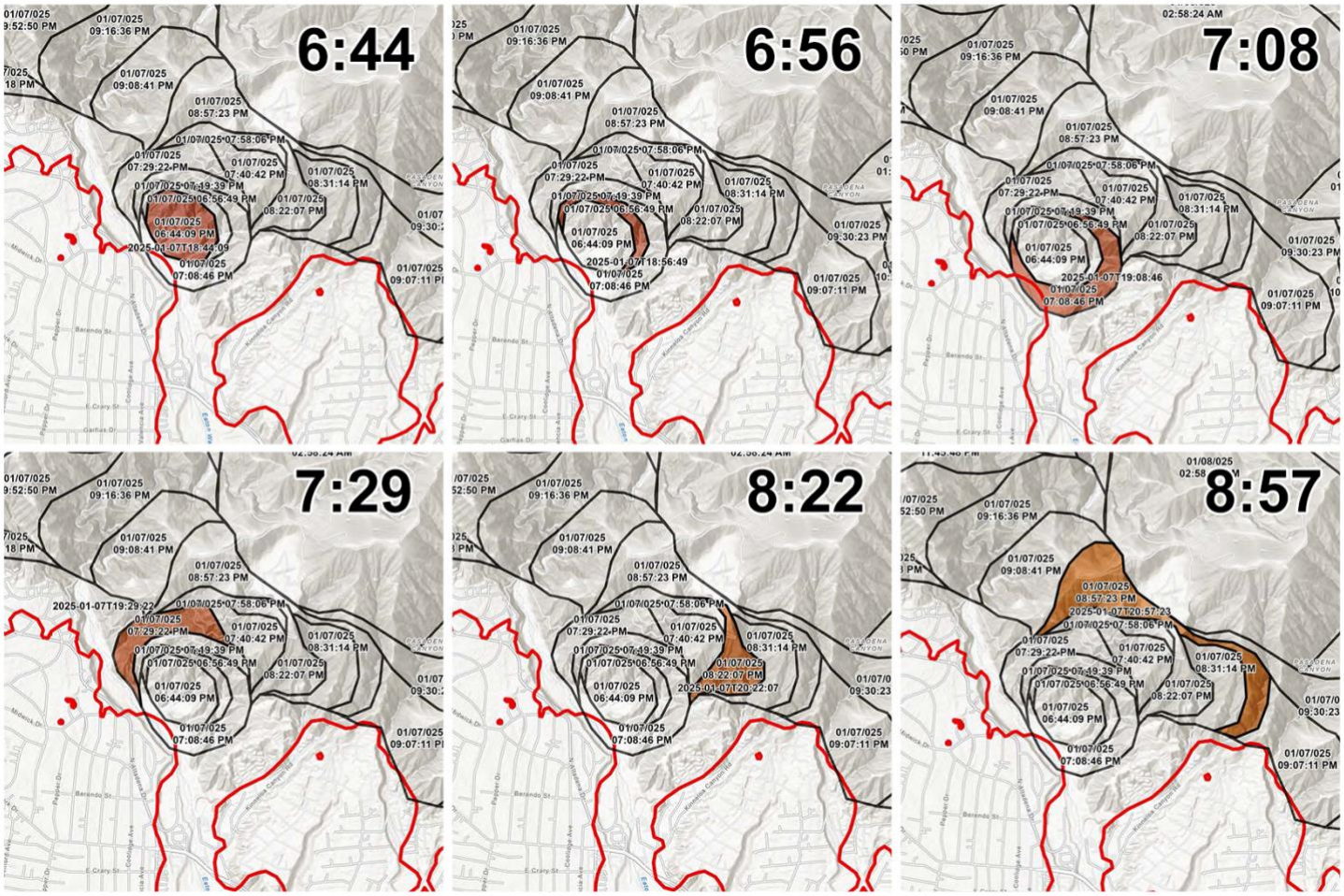
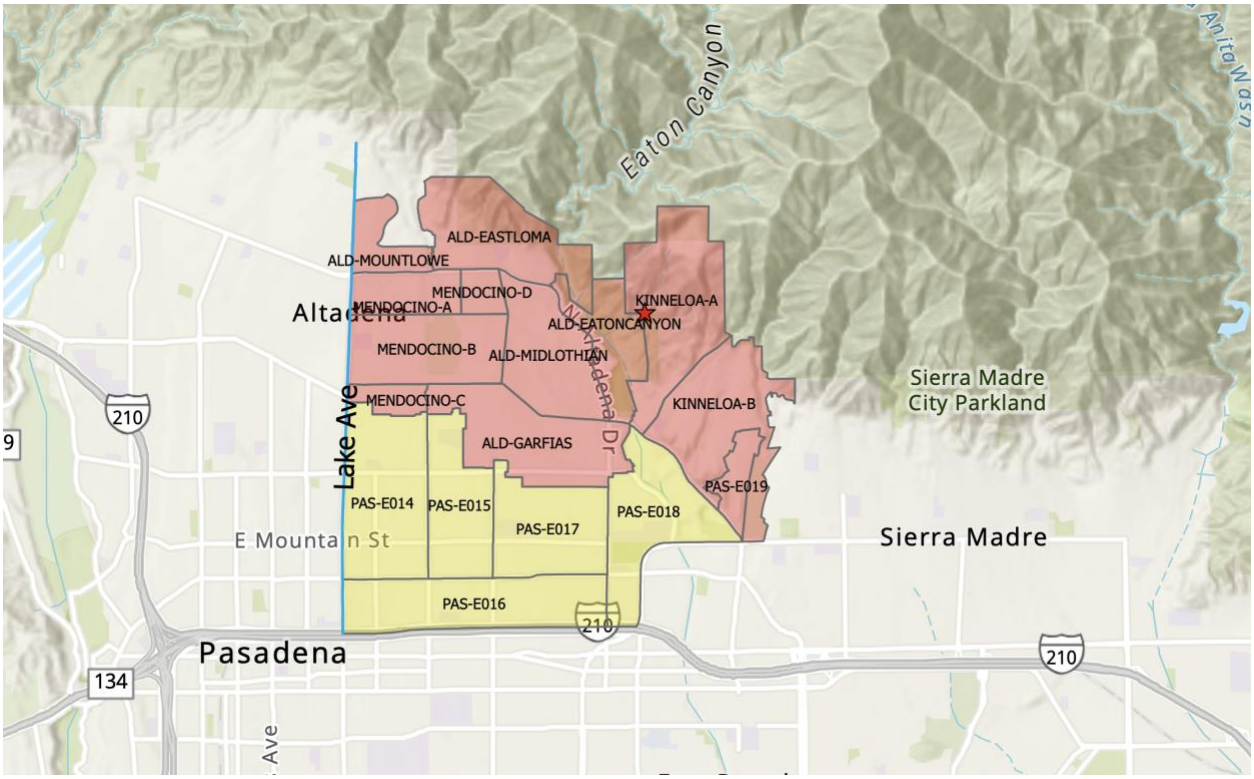


Figure 4 shows the initial Evacuation Warning zones in yellow, and the Evacuation Order zones in red.

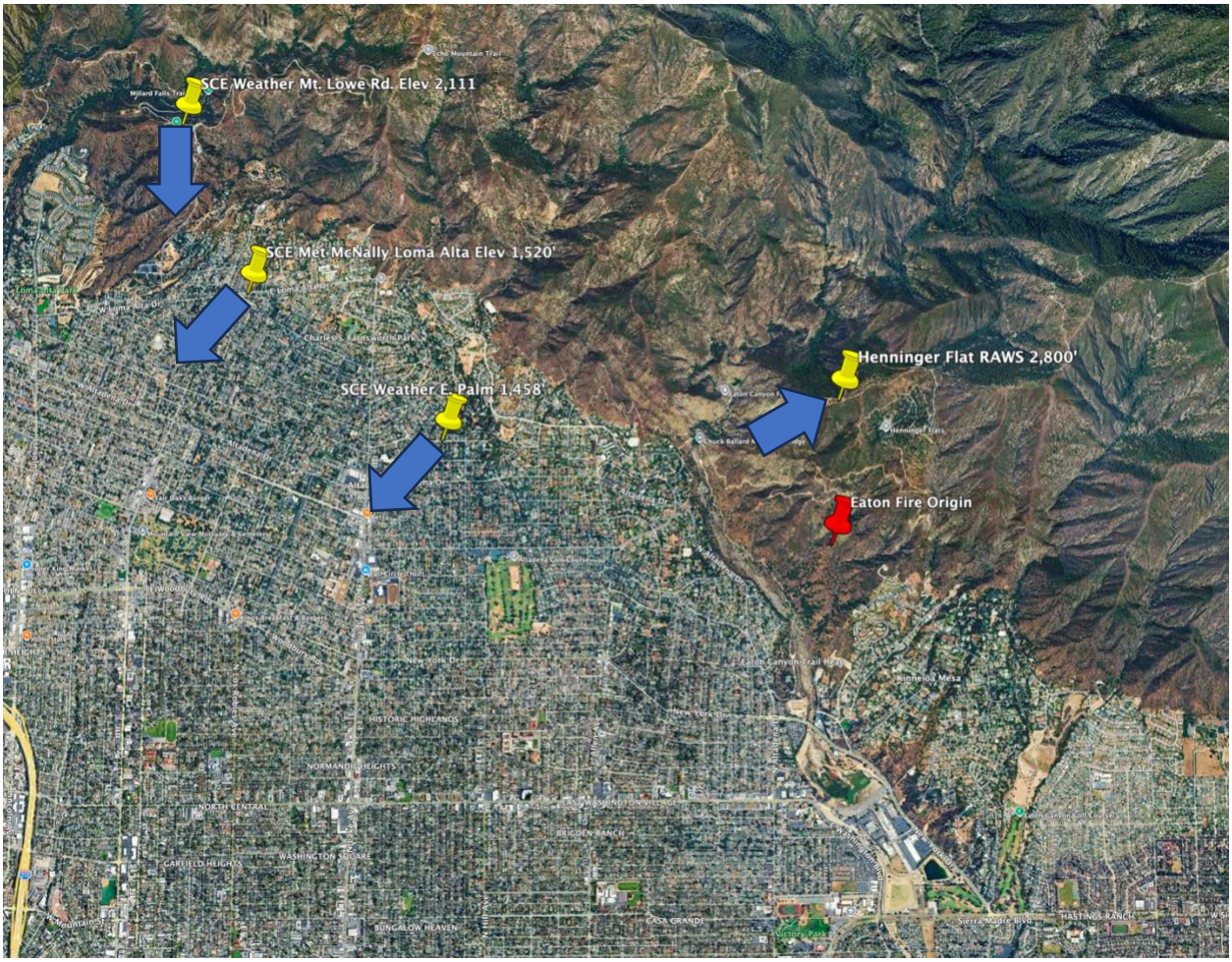
Figure 4—Eaton Fire Evacuation Alert Zones (9:00 p.m. January 7, 2025)



In this initial timeframe, Incident Command focused on getting resources to where the fire was expanding in the east. The early advisory notifications were updated to Evacuation Orders and Evacuation Warnings. This timeframe is important as it establishes that the fire initially moved east even though the winds aloft were from the north by northeast. In addition, it is apparent in the FireGuard perimeter maps that the fire did not spread in a singular direction. This unpredictable spread becomes more problematic to Incident Command after the early loss of overhead fire behavior intelligence. The large initial advisory notification and Evacuation Order zones that extended west to Lake Avenue provided a substantial safety buffer from the origin as LACoFD and LACoSD resources were able to get into the initially impacted areas.

Figure 5 show the surface weather stations that collected data during the fire, and the arrows indicate the sustained wind directions. Citygate's investigation and other AARs reviewed this data to better understand what drove fire spread and the challenges it presented; however, this data was not available to Incident Command during the first night of the fire. Incident Command knew the predicted weather forecast for January 7, 2025, that it had materialized as predicted, and each unit leader was able to observe the wind conditions at their immediate location. Otherwise, there was no significant radio communication about the winds. Winds were severe everywhere, with most first responders stating later that the wind and its effects on the fire were the worst they had experienced in their careers.

Figure 5—Eaton Fire Weather Stations and Sustained Wind Direction



Google Earth Image

Finding #4:	Initial advisory notifications for the Eaton Fire were issued at 6:48 p.m. on January 7, 2025, for 12 zones on the 3 populated sides of the fire's origin to the east, south, and west.
Finding #5:	The first Evacuation Orders were issued at 7:26 p.m. for 5 Altadena zones east of Lake Avenue, Kinneloa Mesa, and 1 Pasadena zone.
Finding #6:	Initial fire spread was more east/southeast toward Kinneloa Mesa, with erratic spread to the north and northwest in the mountains.
Finding #7:	Incident Command's initial incident strategy focused on assisting/rescuing persons being impacted by the fire and unable to self-evacuate, and defending buildings from ignition where possible as the fire spread from the slopes into communities on the eastern fire front.

SECTION 2—ANALYSIS: 9:00 P.M. JANUARY 7, 2025, THROUGH 5:00 A.M. JANUARY 8, 2025

This section discusses the detailed data and evidence reviewed by Citygate to support its findings relative to the evacuation alerts issued for the Eaton Fire, primarily as they relate to the unincorporated community of Altadena. This section focuses on significant events that occurred between 9:00 p.m. on January 7, 2025, through 5:00 a.m. on January 8, 2025, including the reported 3-hour delay by LACoFD personnel.

2.1 9:00 P.M. TO 10:30 P.M. – JANUARY 7, 2025

The Eaton Fire continues to expand in a predominantly southeastward direction with no direct suppression efforts due to the lack of aircraft and because all LACoFD ground resources are focused on life safety, rescues, and structure protection. Based on FireGuard data, the fire also expanded more slowly to the north and northwest into the Angeles National Forest mountains against the prevailing wind.

To the south and east of the fire's origin, reports of fire activity during this time were focused on developed areas around Kinneloa Mesa, while the fire also continued to slowly move west along the foothills.[13] Additional Evacuation Orders and Evacuation Warnings were issued east of the origin as the fire impacted people and buildings; ember cast and downed power lines also caused spot fires ahead of the fire front.

The initial UC organization included LACoFD, LACoSD, ANF, and Pasadena, and representatives from the cities of Glendale, Sierra Madre, Monrovia, and Arcadia were also intermittently present at the ICP. A LACoOEM agency representative (A-REP) was also always at the ICP with cellular telephone contact with the Los Angeles County Emergency Operations Center (EOC) to prepare and issue evacuation alerts as determined by Incident Command.

At 9:00 p.m., Incident Command requested, and LACoOEM issued, an Evacuation Order for 2 Altadena zones east of Lake Avenue. Two (2) new Sierra Madre zones were issued Evacuation Orders at 9:26 p.m. One (1) new Los Angeles County zone east of Kinneloa Mesa was issued an Evacuation Order at 9:34 p.m. These are all summarized in Table 3 and Figure 6 to follow.

By 10:00 p.m., wind gusts were extreme and above historic experience. Structures were continuing to be lost on the eastern front of the fire. At 10:27 p.m., expanded Evacuation Orders were issued for 13 Sierra Madre zones. The Hurst Fire was reported at 10:10 p.m. in Sylmar near the intersection of Interstates 5 and 210,[14] and at 10:30 p.m., the then Eaton Fire LACoFD Incident

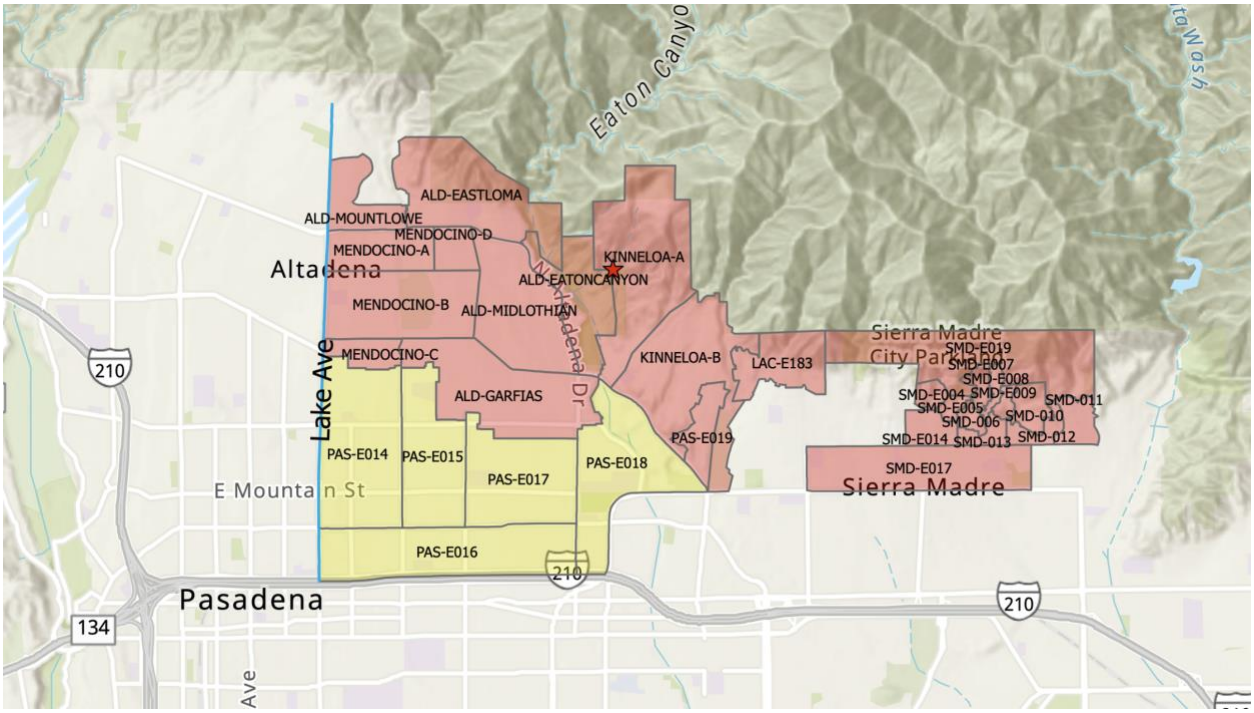
[13] Source: FSRI Phase 1 report, page 173.
[14] Source: FSRI Phase 1 report, page 226.

Commander was assigned to the Hurst Fire, after which LACoFD Incident Management Team #3 officially assumed command.

Table 3—Eaton Fire Significant Events: January 7, 2025 (9:00 p.m. to 10:30 p.m.)

DATE	TIME	SIGNIFICANT EVENT
1/7	**9:00 p.m.**	**EVACUATION ORDER ISSUED:** • **ALD-MENDOCINO** • **ALD-MOUNTLOWE**
1/7	**9:26 p.m.**	**EVACUATION ORDER ISSUED:** • **SMD-E007** • **SMD-E008**
1/7	**9:34 p.m.**	**EVACUATION ORDER ISSUED:** • **LAC-E183**
1/7	**10:27 p.m.**	**EVACUATION ORDER ISSUED:** • **SMD-E004** • **SMD-E005** • **SMD-E006** • **SMD-E007** • **SMD-E00** • **SMD-E00** • **SMD-E010** • **SMD-E011** • **SMD-E012** • **SMD-E013** • **SMD-E014** • **SMD-E017** • **SMD-E019**
1/7	**10:10 p.m.**	Hurst Fire reported in Sylmar.
1/7	**10:30 p.m.**	LACoFD Eaton Incident Commander is reassigned to the Hurst Fire; LACoFD Incident Management Team #3 assumes command of the Eaton Fire.

Figure 6—Eaton Fire Evacuation Alert Zones (10:27 p.m. January 7, 2025)

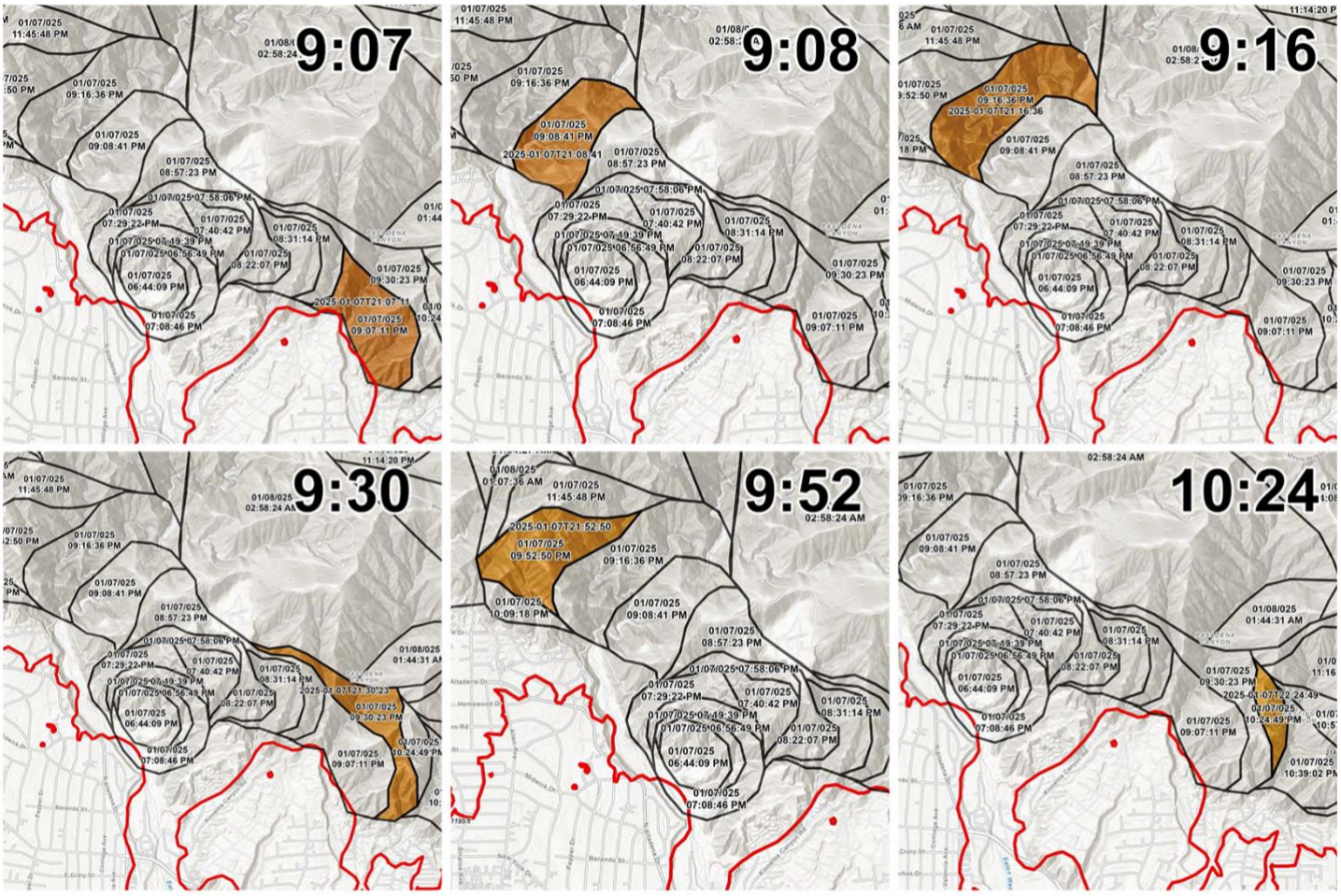


The FireGuard maps to follow in Figure 7 show how the active fire fronts continued to expand to the northwest in the mountains; however, the fire spread was mid-slope and out of sight from both Incident Command and any resources in the neighborhoods.

These images only highlight the fire front, but the entire fire perimeter is also continuing to burn. The fire advanced to the west from 9:08 p.m. to 9:52 p.m. in a large mid-slope movement in the mountains but did not yet reach down into the developed communities below this area. As the timeline shows, since this western fire spread in the mountains was not known to Incident Command, the Incident Command team was continuing to deal with homes being lost in Sierra Madre to the east. Given the fire activity in Kinneloa Mesa, Evacuation Orders were extended south, but still east of Lake Avenue.

Finding #8:	Evacuation Orders were issued at 9:00 p.m. for 2 additional Altadena zones immediately east of Lake Avenue.

Figure 7—FireGuard Eaton Fire Perimeter Maps with Hottest Areas Highlighted



2.2 10:30 P.M. TO 12:00 P.M. – JANUARY 7, 2025

During this period, the Eaton Fire continued to expand southeast and northwest in the Angeles National Forest mountains. By midnight, the fire front had not yet crossed into the inhabited areas of Altadena;[15] however, trees falling into power lines ignited vegetation and buildings within those areas ahead of the fire front, including Glen Canyon Road, East Mendocino Lane, North Midlothian Drive, Midwick Drive, and Morslay Road in Altadena east of Lake Avenue; and Sierra Meadow Drive and Oak Crest Drive in Sierra Madre. These areas had previously been issued Evacuation Orders.

At about 10:15 p.m., the LACoFD dispatch center began forwarding information from 9-1-1 calls for service within the Eaton Fire area to Operations, as there were no other response resources available to directly dispatch into that area of the County. Operations then assigned the appropriate

[15] Source: FireGuard fire perimeter maps.

Operations Branch Director (OPBD) or subordinate Division/Group Supervisor (DIVS) to respond to the calls or send one of their assigned resources.

As summarized in Table 4, an additional Evacuation Order was issued at 10:39 p.m. for 1 Pasadena zone, and Evacuation Warnings were issued for 2 additional Pasadena zones at 10:43 p.m. Two (2) additional Evacuation Orders were issued at 11:08 p.m. for 5 Sierra Madre zones, and Evacuation Orders were issued for 3 Arcadia zones at 11:11 p.m. Evacuation Warnings were also issued for 1 additional Sierra Madre, 1 Monrovia, and 2 Arcadia zones at 11:17 p.m.

At approximately 11:01 p.m., a LACoSD unit reported 2 structures on fire on East Mendocino Lane and North Midlothian Drive (east of Lake Avenue) in Altadena, an area that was also subject to an earlier Evacuation Order. At 11:20 p.m., weather data showed winds at Rubio Canyon shifting from coming from the north-northwest/northwest direction to coming from the north-northeast/northeast direction, bringing winds into full alignment with Rubio Canyon.

2.2.1 Command Conversations Regarding Expanded Evacuations at 11:24 p.m.

The event timeline up to 11:24 p.m. shows that the focus had been on the eastern neighborhoods being impacted by the Eaton Fire. At 11:24 p.m., Operations contacted the LACoFD Incident Commander by cell phone for a 6-minute call to provide an update and discuss evacuations, incident safety, and fire conditions. The Incident Commander heard Operations indicate that the *eastern fire front was expanding*, threatening more structures, and that additional resources were needed. Six minutes later at 11:30 p.m., right after the call ended and as shown in Figure 8, Operations text messaged the Incident Commander 2 evacuation zone numbers and the message to "Add those zones." The Incident Commander responded at 11:31 p.m., "Copy got it" and "In the queue at OEM," likely meaning they had passed it on to LACoOEM to issue Evacuation Orders. Operations replied a minute later at 11:32 p.m. stating "All along the foothill," placing what one can interpret as singular emphasis on the evacuation zones identified in the text which are located at the foothill where Operations was located at the time. There was no mention of Altadena evacuation zones to La Canada in the text message, as evidenced in Figure 8.

Figure 8—Screenshot of Operations' Cell Phone at 11:30 p.m.–11:32 p.m.

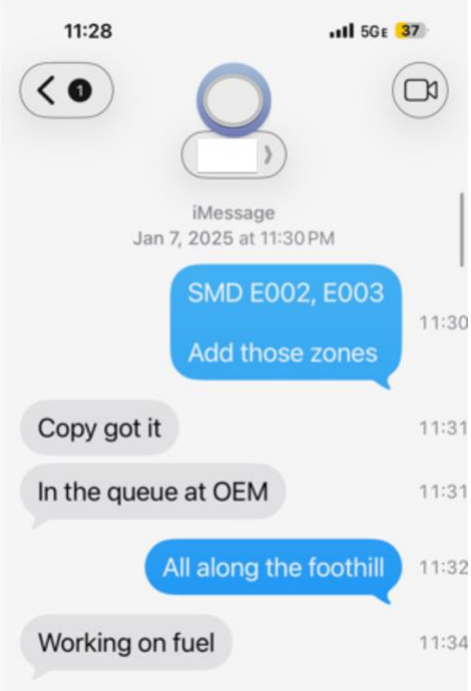
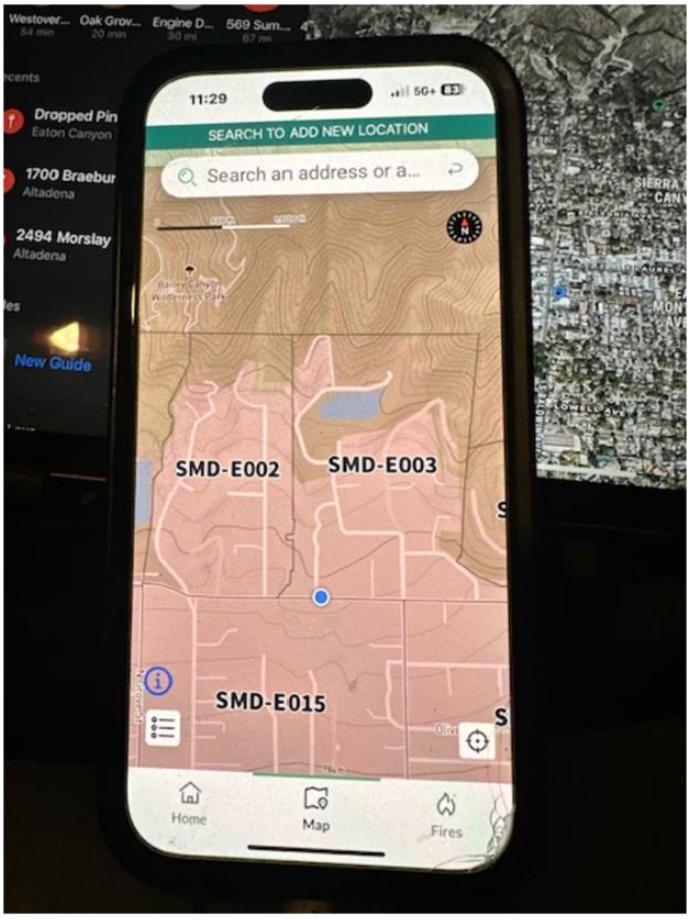


Figure 9 shows that the 2 evacuation zones discussed in the 11:30 p.m. to 11:32 p.m. text thread are on the northern border of Sierra Madre at the edge (foothill) of the mountain where the Eaton Fire was moving into at that hour.

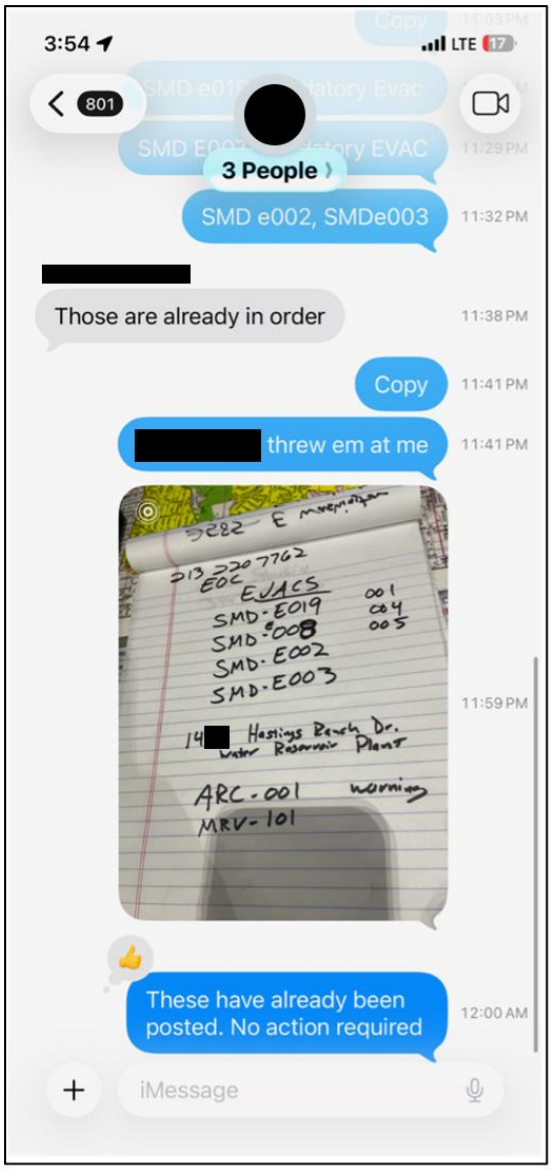
Figure 9—Picture of Operations' Phone Showing Genasys Zones to be Alerted at 11:29 p.m.



Evacuating that area quickly under deteriorating conditions was a time-sensitive priority for Operations, which was vocalized to the Incident Commander in the call and re-confirmed via text message to the Incident Commander. The screen in the background on Operations' command device in Figure 9 shows their area of focus to be in Sierra Madre. The long finger road into the foothill shown in Figure 9 is Baldwin Court off West Carter Avenue in Sierra Madre.

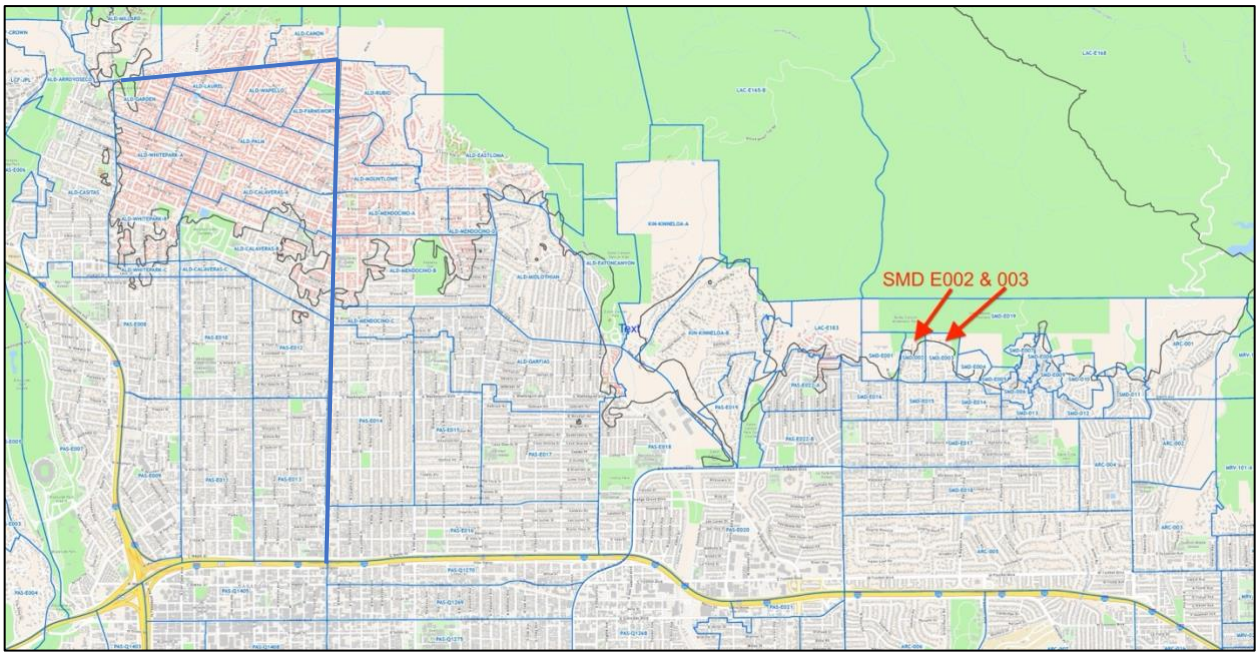
Further evidence to confirm that Incident Command and the LACoOEM A-Rep had already issued Evacuation Orders for these zones at 11:08 p.m. is contained in the following text message screen shot in Figure 10 with time stamps from the A-Rep's cell phone. This text message screen shot shows a paper tablet with a list of Evacuation Orders that they and Incident Command had worked on together at that hour.

Figure 10—LACoOEM A-Rep's Cell Phone Messages at 11:32 p.m.[16]



[16] Redactions on the paper tablet are individual home addresses.

Figure 11—Location of the 2 Sierra Madre Evacuation Zones



Lake Avenue and West Loma Alta Drive shown in blue

Previously reported communications between the Incident Commander and Operations in an earlier AAR and by the media implying the 11:24 p.m. communications were regarding expansion of evacuations in Altadena all the way west to La Canada could not be cross-verified. The text messages between 11:30 p.m. and 11:32 p.m. do not show this, instead identifying 2 zones on the east side of the fire that had already been evacuated (Figure 11).

Four (4) separate individuals across several communications were clearly focused on the deteriorating conditions in Sierra Madre at that hour. The unit communications at that hour do not support a deterioration of conditions west of Lake Avenue in Altadena that would have been of prime concern to Operations from Operations' location east of Kinneloa Mesa. FireGuard fire progression maps reviewed after the incident also do not show the Eaton Fire directly impacting western neighborhoods at that time.

There were no additional phone calls or text messages between the Incident Commander and Operations about other zones of concern. In reviewing the Incident Commander's cell phone log after 11:28 p.m., while they spoke 5 additional times by cell phone over the next few hours at 11:54 p.m., 12:26 a.m., 12:33 a.m., 12:34 a.m., and 2:32 a.m., there were no further reported discussions or text messages about evacuation zones in any areas of western Altadena through La Canada. If there had been a misunderstanding at 11:24 p.m., the requesting party would have followed up, as they were doing in Sierra Madre by voice, text, and evacuation zone live maps.

Table 4—Eaton Fire Significant Events: January 7, 2025 (10:30 p.m. to 12:00 a.m.)

DATE	TIME	SIGNIFICANT EVENT
1/7	**10:39 p.m.**	**EVACUATION ORDER ISSUED:** • **PAS-E022**
1/7	**10:43 p.m.**	**EVACUATION WARNING ISSUED:** • **PAS-018** • **PAS-E020**
1/7	**10:50 p.m.**	Multiple houses and vegetation reported on fire in Altadena around Midwick Drive and Glen Canyon Road, approximately ¾-mile east of Lake Avenue. This area previously received an Evacuation Order.
1/7	**10:51 – 11:00 p.m.**	Fire continues to expand into Sierra Madre with structure fires reported on Sierra Meadow Drive and Oak Crest Drive. This area previously received an Evacuation Order.
1/7	**11:00 p.m.**	Cal OES ordering reports show Engine S/T assigned to protect JPL Labs.
1/7	**11:01 p.m.**	LACoSD reports two structures on fire on East Mendocino Lane and North Midlothian Drive (east of Lake Avenue). This area previously received an Evacuation Order.
1/7	**11:08 p.m.**	**EVACUATION ORDER ISSUED:** • **SMD-E001** • **SMD-E002** • **SMD-E003** • **SMD-E015** • **SMD-E016**
1/7	**11:11 p.m.**	**EVACUATION ORDER ISSUED:** • **ARC-001** • **ARC-002** • **ARC-004**
1/7	**11:16 p.m.**	Division D reports fire is really pushing east.
1/7	**11:17 p.m.**	**EVACUATION WARNING ISSUED:** • **SMD-E018** • **MRV-101** • **ARC-003** • **ARC-005**
1/7	**11:20 p.m.**	Reported house on fire on Morslay Road (approximately ½-mile east of Lake Avenue) and fire threatening house on Braeburn Road in the same area. This area previously received an Evacuation Order.
1/7	**11:20 p.m.**	Winds at Rubio Canyon began to shift from NW/NNW to NE/NNE.
1/7	**11:24 – 11:32 p.m.**	Cell phone call from Operations to Incident Commander; Operations texted Genasys zones SMD E002 and SMD E003 to be evacuated to Incident Commander; Incident Commander advised those zones were already in queue at OEM.
1/7	**11:40 p.m.**	LACoSD requested to evacuate 34** Glenrose Avenue (west of Lake Avenue); Search and Rescue Team assigned.

DATE	TIME	SIGNIFICANT EVENT
1/7	**11:47 p.m.**	Elderly female requested evacuation assistance at 34** Glenrose Avenue; LACoSD responds.
1/7	**11:49 p.m.**	LACoFD Battalion Chief reports structure fire at Glenrose Avenue and West Loma Alta Drive (west of Lake Avenue).

Figure 12—Eaton Fire Evacuation Alert Zones (11:17 p.m. January 7, 2025)

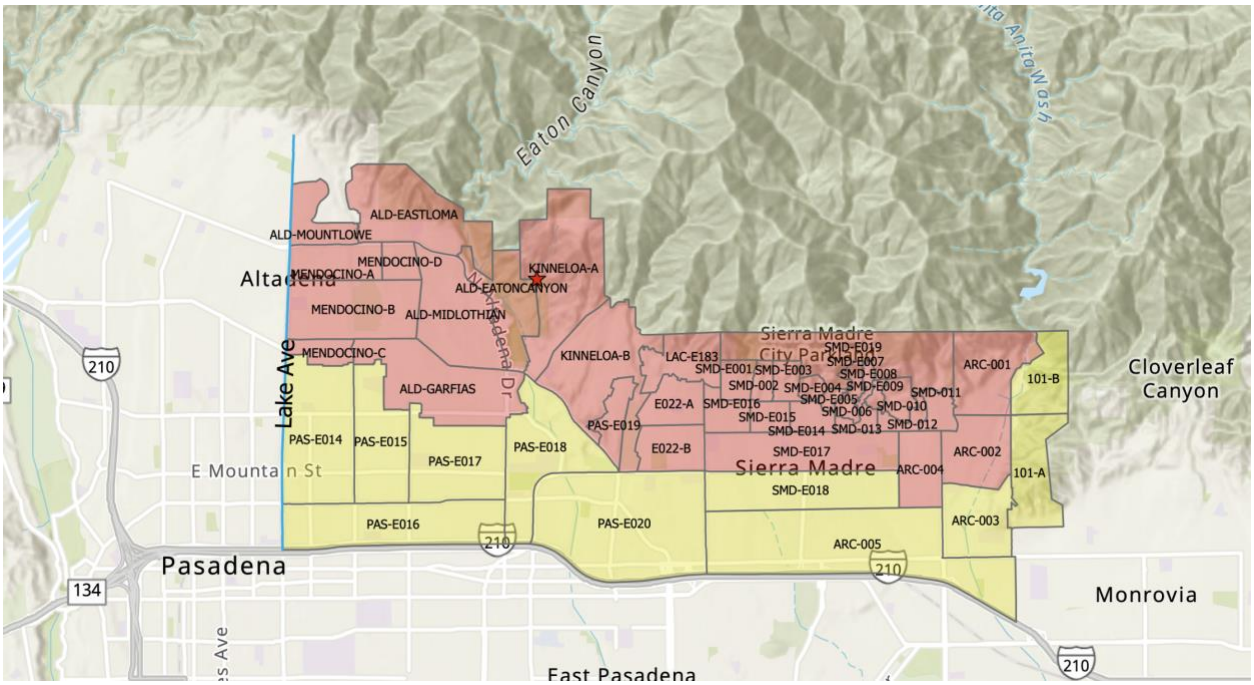
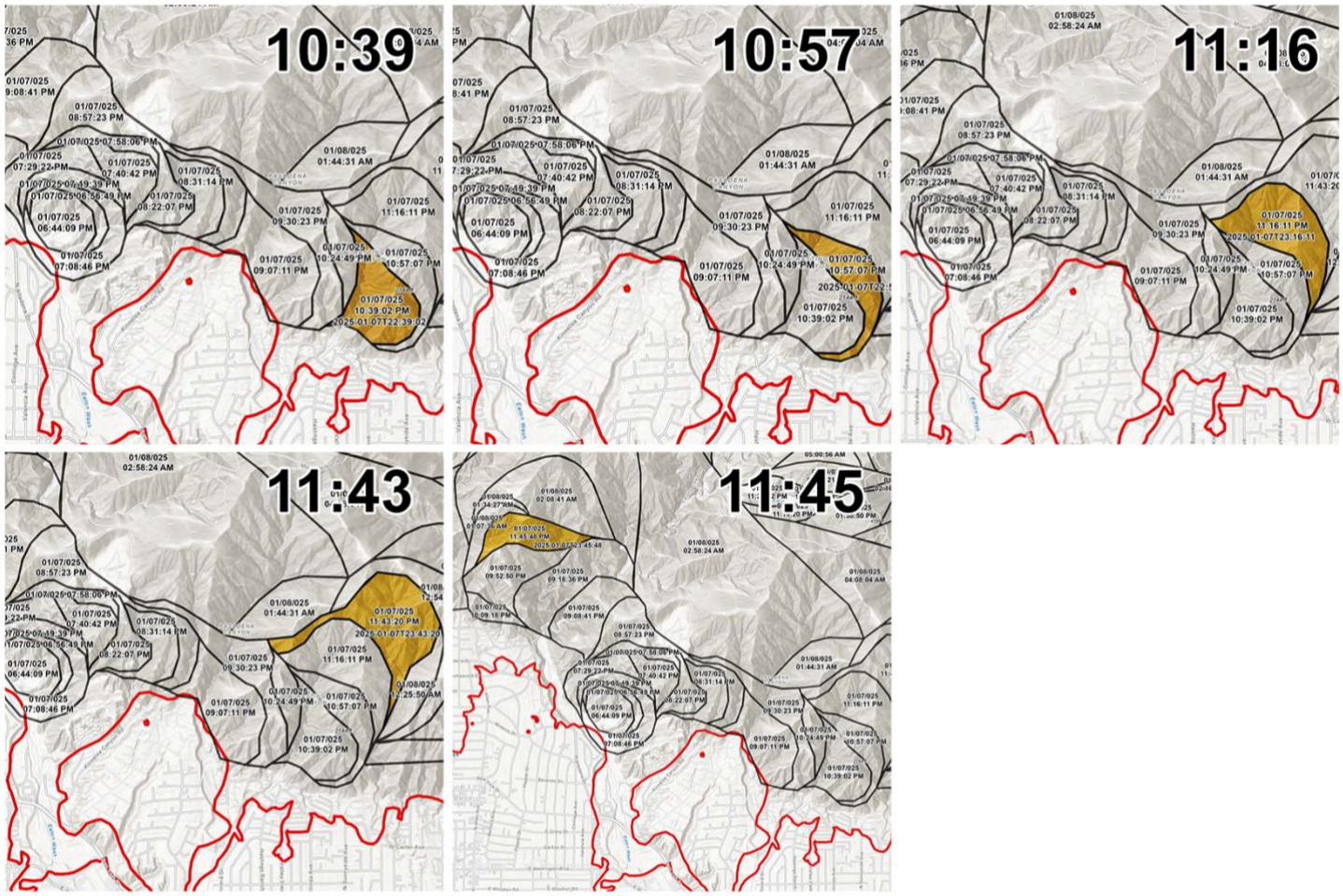


Figure 13 shows the fire spread was to the east and northwest in the mountains prior to midnight.

Figure 13—FireGuard Eaton Fire Perimeter Maps with Hottest Areas Highlighted



Finding #9:	The cell phone conversations and text messages between Incident Command and Operations from 11:24 p.m. to 11:32 p.m. related to fire impacts on the eastern, not western, end of the Eaton Fire front in northern Sierra Madre and identified 2 more zones to evacuate in Sierra Madre, which had already been issued an Evacuation Order at 11:08 p.m.

Finding #10: Previously reported communications between Incident Command and Operations in an earlier AAR and by the media implying the 11:24 p.m. communications were regarding expansion of evacuations in Altadena all the way west to La Canada could not be cross-verified. Four (4) separate individuals across several communications were clearly focused on the deteriorating conditions in Sierra Madre at that hour. The unit communications at that hour do not support a deterioration of conditions west of Lake Avenue in Altadena that would have been of prime concern to Operations from Operations' location east of Kinneloa Mesa. FireGuard fire progression maps reviewed after the incident also do not show the Eaton Fire directly impacting western neighborhoods at that time.

2.3 12:00 P.M. TO 1:30 A.M. – JANUARY 8, 2025

By midnight, there were approximately 127 LACoFD plus other fire agencies' resources assigned to the Eaton incident, with **no** additional nearby mutual aid resources available. Despite a Cal OES resource order being planned for the Jet Propulsion Lab (JPL) at 11:00 p.m. by LACoFD dispatch, at approximately midnight, a JPL security supervisor arrived at the Rose Bowl ICP and advised Incident Command of a potentially catastrophic consequence if any of 4 JPL complex buildings catch fire. This was a significant focus for Incident Command over the next approximately 2 hours until it was determined there was no imminent threat to those buildings.

Citygate's work in reviewing the prior Eaton Fire AARs, as well as fire unit radio traffic about the power still being active in the fire zone, all support that it was highly likely the power was still on in many neighborhoods in Altadena. In severe wind-driven fires, it is normal for power lines to be knocked over or for tree branches to be blown into power lines, thus starting individual fires. In addition, possibly supporting this was that all the SCE weather stations in Altadena had power and continued to report weather data; the only one that stopped reporting was the McNally Loma Alta station, 0.6 miles west of Lake Avenue, at about 3:10 a.m. Multiple persons interviewed for this and prior AARs stated there were numerous power lines down, with heavy smoke conditions coming off the fire in the mountains significantly hampering visibility.

At 12:26 a.m., the Incident Commander called Operations and had a 3-minute conversation. Neither recall this conversation being about impending catastrophic conditions emerging. Each called the other for 1 minute at 12:33 a.m. and 12:34 a.m. Operations' next call to the Incident Commander was not until 2:32 a.m.

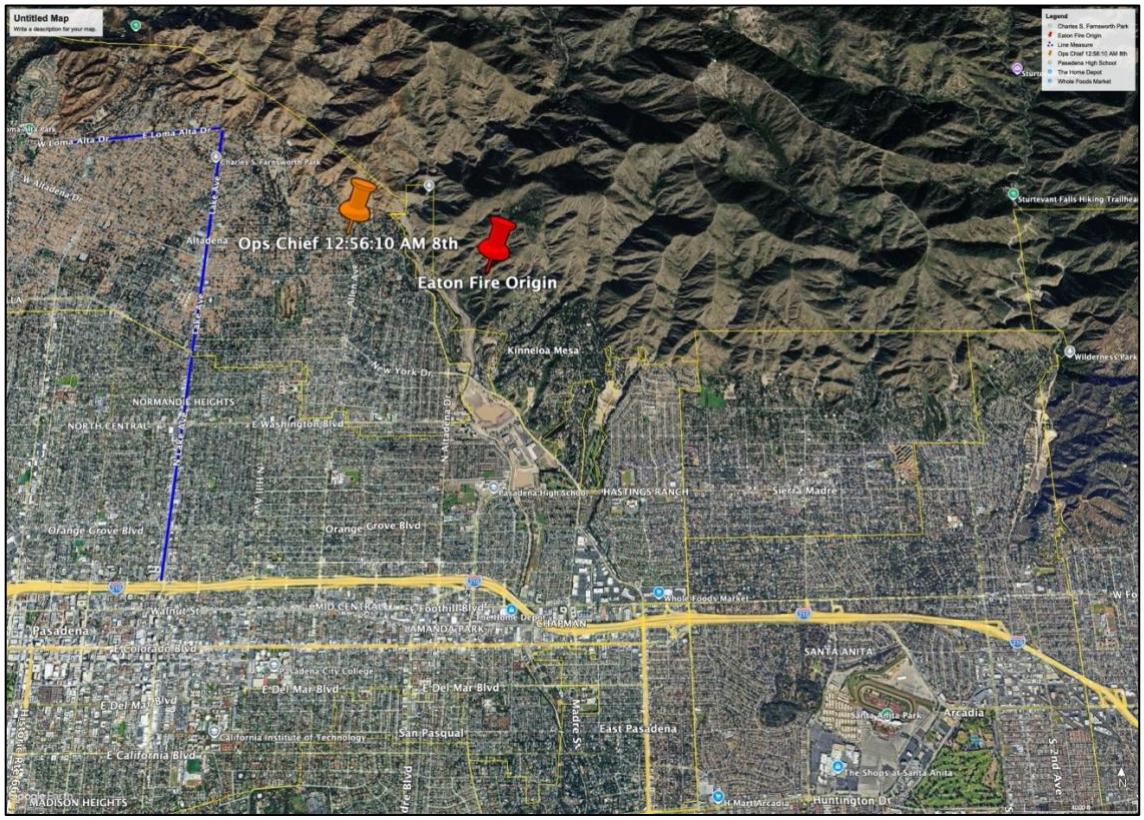
Another outdoor landscape fire was reported west of Lake Avenue at 12:35 a.m. Additional Evacuation Warnings were issued at 12:41 a.m. and 12:51 a.m. for Sierra Madre, Monrovia, and Arcadia zones.

At 12:54 a.m., field personnel reported the fire was continuing to push east and advised Operations to continue to send resources to the east. Operations acknowledged the report and continued to make Branch III (east of Eaton Canyon) the priority for resource assignments.

Meanwhile, LACoSD personnel were still conducting evacuations. At 12:55 a.m., deputies were requesting assistance with an evacuation at 6** East Sacramento Street (west of Lake Avenue). Also at 12:55 a.m., a LACoSD deputy reported a house on fire at 5** East Las Flores Drive (west of Lake Avenue).

Following the 11:24 p.m. phone call with Incident Command, Operations moved westward to check on conditions at Kinneloa Mesa, and then into Altadena. At 12:56 a.m., a cell phone video segment provided by Operations showed a stop to discuss conditions with a hand crew, with Operations' location being 1.07 miles east of Lake Avenue, as shown in Figure 14. This position was just west of the main outlet of Eaton Canyon.

Figure 14—Location of Operations at 12:56 a.m. on January 8, 2025



Operations observed fire conditions at this location, and the video shows limited visibility of perhaps 50 to 75 yards due to heavy smoke. While there was fire at this location, there was no way to determine if significant ember cast conditions were occurring from high above off the mountains, or whether the fire front had or was exiting Eaton Canyon at ground level.

The timeline shows that, during the next hour, the Incident Command team's efforts were still focused on rescuing persons and significant structure fires on the eastern fire front.

At 1:00 a.m., in the absence of aerial fire spread intelligence, the continuing strategy on the fire was "life safety first, followed by perimeter control, and structure defense through primarily direct attack, with some fire front following firefighting"[17] to protect people and limit, if possible, building fires. This strategy worked on the eastern side of the fire. What was seen at 1:00 a.m. just below Eaton Canyon was, at a minimum, initial fire spread off the lower slopes, but that had occurred on the eastern side of the fire and had not started a community conflagration.

After 1:00 a.m., there were more reports of individual fires and requests for evacuation assistance in northern Altadena. It is generally understood that there will be heavy smoke and some ember cast downwind of a major wind-driven fire. LACoSD deputies and personnel were conducting evacuations and assisting fire resources in Altadena throughout the night. These actions started well before midnight as LACoSD deployed more resources into the Altadena area of the fire.

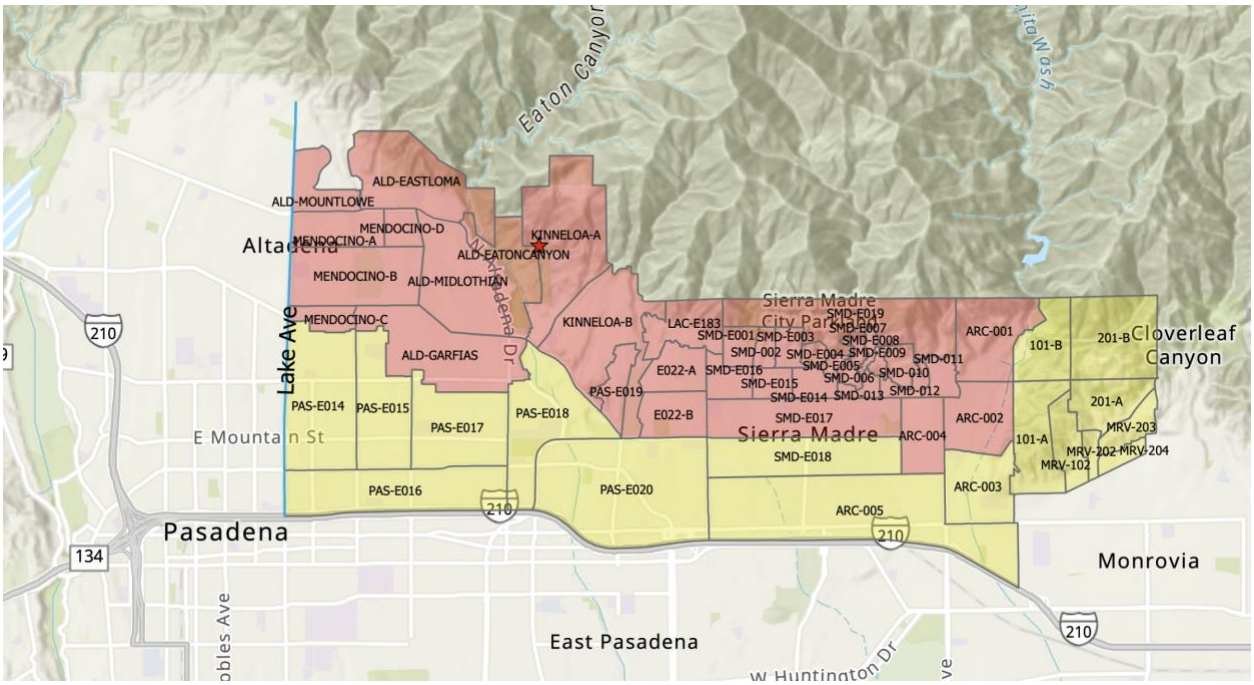
[17] FIRESCOPE Field Operations Guide.

Table 5—Eaton Fire Significant Events: January 8, 2025 (12:00 a.m. to 1:30 a.m.)

DATE	TIME	SIGNIFICANT EVENT
1/8	**12:00 a.m.**	127 LACoFD plus other fire agencies' resources are on scene at the Eaton incident; some LACoSD resources moved from Palisades to Eaton Fire.
1/8	**Approx. 12:00 a.m.**	JPL security supervisor arrives at Rose Bowl ICP and advises Command of a catastrophic consequence if any of four JPL buildings catch fire; request immediate resources to protect those buildings.
1/8	**12:35 a.m.**	7** East Altadena Drive (west of Lake Avenue) reports bushes on fire.
1/8	**12:41 a.m.**	**EVACUATION WARNING ISSUED:** • **SMD-E018** • **MRV-101** • **ARC-003** • **ARC-005 (Second Warning)**
1/8	**12:51 a.m.**	**EVACUATION WARNING ISSUED:** • **MRV-102** • **MRV-201** • **MRV-202** • **MRV-203** • **MRV-204**
1/8	**12:54 a.m.**	Field personnel report the fire is continuing to **push east** and advise Operations to *continue to send resources to the east*. Operations continues to make Branch III (east of Eaton Canyon) the priority for resource assignments.
1/8	**12:55 a.m.**	LACoSD requesting assistance with evacuation at 6** East Sacramento Street (west of Lake Avenue).
1/8	**12:55 a.m.**	LACoSD unit reports house on fire at 5** East Las Flores Drive (west of Lake Avenue).
1/8	**12:56 a.m.**	Video segment from OSC (location is east of Lake Avenue).
1/8	**12:57 a.m.**	Radio transmission of a fire on East Las Flores Drive (west of Lake Avenue).
1/8	**1:00 a.m.**	LACoSD personnel on scene continued to conduct evacuations, including those arriving earlier in the night from Palisades Fire and initiate evacuations west of Lake Avenue north of Loma Alta Drive.
1/8	**1:18 a.m.**	Radio report of reduced fire behavior on the far east end – "hung up in the hills."
1/8	**1:30 a.m.**	Additional structure fires reported on/near upper Lake Avenue.

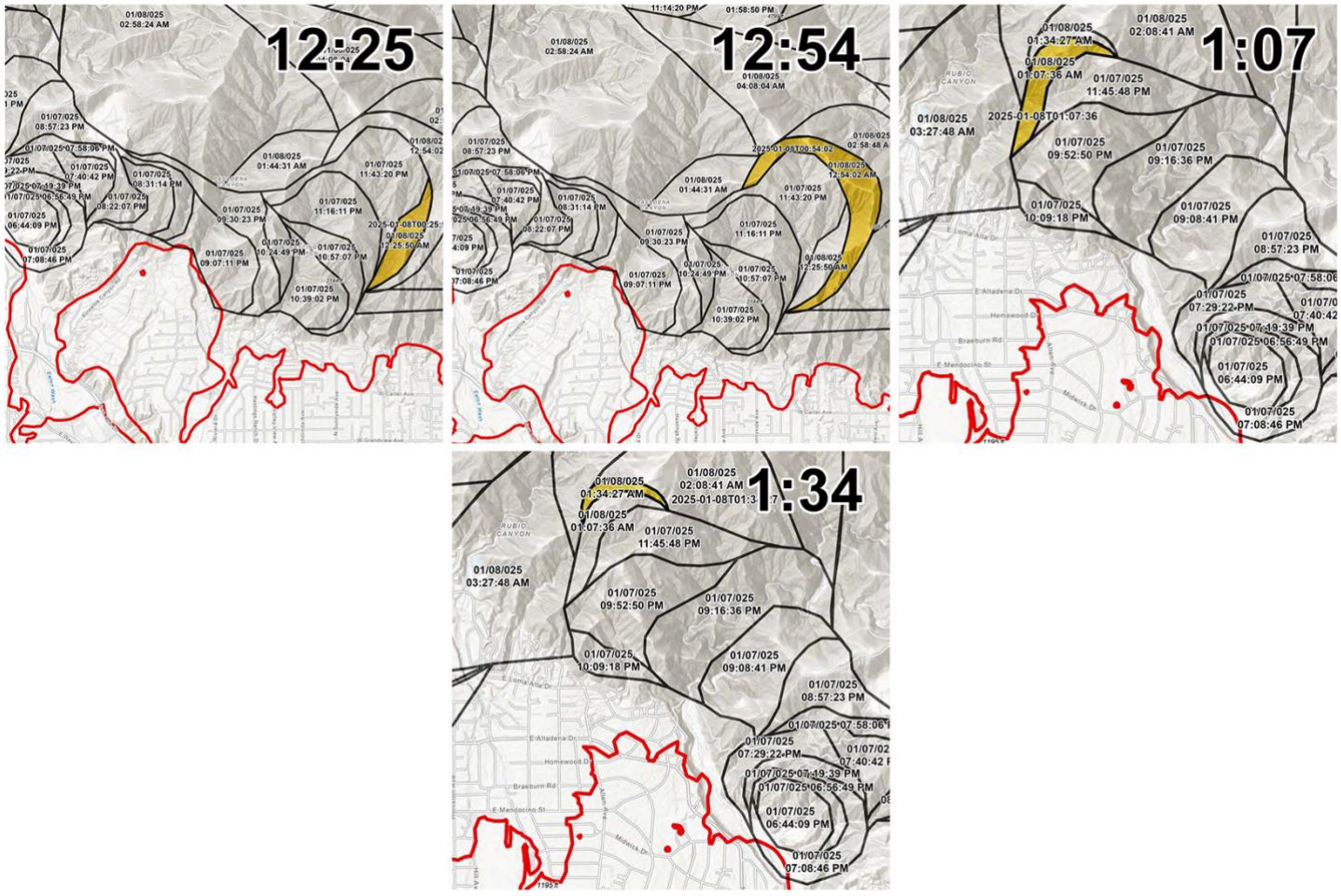
Figure 15 shows all the evacuation zones under notice for several hours by 1:00 a.m.

Figure 15—Eaton Fire Evacuation Alert Zones (12:51 a.m. January 8, 2025)



The 1:07 a.m. FireGuard map in Figure 16 shows the fire intensity was the highest at the top of the ridge headed towards Rubio Canyon out of Eaton Canyon. The FireGuard maps also show the fire's spread downslope into Rubio Canyon at 1:34 a.m. As the fire front continued to approach the toe of the mountains, the predominant northeast/north-northeast winds were in perfect alignment with lower Eaton Canyon and, later, Rubio Canyon to eventually push the fire into northeastern Altadena.

Figure 16—FireGuard Fire Perimeter Maps with Hottest Areas Highlighted



While the Eaton Fire was spreading into and out of Eaton and Rubio Canyons after 1:00 a.m., on the ground in the neighborhoods, in the dark, with heavy smoke and strong winds, it likely presented itself as no different than it had in Sierra Madre; the eastern fire front burned homes on the edge of the foothills, but had not started a community conflagration.

Finding #11: By 12:00 a.m. on January 7, 2025, there were approximately 127 LACoFD plus other fire agencies' resources assigned to the Eaton Fire, with additional mutual aid resources to arrive before dawn. Additional law enforcement personnel from various LACoSD stations and search and rescue teams continued to arrive on the Eaton Fire throughout the evening and into the early morning.

Finding #12: Many of the mid-evening to pre-midnight fires ahead of the fire front in Altadena were most likely started by power lines being blown down or trees/branches falling into the power lines rather than ember cast; by 1:00 a.m., heavy smoke conditions and ember cast were significantly hampering visibility in the existing evacuation zones east of Lake Avenue.

Finding #13: As soon as LACoSD deputies arrived at the Eaton incident, they and other law enforcement personnel conducted evacuations and assisted fire resources throughout Altadena.

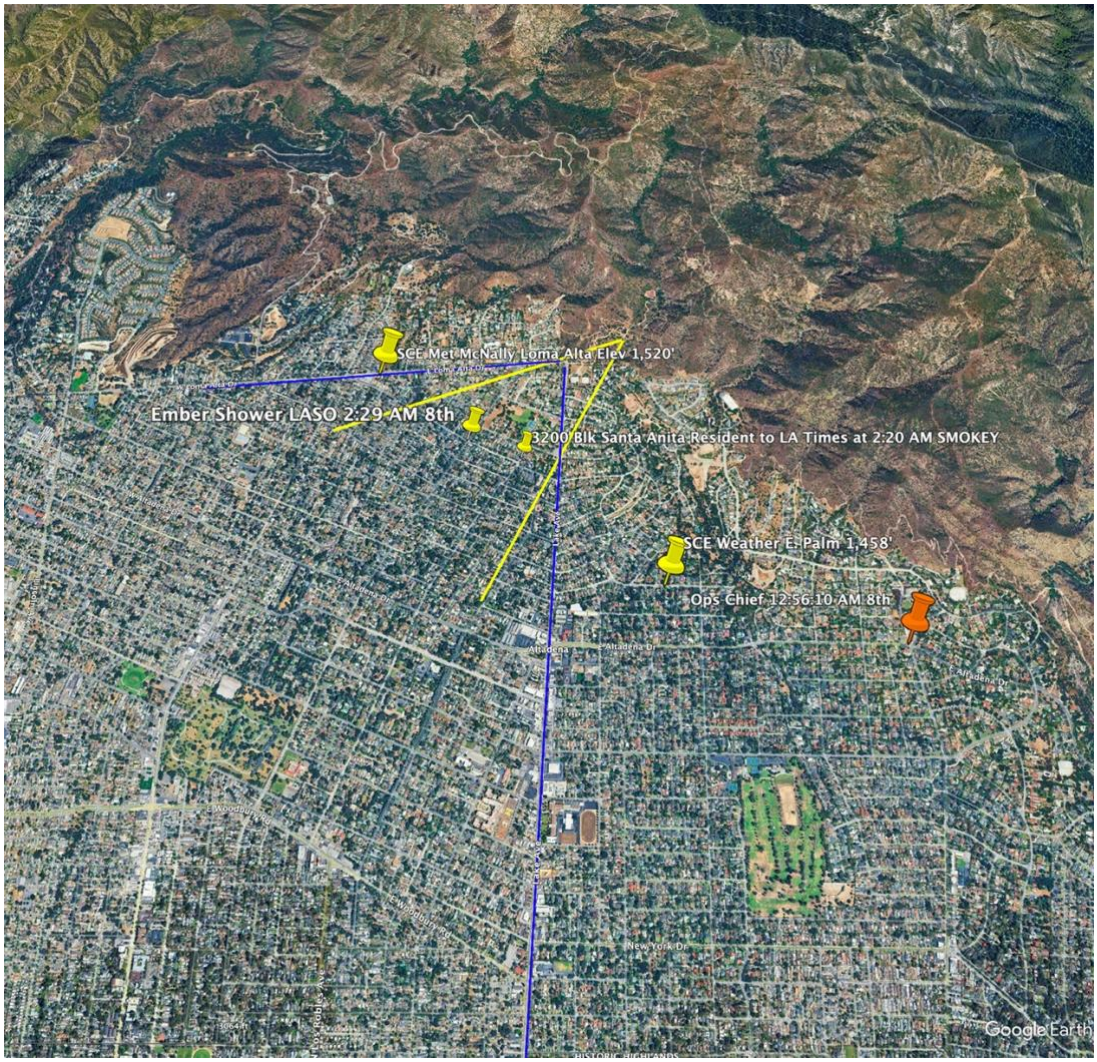
Finding #14: At or approximately around 1:00 a.m., Incident Command was still blind to the fire's movements above them in the canyons. Where Operations was located at 12:56 a.m., the significant fire front on the ridge between Eaton Canyon and Rubio Canyon was 1,200 vertical feet above; there was no way to see or estimate fire spread.

2.4 1:30 A.M. TO 3:00 A.M. – JANUARY 8, 2025

Between 1:30 a.m. and 1:45 a.m., field resources began reporting additional structure fires near upper Lake Avenue. Operations and available fire resources were tracking with the fire's movement westward in the mountains as it reached the edge of communities. By 2:00 a.m., ember cast appears to be increasing in light of the structure fires increasingly being reported. By then, the fire was severe in upper Rubio Canyon, burning out of sight, and was likely ember casting more heavily into northern Altadena as modeled in Figure 17.

Finding #15: By 2:00 a.m., the fire was ember casting more heavily and beginning to exit from Rubio Canyon.

Figure 17—Probable Ember Cast 1-Mile Distance (2:00 a.m. January 8, 2025)



At 2:18 a.m., a LACoFD chief officer, as part of Incident Command coordinating radio reports at the ICP, overhears LACoFD radio traffic that the fire is running east and west in the mountains and immediately recognizes the need for additional Evacuation Orders and Evacuations Warnings west of Lake Avenue. This Chief coordinates directly with the LACoOEM A-REP also at the ICP to identify the Genasys evacuation zones to relay to the County EOC to issue 12 additional Evacuation Orders for Altadena zones west of Lake Avenue and the La Canada/Flintridge-JPL zone, and Evacuation Warnings for 6 La Canada/Flintridge zones.

Finding #16: All the radio reports from 2:00 a.m. to 2:18 a.m. were identifying fire on the mountains and entering the edges of northern Altadena.

Finding #17: The process of evaluating the expansion of Evacuation Orders and Evacuation Warnings west of Lake Avenue began at 2:18 a.m. following Incident Command hearing critical radio communications about the fire's spread west. Incident Command identified the evacuation zones needing Evacuation Orders and Evacuation Warnings and communicated them to LACoOEM's staff in the field, who then contacted the EOC. LACoOEM's staff in the EOC then prepared and sent the Evacuation Orders and Evacuation Warnings for Altadena zones west of Lake Avenue.

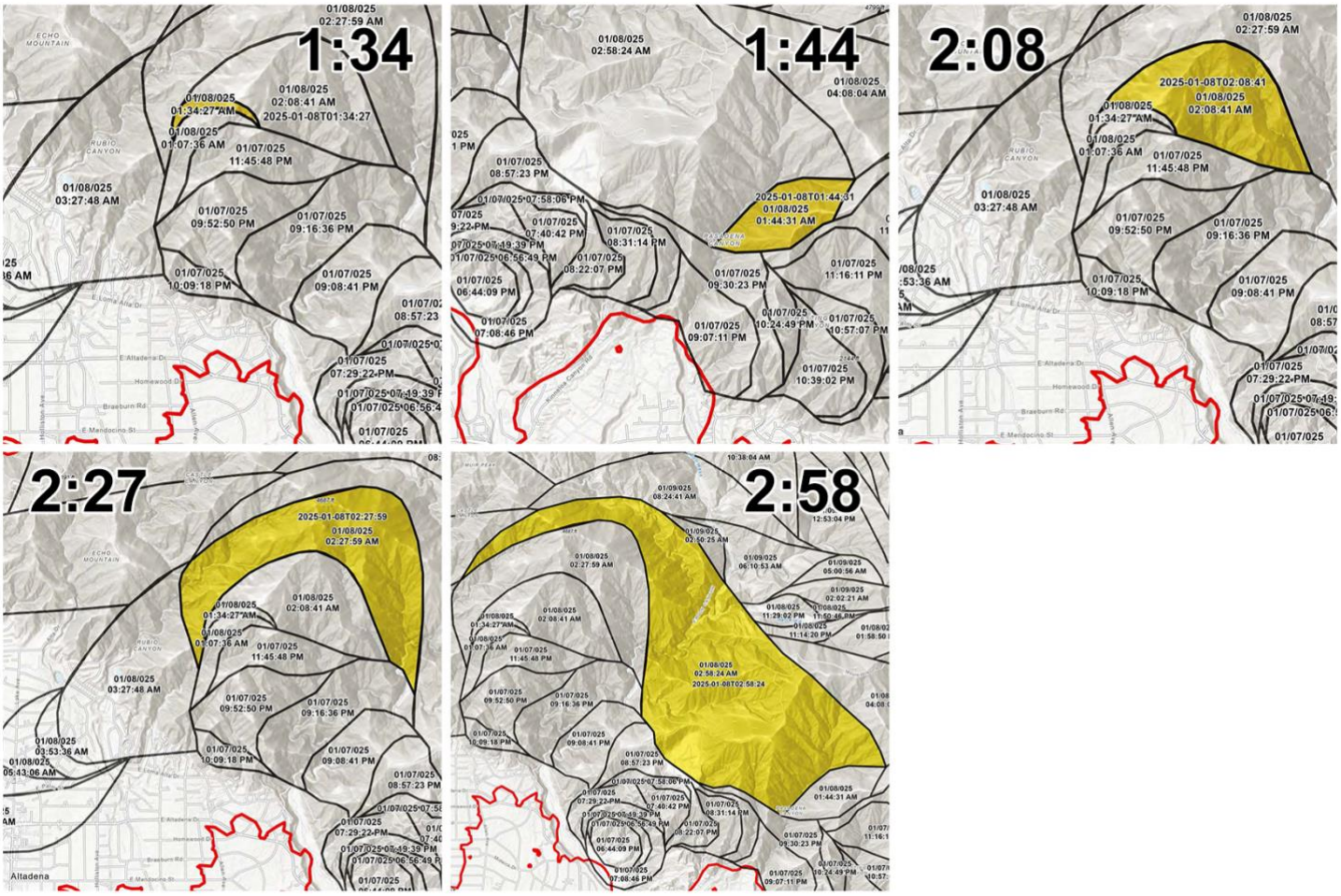
At 2:18 a.m., LACoSD deputies reported they could see the fire moving west in the foothills north of Farnsworth Park above Lake Avenue, which was subsequently communicated to Operations by Incident Command. At 2:33 a.m., a Pasadena police officer reported the entire 3400 block of Monterosa Drive (west of Lake Avenue north of East Alta Loma Drive) was on fire. By 2:35 a.m., intense ember-cast-driven vegetation and building fire activity in Altadena was shifting from the east side of Lake Avenue to areas west of Lake Avenue. At 2:43 a.m., LACoSD personnel reported significant fire activity on both sides of Lake Avenue, including fire approaching residences at 3** East Wapello Street west of Lake Avenue.

Table 6—Eaton Fire Significant Events: January 8, 2025 (1:30 a.m. to 3:00 a.m.)

DATES	TIME	SIGNIFICANT EVENT
1/8	**2:18 a.m.**	The ICP hears radio traffic that fire is running east and west in the mountains and immediately recognized the need for additional evacuations; the IC and radio assistant coordinated directly with LACoOEM A-REP to receive additional Evacuation Orders started for Altadena and La Canada zones, and additional Evacuation Warnings for La Crescenta and Glendale zones.
1/8	**2:18 a.m.**	LACoSD deputies reported they could see fire in the foothills north of Farnsworth Park above Lake Avenue moving west along the foothills.
1/8	**2:33 a.m.**	Pasadena PD reports entire street on fire at 3*** Monterosa Drive (west of Lake Avenue north of East Loma Alta).
1/8	**2:35 a.m.**	Shifting of reports of fire activity from the east side of Lake Avenue to the west side of Lake Avenue.
1/8	**2:43 a.m.**	LACoSD deputy reports fire coming near residences at 3** East Wapello Street (west of Lake Avenue and south of East Loma Alta Drive).

The next series of FireGuard maps in Figure 18 show how the most intense deteriorating pockets of the fire were still in the upper canyon slopes, mostly on the east and north sides.

Figure 18—FireGuard Fire Perimeter Maps: January 8, 2025 (1:30 to 3:00 a.m.)



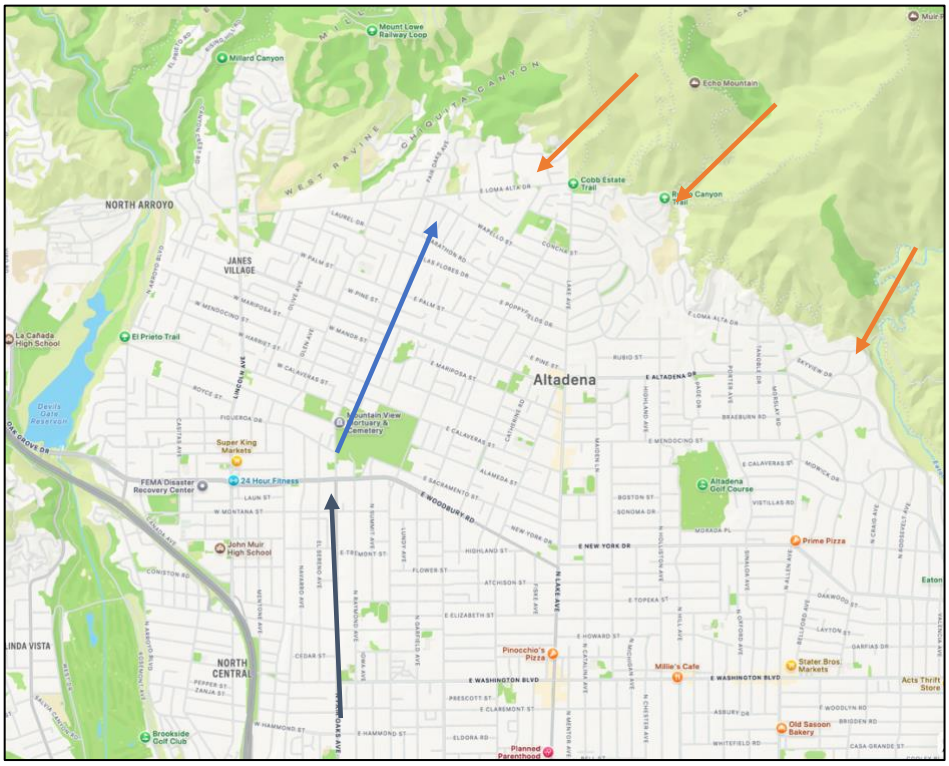
Finding #18: Between approximately 1:00 a.m. and 2:00 a.m., as the fire moved out of upper Eaton Canyon into Rubio Canyon, fire and law enforcement field resources were dealing with approximately 30 separate structure fires. On average, this was a new fire response request to a specific address every 2 minutes. Operations was receiving these requests and triaging them to the few available resources while taking the same action on the still-very-active east end of the fire.

Finding #19: Between 1:00 a.m. and 2:00 a.m., unseen to Unified Incident Command, all of whom possessed no aerial fire spread intelligence, the Eaton Fire overcame the strategy of keeping pace with where the fire was thought to be as it impacted more neighborhoods.

2.5 3:00 A.M. TO 5:00 A.M. – JANUARY 8, 2025

By approximately 3:00 a.m., the Eaton Fire front was pushing southwest in alignment with Rubio Canyon. The northeast-facing Altadena street grid, with the wind blowing out of the north/northeast, is shown in Figure 19.

Figure 19—Northwest Altadena Street Grid[18] Alignment with Canyons and Downslope Winds



Factors contributing to the Eaton Fire community conflagration included a street layout in northwestern Altadena that pivoted approximately 30 degrees to the northeast above East Woodbury Road, which align with the canyon drainages in that section of the San Gabriel mountains. Thus, rows of buildings and residential structures[19] on either side of those streets created canyons in the neighborhoods for the wind to funnel down through and maintain or increase in velocity. Being an older, tree-filled community, the heavy tree canopy in Altadena contributed fuel in addition to decades-old buildings, vehicles, and other outdoor combustible items. Finally, this section of Altadena is not flat, but continues to slope down another 460 vertical feet from the toe of the mountains to East Woodbury Road. The historically strong winds exiting

[18] Google Maps scaled view.

[19] The oldest buildings in Altadena are not built to current codes calling for ignition-resistant materials such as fire-rated roofs, siding, windows, vents, and eaves to resist ember intrusion and fire spread, all of which aim to reduce conflagration losses.

the base of the canyons that night were unobstructed as they flowed downslope into these Altadena neighborhoods.

Evacuation Orders for 13 additional Altadena zones west of Lake Avenue were issued at 3:25 a.m. Additional Evacuation Warnings were issued at 3:36 a.m. for 6 La Canada/Flintridge zones as summarized in Table 7. Even with these Evacuation Orders being issued for the zones west of Lake Avenue, the documented fire front at this time is still east of Lake Avenue.

At 4:00 a.m., LACoSD and LACoFD personnel began evacuating/rescuing residents of the MonteCedro Retirement Community Home on El Molino Avenue 2 blocks west of Lake Avenue. This operation took several hours due to the number of senior residents, many with limited mobility having to be transported down flights of stairs.

At 4:36 a.m., Evacuation Warnings were upgraded to Evacuation Orders for the 6 La Canada/Flintridge zones, and Evacuation Orders were issued 11 minutes later at 4:47 a.m. for 17 Monrovia zones on the eastern side of the fire.

As Figure 21 illustrates, the western fire front for the Eaton Fire had exited Rubio Canyon and spread into northeastern Altadena by 3:27 a.m.; however, the fire front was still approximately 2 blocks east of Lake Avenue at 3:53 a.m. Figure 21 further illustrates that the fire front had extended approximately 1 block west of Lake Avenue between Concha Street and East Los Flores Drive by 5:13 a.m.; however, by 6:00 a.m., the community conflagration was well underway.

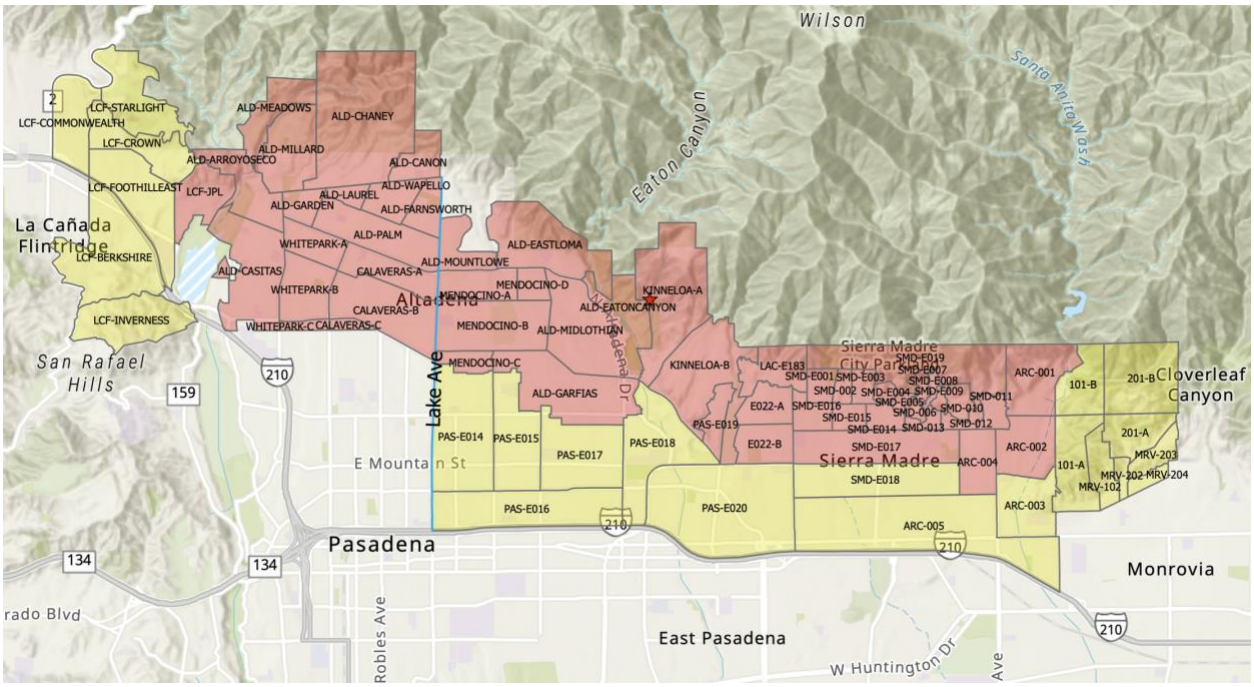
Table 7—Eaton Fire Significant Events: January 8, 2025 (3:00 a.m. to 5:00 a.m.)

DATE	TIME	SIGNIFICANT EVENT
1/8	**3:25 a.m.**	**EVACUATION ORDER ISSUED:** • **ALD-ARROYOSECO** • **ALD-CANON** • **ALD-CASITAS** • **ALD-CHANEY** • **ALD-FARNSWORTH** • **ALD-GARDEN** • **ALD-LAUREL** • **ALD-MEADOWS** • **ALD-MILLARD** • **ALD-PALM** • **ALD-WAPELLO** • **ALD-WHITEPARK** • **LCF-JPL**
1/8	**3:30 a.m.**	Multiple structure fires reported on Fair Oaks Avenue (west of Lake Avenue).

DATE	TIME	SIGNIFICANT EVENT
1/8	**3:36 a.m.**	**EVACUATION WARNING ISSUED:** • **LCF-BERKSHIRE** • **LCF-COMMONWEALTH** • **LCF-CROWN** • **LCF-FOOTHILLEAST** • **LCF-INVERNESS** • **LCF-STARLIGHT**
1/8	**3:53 a.m.**	**Fire front still east of Lake Avenue;** surface wind at East Palm SCE NNE. Mt Lowe SCE wind was NNE.
1/8	**4:00 a.m.**	MonteCedro Retirement Community Evacuation. LACoSD rescue and evacuation of residents takes hours due to the complexity of moving limited mobility seniors down flights of stairs (west of Lake Avenue).
1/8	**4:36 a.m.**	**EVACUATION ORDER ISSUED:** • **LCF-BERKSHIRE** • **LCF-COMMONWEALTH** • **LCF-CROWN** • **LCF-FOOTHILLEAST** • **LCF-INVERNESS** • **LCF-STARLIGHT**
1/8	**4:47 a.m.**	**EVACUATION ORDER ISSUED:** • **MRV-101** • **MRV-102** • **MRV-201** • **MRV-202** • **MRV-203** • **MRV-204** • **MRV-301** • **MRV-302** • **MRV-303** • **MRV-304** • **MRV-305** • **MRV-307** • **MRV-401** • **MRV-402** • **MRV-403** • **MRV-404** • **MRV-405**
1/8	**5:01 a.m.**	**EVACUATION WARNING ISSUED:** • **BRA-001** • **BRA-002** • **BRA-003** • **BRA-004** • **DUA-001** • **DUA-002**

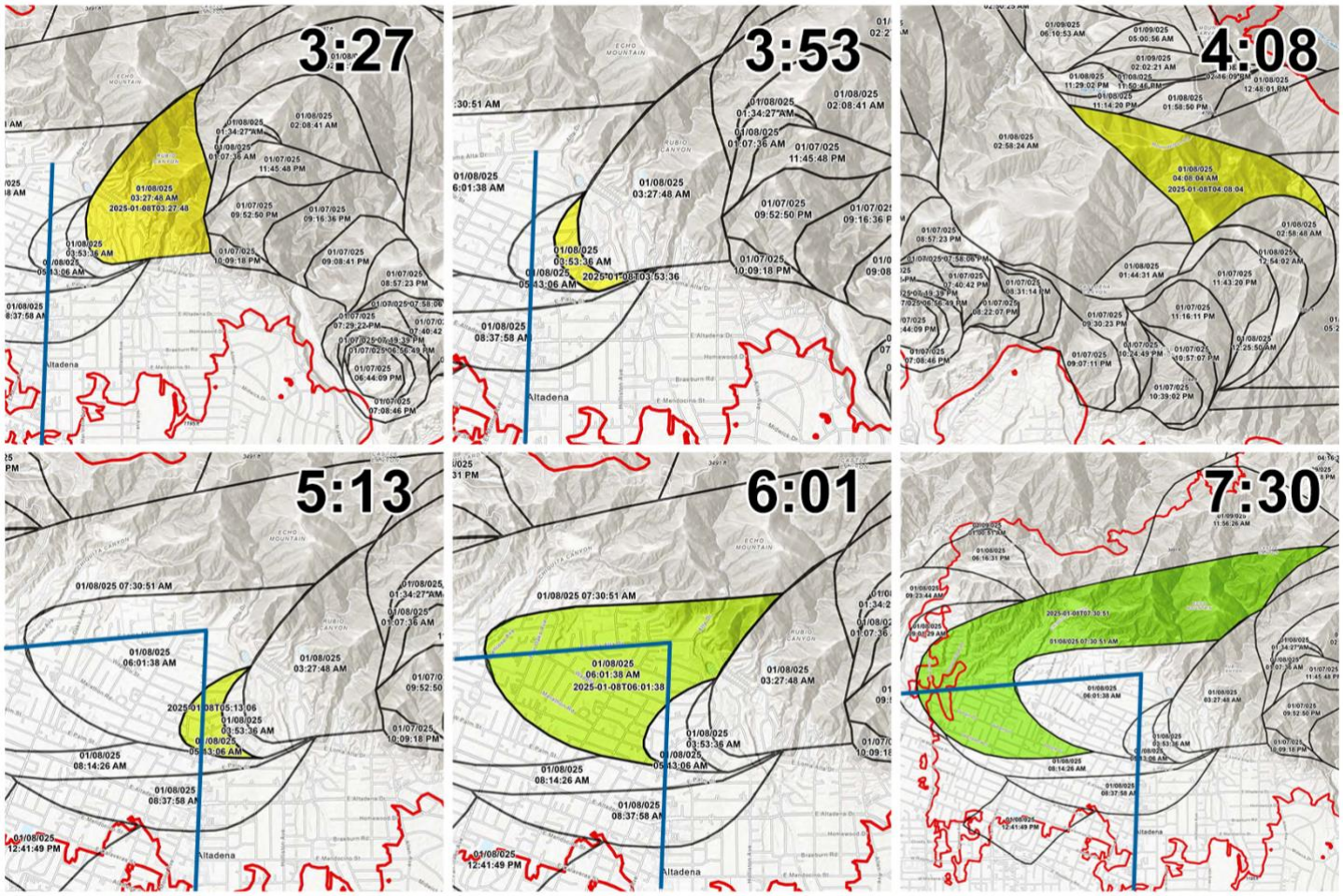
Figure 20 shows all the added zones that were issued Evacuation Orders and Evacuation Warnings by 3:36 a.m.

Figure 20—Eaton Fire Evacuation Alert Zones (3:36 a.m. January 8, 2025)



The next set of FireGuard images in Figure 21 show the devastating, most active fire front sections building and then exiting 3 canyons into Altadena starting at 3:27 a.m.

Figure 21—FireGuard Fire Perimeter Maps with Hottest Sections Highlighted



Finding #20:	Evacuation Orders for 13 Altadena zones west of Lake Avenue were issued at 3:25 a.m.
Finding #21:	The fire front was still approximately 2 blocks east of Lake Avenue at approximately 3:53 a.m., according to FireGuard data.
Finding #22:	The fire front had extended 1 block west of Lake Avenue between Concha Street and East Los Flores Drive by 5:13 a.m., according to FireGuard data.
Finding #23:	By 6:00 a.m., the community conflagration was well underway.

2.6 Conclusions

Absent real-time aerial fire spread intelligence, Incident Command employed strategies and tactics that had been successful for decades before aerial observation support became common. The Kinneloa Fire of 32 years ago also did not result in a community conflagration in Altadena. The

2025 fire storm in Altadena had no historical precedent, and LACoFD had no framework to expect it.

The Eaton Fire strategies prioritized life safety first, perimeter control, and defending buildings as resources allowed. Even without aerial fire spread intelligence, Evacuation Orders and Evacuation Warnings were issued ahead of the fire front and were effective until approximately 2:18 a.m. There was no failure by Incident Command to request Evacuation Orders west of Lake Avenue sooner, nor would they have reasonably done so under the circumstances; Evacuation Warnings and Evacuation Orders were subsequently issued as the fire's spread into northwestern Altadena became known to Incident Command at approximately 2:18 a.m. However, for future extremely dangerous and unpredictable fires, Citygate recommends that LACoFD:

- Develop alternative intelligence processes to improve management of potentially catastrophic wildfires when advance fire spread intelligence technology fails and the fire conditions are extreme.

- At the start of very dangerous or unpredictable fires, immediately designate a technical specialist dedicated to incident intelligence, *not consumed by immediate command,* to focus solely on advising Incident Command regarding effectiveness of their strategy and tactics. If strategy and tactics may not be effective, identify the necessary alerts, warnings, and tactical changes far in advance.