



# In-Station Training

## TM 24-44 Residential Explosion and Fire



### Author

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### Purpose

Natural gas or propane leaks are a common cause of explosions in residential and commercial buildings. Responders should maintain a high index of suspicion related to fuel gas involvement, while not ruling out other potential causes when responding to a report of an explosion and fire in a building.

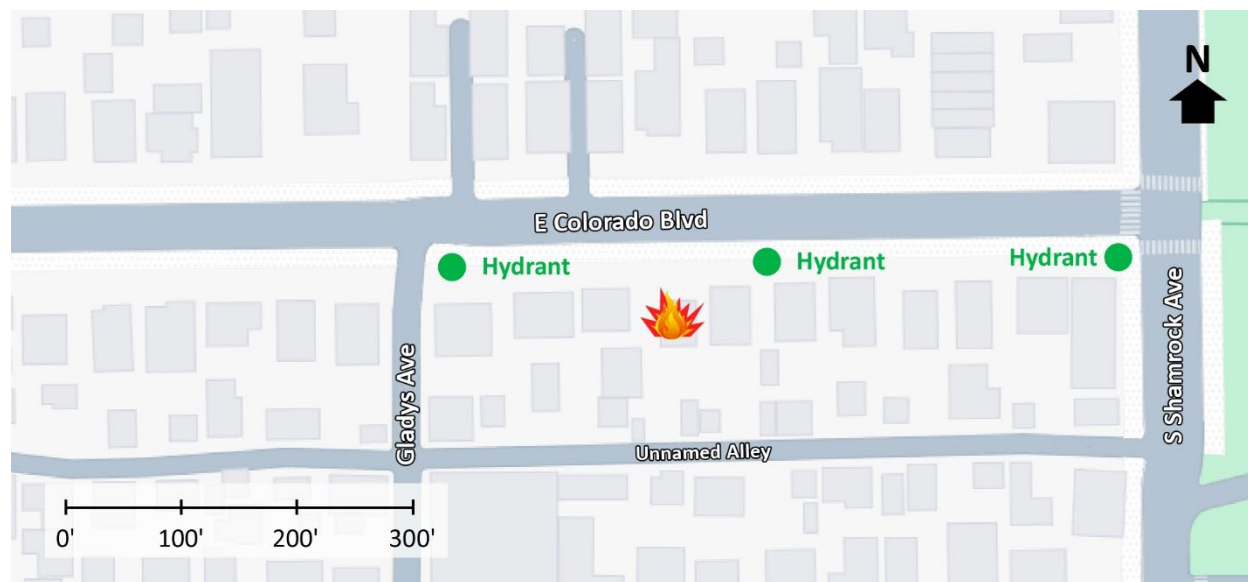
### Learning Outcomes

Firefighters and officers perform an effective size-up, select an appropriate strategy, and implement tactics based on the strategic decision-making model.

### Conducting the Drill

This incident involved a explosion and residential fire at 534 E Colorado Boulevard in Monrovia, California on September 17, 2024 at 15:30 (San Bernardino County Response SBC., 2024; ABC Staff & Powell, 2024; & Munoz, 2024). Review the map and photos (Figures 1-6) to gain an understanding of the area and building involved.

Figure 1. Map of the Incident Area



Note: Adapted from Google. (2024a). [Map, 534 E Colorado Boulevard, Monrovia, CA].

<https://bit.ly/484B0il>.

Figure 2. Aerial View



Note: Adapted from Google. (2024b). [Aerial view 534 E Colorado Boulevard, Monrovia, CA]. <https://bit.ly/4f0eSbC>.

There are multiple hydrants to the east and west of the incident location on East Colorado Boulevard illustrated in Figure 1.

Figure 3. Alpha/Delta Corner on Approach



Note: Adapted from Google. (2024c). [Street view 534 E Colorado Boulevard, Monrovia, CA]. <https://bit.ly/4eZ4lrJ>.



Figure 4. Side Alpha



Note: Adapted from Google. (2024d). [Street view 534 E Colorado Boulevard, Monrovia, CA]. <https://bit.ly/3Npq3yL>.

Figure 5. Alpha/Bravo Corner



Note: Adapted from Google. (2024e). [Street view 534 E Colorado Boulevard, Monrovia, CA]. <https://bit.ly/3NpZs4A>.

Figure 6. Charlie 1 Exposure (view from the unnamed alley)



Note: Adapted from Google. (2019). [Street view 534 E Colorado Boulevard, Monrovia, CA]. <https://bit.ly/4eH1o4H>.

The temperature is currently 72° F with wind from the west southwest at 8 mph (Weather Underground, 2024). You have been dispatched at 15:30 to 534 E Colorado Boulevard for an explosion and residential fire. You are the company officer or AIC of the first arriving engine and have your company's typical staffing.

1. What critical factors would you consider when dispatched and during response and what conversations would you have with your crew while responding?

You hear a command officer, three other engines, and an advanced life support ambulance with typical staffing for your agency go enroute. You will arrive from the west on East Colorado Boulevard. The second engine will arrive from the opposite direction four minutes after you. The command officer will arrive shortly after the second engine. All other units dispatched on the first alarm will arrive after the command officer.

While enroute, dispatch reports multiple calls for an explosion and fire around the incident address. Watch the [incident video](#) (San Bernardino County Response SBC, 2024) from 00:05 to 00:45 and examine Figures 7 and 8.



Figure 7. Conditions Observed on Approach



Note: San Bernardino County Response SBC. (2024). (Colorado IC) pre-arrival to second alarm exploded house fire In Monrovia CA [video]. <https://bit.ly/40mDVSj>.

Figure 8. Conditions on Arrival



Note: San Bernardino County Response SBC. (2024). (Colorado IC) pre-arrival to second alarm exploded house fire In Monrovia CA [video]. <https://bit.ly/40mDVSj>.

2. State your initial radio report (IRR) exactly as you would transmit it to dispatch.

3. What specific actions would you take (as the company officer) immediately upon arrival and exiting the apparatus and what task orders would you give your crew?

Bystanders report hearing a loud explosion and seeing the house in flames. Access to Side Charlie from East Colorado Boulevard is obstructed by debris and fire conditions.

4. Would you change the action you are taking or modify the assignments given to your crew? If so, what task orders would you provide?
5. State your update report exactly as you would transmit it to dispatch.
6. Engine 2 arrives and reports that they are Level 1 at the hydrant on East Colorado Boulevard at South Shamrock Avenue. State the tactical assignment you would give them exactly as you would transmit it.
7. Based on the anticipated effectiveness of your tactical operations, state your conditions, actions, and needs (CAN) report that you would provide to the first arriving command officer as part of command transfer to IC #2.

Reflect on your strategic decision-making and responses to questions 1 through 7 before answering the next six questions.

8. What was the problem?
9. What was getting in the way of achieving your tactical priorities?
10. Was there anything in this incident that could have hurt or killed you (right now)?

11. Was it reasonable to believe that the Main Fire Occupancy and/or the Bravo 1 and Delta 1 Exposures were occupied?
  
12. Was there searchable space in either the Main Fire Occupancy or Exposures Bravo 1 and Delta 1?
  
13. If you believed it was reasonable that the buildings were occupied and there was searchable space, what could you do about it?

In the actual incident a truck company and engine company arrive almost simultaneously from opposite directions quickly followed by additional resources. Watch the [incident video](#) (San Bernardino County Response SBC, 2024) from 02:00 to 05:15 before answering the next several questions.

14. The first arriving companies simultaneously stretched 2 ½" and 1 ¾" attack lines on Side Alpha. Time from arrival (air brakes applied) to water on the fire was approximately 02:56. What could the first arriving engine have done differently to reduce the time to water on the fire?
  
15. The first engine arrived at 01:09 in the incident video (parking brake applied), the first attack line was being deployed at 01:55, and the first water was applied on Side Delta at 03:34. How could this company have reduced the time to effective water on the fire?

The battalion chief (BC) arrived shortly after the first two companies and there was a second chief officer on-scene early in the incident (he had face-to-face communication with the companies on Side Alpha). Watch the [incident video](#) (San Bernardino County Response SBC, 2024) from 02:30 to 11:00 and listen to the radio communications.

16. What aspects of communications, the incident action plan, and incident organization are good and what could be improved? Based on radio communications, were you clear on the location and function of each of the resources operating at this incident? What was the incident organization and what was the IC's span-of-control?

**Additional Learning:** Get out and stretch some hose! Position your engine between 50' and 100' of a hydrant and identify the time to perform each of the following fire control options with the apparatus operator taking the hydrant as well as operating the pump.

- 1 ¾" attack line (to "the Bravo 1 Exposure").
- 2 ½" attack line (on the "Main Fire Occupancy")
- Portable master stream (on the "Main Fire Occupancy").
- Apparatus mounted master stream (on the "Main Fire Occupancy").

Now see if you have the capability based on staffing to accomplish two of these options (the second of which being the 1 ¾" attack line). If you don't have sufficient staffing for two options, can the apparatus operator stretch a dry 1 ¾" line for operation by a later arriving company while you operate a high flow stream (big attack line or master stream).

Another opportunity for additional learning is to discuss how you would approach checking the Charlie Exposures. In this incident a deceased person was discovered in a shed on Side Charlie several days after this incident.

## References

- ABC Staff & Powell, A. (2024). *Monrovia house leveled in fire, explosion; neighbor's home also damaged*. Retrieved October 15, 2024, from <https://bit.ly/3YsfT72>.
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