



In-Station Training

TM 25-10 Residential Fire



Author

Chief Ed Hartin

Purpose

Underwriters Laboratories Fire Safety Research Institute (UL FSRI) research has identified that if a fire starts on the outside of a building, it is important to first control the fire on the exterior while anticipating where and how the exterior fire will extend to the interior (Kerber & Zevotek, 2014).

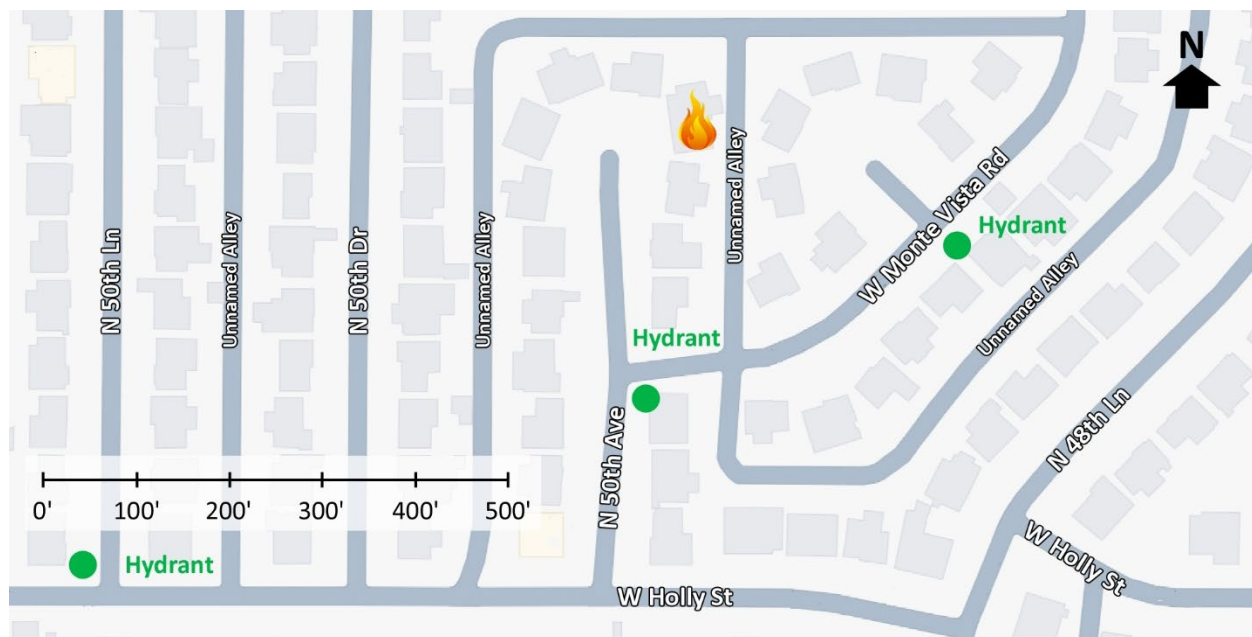
Learning Outcomes

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

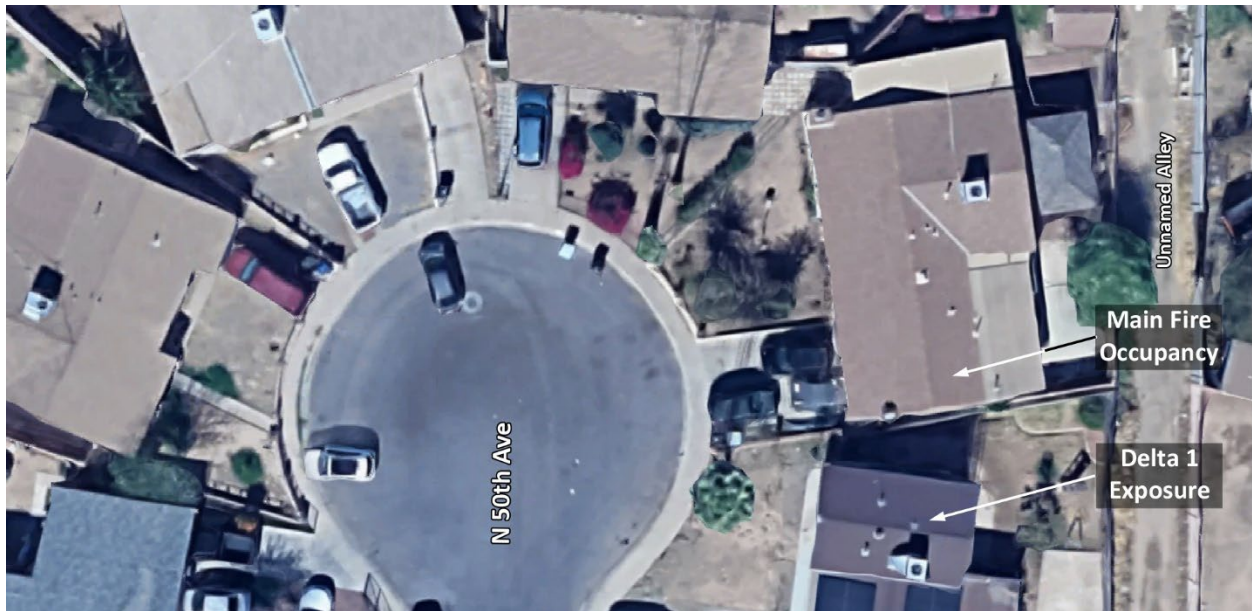
This incident involved a residential fire at 2217 N 50th Avenue, Phoenix, Arizona on Monday, December 23, 2024, at 23:25 (Emergency Response Film Team, 2024). Review the map and photos (Figures 1-6) to gain an understanding of the area and building involved.

Figure 1. Map of the Incident Area



Note: Adapted from Google. (2024a). [Map, 2217 N 50th Avenue, Phoenix, AZ]. <https://bit.ly/3WmF5u2>.

Figure 2. Aerial View



Note: Adapted from Google. (2024b). [Aerial view 2217 N 50th Avenue, Phoenix, AZ].
<https://bit.ly/4gYGUWr>.

The closest hydrant is located at North 50th Avenue and West Monte Vista Road. There are additional hydrants in the area as illustrated in Figure 1.

Figure 3. Alpha/Delta Corner



Note: Adapted from Google. (2022a). [Street view 2217 N 50th Avenue, Phoenix, AZ].
<https://bit.ly/4jhzqil>.

Figure 4. Side Alpha



Note: Adapted from Google. (2022b). [Street view 2217 N 50th Avenue, Phoenix, AZ].
<https://bit.ly/3PFaXpZ>.

Figure 5. Side Bravo



Note: Adapted from Google. (2024c). [3d aerial view 2217 N 50th Avenue, Phoenix, AZ].
<https://bit.ly/4g25TXp>.

Figure 6. Side Charlie



Note: Adapted from Google. (2024d). [3d aerial view 2217 N 50th Avenue, Phoenix, AZ].
<https://bit.ly/3PCEcKb>.

The temperature is currently 58° F with wind from the east at 6 mph (Weather Underground, 2024). **You are the company officer of an engine company.** It is Monday, December 23rd, and you have been dispatched along with two other engines, a ladder company, medic unit, and command officer at 23:25 to 2217 N 50th Avenue for an outside fire extending to the house. The engines and ladder have four-person staffing¹.



Time starts now! Answer the first eight questions within the next 10 minutes. Decide and put your answers in the form of communication you would have with your crew, other companies, and the first arriving command officer. Save discussion for after answering the first eight questions.

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

¹ If your first alarm deployment is different, use your own resource assignment and staffing with the first and second arriving resources typical for your agency (e.g., two engines vs. engine and ladder).

You hear a command officer, two other engines, a ladder company, and an advanced life support ambulance go en route. Your engine will arrive first, approaching from the south on North 50th Avenue. The ladder company will arrive from the same direction shortly after you. The second engine will arrive from the south two minutes after you arrive. 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 responding, dispatch advises that the caller reports a fire between 2217 and 2211 North 50th Avenue with extension to the house at 2217. Watch the [incident video](#) (Emergency Response Film Team, 2024) from 00:03 to 00:20 and examine Figure 7, illustrating conditions on arrival.

Figure 7. Conditions on Arrival



Note: Adapted from Emergency Response Film Team. (2024). *Pre-Arrival - House Fire - Phoenix, AZ - Quick Clip [4K]* [video]. <https://bit.ly/3WnWd2m>

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?

An occupant advises that all residents of the house have evacuated. Watch the [incident video](#) (Emergency Response Film Team, 2024) from 00:20 to 00:50. Access to Sides Bravo and Charlie are limited by a fence and other obstructions.

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. Ladder 1 advises that they are Level 1 at North 50th Avenue and West Monte Vista Road, state the tactical assignment you would give them exactly as you would transmit it.

7. Engine 2 arrives and reports that they are Level 1 on a hydrant on North 50th Avenue and West Monte Vista Road. State the tactical assignment you would give them exactly as you would transmit it.

8. 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 one through eight before answering the next six questions. Give some thought to what cues, patterns, or anomalies (differences from conditions that you would anticipate) inform your answers.

9. What was the problem?

10. What was getting in the way of achieving your tactical priorities?

11. Was there anything in this incident that could have hurt or killed you (right now)?

12. Was it reasonable to believe that the Main Fire Occupancy was occupied?

13. Was there searchable space?

14. If you believed it was reasonable that the building was occupied and there was searchable space, what could you do about it?

Watch the incident video (Emergency Response Film Team, 2024) from 00:50 to 02:15 before answering the next several questions.

15. What potential avenues of fire extension from the exterior fire to the interior of the house did you anticipate?

16. What conditions did you anticipate the first company making entry into the house would find on the interior?

Additional Learning: Chief Lloyd Layman identified overhaul as one of the basic tactics of structural firefighting. “Overhaul is to complete the operations after the main body of fire has been extinguished. The operations which are necessary to prevent the fire from rekindling and to place the building in a safe condition” (Layman, 1940, p. 43). Layman’s (1940) first two steps in overhaul were:

1. “Check all avenues through which the fire may have extended” (p. 49).
2. “Check all concealed spaces” (p. 49)

In addition to knowledge of building construction and fire behavior, firefighters and fire officers should use sight, sound, and touch to identify potential areas of extension that need to be opened to extinguish hidden fire. Visual indicators may be visible to the naked eye or may be identified using a thermal imaging camera. Read [Thermal Imaging: The Power of Investigative Application Modes](#) (Starnes, 2024) and watch [Thermal Imaging: The Power of Investigative Application Modes](#) (Insight Training, LLC, 2024) for more information on using a thermal imager in survey mode which is intended to be used in lower

temperature environments (typically less than 300 degrees Fahrenheit or 150 degrees Celsius). They allow for early colorization of thermal threats that otherwise may not be visible.

While thermal imaging is an excellent tool, remember its limitations. A thermal imager identifies differences in surface temperature. Fire or smoldering materials may be hidden behind insulation or other materials that slow heat transfer to the surface.

With your crew, discuss how you would use direct visual observation, thermal imaging, and manual overhaul to open potential areas of extension in the incident presented in this 10-Minute Training.

References

- Emergency Response Film Team. (2024). *Pre-Arrival - House Fire - Phoenix, AZ - Quick Clip [4K]* [video]. Retrieved January 18, 2025, from <https://bit.ly/3WnWd2m>.
- Google. (2022a). [Street view 2217 N 50th Avenue, Phoenix, AZ]. Retrieved January 18, 2025, from <https://bit.ly/4jhzqil>.
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