In-Station Training

TM 24-51 Row House Fire

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Purpose

Wind of as little as 10 miles per hour can significantly impact structure fire conditions. Historically this has led to a significant number of firefighter injuries and fatalities (NIST, 2010).

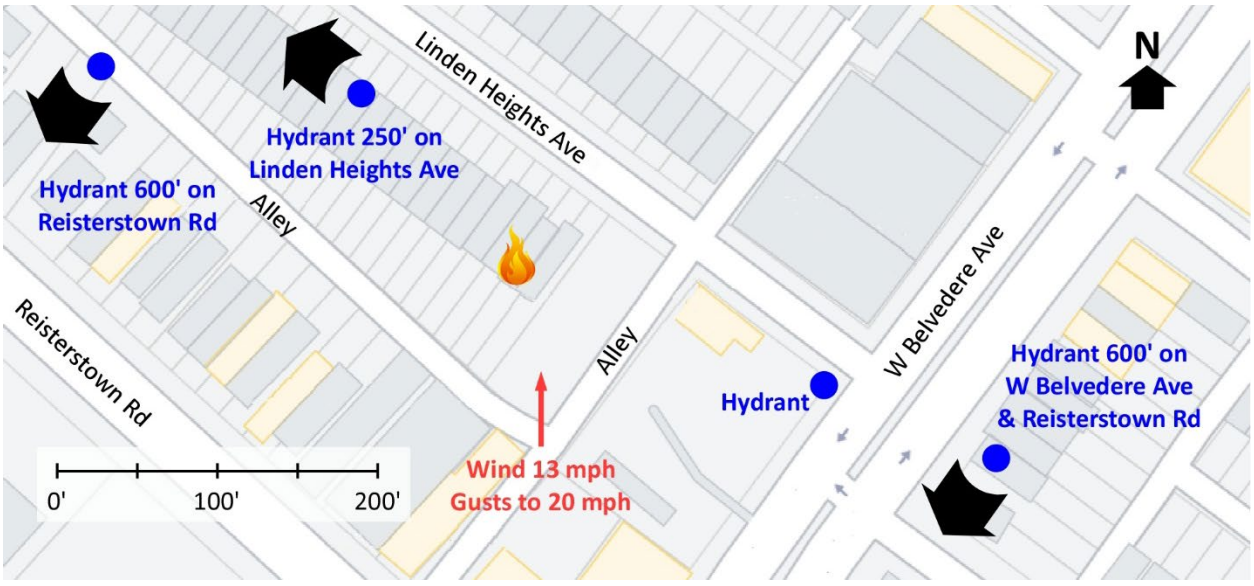
Learning Outcomes

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 row house fire at 5210 Linden Heights Avenue in Baltimore, Maryland on October 19, 2023, at 15:40 (911 Radio Traffic-Major Incidents-Fire/Police, 2023; Carey, 2023; Fenton, 2023; & WBAL-TV 11 Baltimore, 2024)). This incident resulted in the line of duty deaths of Firefighter Rodney Pitts III and Lieutenant Dillon Rinaldo and injuries to three other members of the Baltimore Fire Department. Review the map and photos (Figures 1-9) to gain an understanding of the area and building involved.

Figure 1. Map of the Incident Area



Note: Adapted from Google. (2024a). [Map, 5210 Linden Heights Ave, Baltimore, MD]. https://bit.ly/3tEaBrX.

Figure 2. Aerial View

Note: Adapted from Google. (2024b). [Aerial view 5210 Linden Heights Ave, Baltimore, MD]. https://bit.ly/46YYW5r.

The closest hydrant is at the corner of West Belvedere Avenue and Linden Heights Avenue. Additional hydrants are located on Linden Heights Avenue and Reisterstown Road as illustrated in Figure 1.

Figure 3. Approach from the Northwest on Linden Heights Avenue

Note: Adapted from Google. (2019a). [Street view 5210 Linden Heights Ave, Baltimore, MD]. https://bit.ly/3UMfmdH.

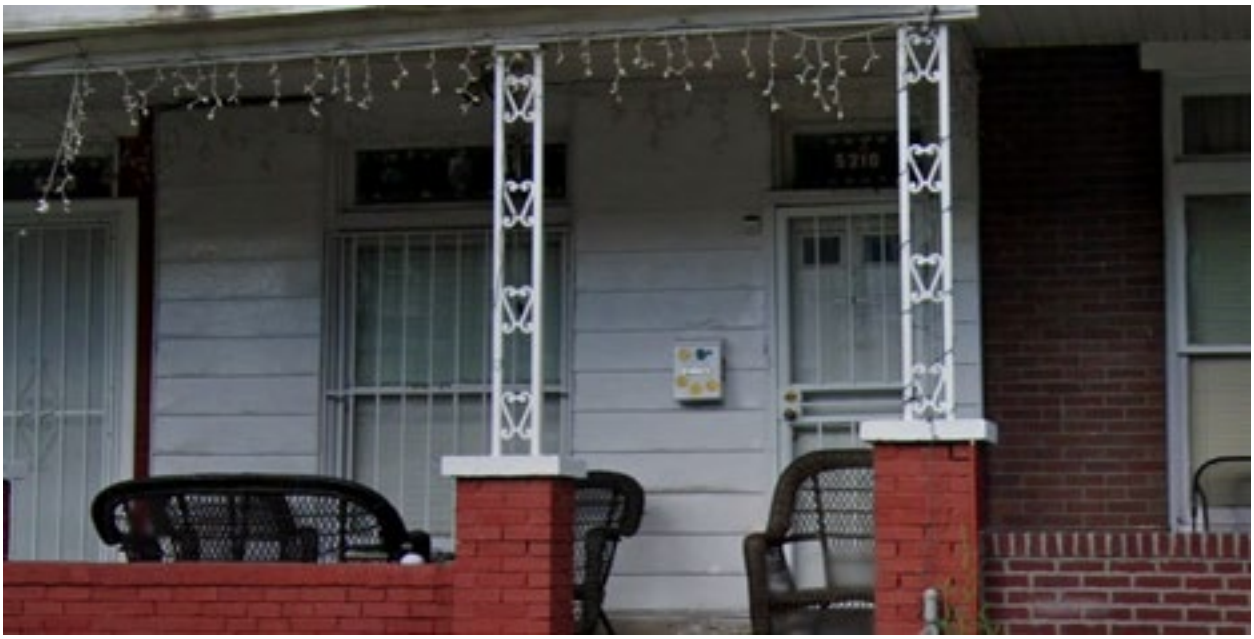
Figure 4. Alpha/Bravo Corner

Note: Adapted from Google. (2019b). [Street view 5210 Linden Heights Ave, Baltimore, MD]. https://bit.ly/3tKp71p.

Figure 5. Side Alpha

Note: Adapted from Google. (2019c). [Street view 5210 Linden Heights Ave, Baltimore, MD]. https://bit.ly/3sawvm6.

Figure 6. Security Bars on Side Alpha of the Main Fire Occupancy



Note: Adapted from Google. (2019c). [Street view 5210 Linden Heights Ave, Baltimore, MD]. https://bit.ly/4hEs4Fc.

Figure 7. Side Bravo

Note: Adapted from Google. (2016a). [Street view 5210 Linden Heights Ave, Baltimore, MD]. https://bit.ly/3UN2jc6.

Figure 8. Bravo/Charlie Corner

Note: Adapted from Google. (2016b). [Street view 5210 Linden Heights Ave, Baltimore, MD]. https://bit.ly/40Gg4Np.

Figure 9. Side Charlie

Note: Adapted from Google. (2024c). [3d aerial view 5210 Linden Heights Ave, Baltimore, MD]. https://bit.ly/3SayGku.

The temperature is currently 71° F with wind from the south at 13 mph with gusts to 20 mph (Weather Underground, 2023). You have been dispatched at 15:40 to 5210 Linden Heights Ave for a 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 northwest on Linden Heights Avenue. The second engine will arrive from the south on West Belvedere Avenue two 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.

Important! There is no pre-arrival video for this incident. The simulation used in this 10-Minute Training was developed to provide a reasonable example of conditions based on incident radio traffic (911 Radio Traffic-Major Incidents-Fire/Police, 2023) and likely differs to some extent from actual conditions on arrival. View the first 00:40 of the incident simulation video (Hartin, 2024) and examine Figures 9 and 10 illustrating conditions on arrival.

Figure 10. Conditions on Approach from the Northwest on Linden Heights Avenue

Note: Adapted from Hartin, E. (2024) *10-minute training 24-51 incident simulation* [Fire Studio 7 video]. https://bit.ly/3UJYEf0.

Figure 11. Conditions on Arrival

Note: Adapted from Hartin, E. (2024) *10-minute training 24-51 incident simulation* [Fire Studio 7]. https://bit.ly/3UJYEf0.

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?

There are multiple bystanders and occupants outside, but they are uncertain if everyone evacuated from the building. Watch the incident simulation video (Hartin, 2024) from 00:40 to 00:57 and examine Figure 12 illustrating conditions visible from Side Bravo (access to Side Charlie from Side Bravo is obstructed by a fence and can only be accessed via the unnamed alley on Side Charlie).

Figure 12. Conditions Visible from Side Bravo

Note: Adapted from Hartin, E. (2024) *10-minute training 24-51 incident simulation* [Fire Studio 7]. https://bit.ly/3UJYEf0.

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.

Watch the incident simulation video from 01:00 to 01:30 and examine Figure 13 illustrating conditions on Side Alpha.

Figure 13. Conditions on Side Alpha

Note: Adapted from Hartin, E. (2024) *10-minute training 24-51 incident simulation* [Fire Studio 7]. https://bit.ly/3UJYEf0.

6. Engine 2 arrives and reports that they are Level 1 on a hydrant at West Belvedere Avenue and Linden Heights 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 unit above the carport and other units in the building were occupied?

12. Was there searchable space?

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

In this incident, companies stretched an attack line through Side Alpha, likely to protect the interior stairway and support fire control and primary search of the main fire occupancy. The incident command assigned an additional company to stretch an attack line into the Delta 1 Exposure to cut off extension to additional units on Side Delta.

Shortly after entry, the company stretching the initial attack line (E26) was overrun by wind driven fire conditions and called a mayday.

14. If your company was engaged in fire control and primary search and conditions worsened rapidly as you were overrun by wind driven fire conditions, what action would you take, what direction would you provide to your crew, and what communication (if any) would you have with IC #2?

Examine Figure 14 which illustrates the Side Alpha entryway and living room of a different occupancy in the same row (this occupancy does not have security bars on the windows but may have a similar interior configuration and entryway).

Figure 14. Side Alpha Entryway on an Adjacent Unit (Delta 5 Exposure)

Note: Zillow. (2020). 5218 Linden Heights Ave, Baltimore, MD 21215. Retrieved November 9, 2024, from https://bit.ly/4fq83kb.

15. You have become disoriented while attempting to egress with or along your hoseline and are trapped in the living room, unable to exit due to bars on the windows (as previously illustrated in Figure 6). State the mayday communication you would have with IC #2 exactly as you would transmit it.

Additional Learning: Listen to the first 10 minutes of the incident audio (911 Radio Traffic-Major Incidents-Fire/Police, 2023). This audio has been edited to remove "dead air" and as such communication is not in "real time". In addition, the audio track includes multiple talk groups, and some incident communications may be walked on. The mayday occurs at 03:50 in the incident audio. Consider the conditions that the crew of E26 were subjected to as they encountered wind driven fire conditions.

> …a wind-driven fire condition existed when the fire gases were well mixed and of equally high temperature from the floor to the ceiling, on the order of at least 400 C (752 F). For this condition to occur inside a structure, the fire must be in a flow path (Kerber & Madrzykowski, 2009).

Review East County Fire and Rescue (ECFR) Standard Operating Guideline (SOG) 4.3.1 Structural Firefighting Under High Wind Conditions (ECFR, 2024) and think about the following questions:

1. Did you recognize the potential for wind-driven fire conditions in the incident presented in this 10-Minute Training?
2. Were your tactics and task level assignments consistent with SOG 4.3.1?
3. If not, what could you have done differently?

Get out, stretch some hose, and flow water! Firefighters frequently train on advancement of hoselines, but less frequently if at all on withdrawing while flowing water. When being overrun by flashover or wind driven fire conditions this skill is critical.

1. **Crawl:** Practice withdrawing in a straight line while flowing water. Begin with a lower flow rate and work on moving smoothly (which will assist in developing proficiency with higher flow rates and speed.
2. **Walk:** Practice with drawing around obstacles while flowing water. Begin with a lower flow rate and work on moving smoothly (which will assist in developing proficiency with higher flow rates and speed.
3. **Run:** Increase the speed of your withdrawal around obstacles while flowing water at the normal flow rate for the hoseline you are using.

References

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