1000 FREDERICK LANE, MORGANTOWN, WV 26508 • 304.285.5916

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

Executive Summary

On February 12, 2025, a career firefighter died after being trapped by the collapse of two vacant commercial buildings. At 21:39 hours, Squad 21 (SQ21), Quint 21-2 (QT212), Quint 21-3 (QT213), Tower 21 (TW21), Engine 21-4 (EN214), and Car 21 were dispatched for reports of a building fire. The fire ambulance (7121) arrived on-scene and provided a size-up confirming a working fire with heavy smoke and visible flames from 1 Main to 3 Main. Once the incident commander (IC) arrived, he requested a 2nd alarm, additional apparatus, fire investigators, safety officer, and utilities be dispatched to the scene. The off-duty chief officers went to the scene when they heard the 2nd alarm requested. On-scene crews began fire suppression operations deploying hoselines around the buildings and evacuating residents from 5 Main while two other firefighters began opening 1 and 3 Main to flow water. At 21:48 hours, IC announced a defensive strategy for operations and ordered all units to exit the buildings. At 21:51 hours, IC reported a major collapse on Side Charlie on talk group 3 and dispatch channels. One firefighter (SQ21 firefighter) was trapped by this collapse under the fully intact facade which spanned from the sidewalk to a street parked car on Side Alpha. For about 19 minutes, multiple crews attempted to extricate the SQ21 firefighter from under the facade. After 20 minutes, two firefighters lifted the facade using spreaders and a combination tool. This provided enough room for crews to pull the SQ21 firefighter out towards the building. The SQ21 firefighter was placed on a stretcher and loaded into 7121 while a fire investigator performed CPR. Fire ambulance 7121 went to the local hospital where the SQ21 firefighter was later pronounced deceased.

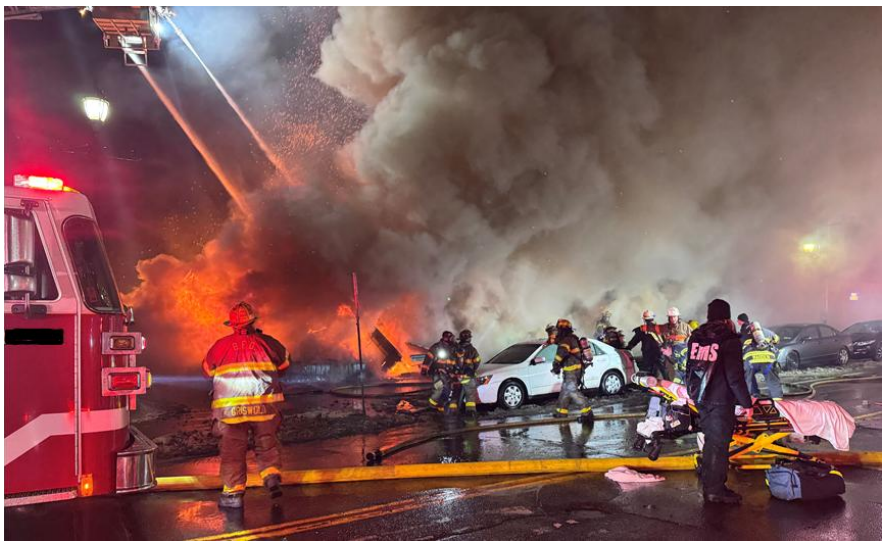

Photo 1: Side Alpha showing extrication operation, post collapse.
(Courtesy of the fire department)

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

Contributing Factors

- *Strategy and tactics*
- *Wind-driven fire/structural collapse*
- *Divisions/groups and incident safety officers (ISOs)*
- *Rapid intervention team/crew*
- *Personnel accountability system*
- *Vacant buildings and arson*

Key Recommendations

Fire departments should:

- *Establish and enforce collapse zones when a defensive strategy begins.*
- *Educate fire officers and firefighters in building performance under fire conditions and the potential for structural collapse.*
- *Establish divisions/groups with a supervisor or use multiple safety officers for fireground management and risk assessment at geographically complex scenes, as early in the incident as possible.*
- *Ensure a rapid intervention team/crew is dedicated, assigned, and in place during structural firefighting operations to immediately respond to a firefighter emergency.*
- *Use a personnel accountability system to identify the location and function of all operating personnel.*

Governing municipalities (federal, state, regional/county, and local) should:

- *Ensure the delegated zoning or code enforcement authority, law enforcement agency, and fire department collaborate to proactively remediate vacant and abandoned buildings to reduce arson.*

For further information, visit the program at www.cdc.gov/niosh/firefighters/fffipp/ or call 1-800-CDC-INFO (1-800-232-4636).

1000 FREDERICK LANE, MORGANTOWN, WV 26508 • 304.285.5916

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

Introduction

On February 12, 2025, a career firefighter (SQ21 firefighter) died after being trapped by the collapse of two vacant commercial buildings. On February 13, 2025, the U.S. Fire Administration (USFA) notified the National Institute for Occupational Safety and Health (NIOSH) of this incident. On June 8 - 13, 2025, an investigator representing the NIOSH Fire Fighter Fatality Investigation and Prevention Program (FFFIPP) traveled to New York to investigate this incident. The NIOSH investigator conducted interviews with command officers, fire officers, firefighters, fire investigators, and other emergency personnel who were on-scene at the time of the incident. Also, the NIOSH investigator interviewed representatives of the zoning and code enforcement departments, law enforcement agency, and the county communications center. The investigator reviewed fire department standard operating guidelines (SOGs), training records, dispatch records, witness statements, and state agency investigation documents.

Fire Department

The career fire department in this incident has an 11.5 square mile jurisdiction, serves a population of 47,000 residents, annually responds to an average of 11,000 calls, and provides emergency medical services (EMS). The fire department has 117 uniformed personnel and maintains four shifts: A, B, C, and D. Each shift is staffed by a minimum of 21 personnel across five fire stations. Shifts operate on a 24-hour schedule from 08:00 to 08:00 the following day. Each shift is assigned a shift commander (assistant chiefs). The fire department's leadership contains a fire chief, fire marshal, deputy chief, three assistant chiefs, a fire training instructor, eight captains, and 20 lieutenants. The fire department has five divisions:

- **Fire Suppression** manages incident response.
- **EMS** provides basic life support first response services and advanced life support transport at the paramedic level.
- **Special operations** work land and water rescue as well as vehicle extrication and hazardous materials response.
- **Training** runs a fire academy that provides initial, advanced, and routine training and certification programs.
- **Fire prevention** leads activities such as fire code enforcement/inspection, fire investigation, and public education.

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

Training, Education, and Professional Development

The fire department maintains a training division that provides initial training and continual skills development for all firefighters, fire officers, and EMS personnel. The training division curriculum goes beyond the New York State required curriculum for career firefighters. Initial training for recruits consists of 18 weeks of daily academy training for a total of 720 hours. Recruits graduate with Pro Board® certifications for NFPA 1010 Fire Fighter I, Fire Fighter II as well as NFPA 470 Hazardous Materials/Weapons of Mass Destruction at the Operations level.

The IC (Car 21) had 25 years of fire service experience at the fire department. He held numerous certifications such as Pro Board® NFPA 1041 Fire Instructor I as well as New York State Basic Firefighter, Officer Level I, Instructor Level I, Municipal Fire Instructor, and EMT-Basic.

SQ21 firefighter had 11 years of fire service with the department. He held numerous certifications such as Pro Board® NFPA 1001 Fire Fighter I and Fire Fighter II as well as New York State paramedic.

Apparatus, Staffing, and Communications

At 21:39 hours, the following units were dispatched for a building fire (see Table 1):

Table 1. Units dispatched and arrival time

Apparatus	Staffing	Arrival On-Scene
Quint 21-2 (QT212)	5	21:42
Car 21 (IC)	1	21:42
Tower 21 (TW21)	4	21:42
Squad 21 (SQ21)	3	21:42
Quint 21-3 (QT213)	3	21:43
Engine 21-4 (EN214)	3	21:46

At the time of the incident, the county Public Safety Answering Point (PSAP) dispatched for seven EMS agencies, 33 fire departments, and eight law enforcement agencies. The PSAP was staffed by a supervisor and nine dispatchers per shift. The county used a UHF digitally trunked radio system with four designated dispatch talk groups (channels) for fire and EMS, one for each of the county's four "battalions." The fire department in this incident was dispatched on one talk group with four other fire departments that were assigned battalion 2. Tone alerting for all fire and EMS was handled on a separate paging talk group. Per PSAP protocols, all fireground communications were conducted on an operations talk group that was assigned by the PSAP. Like all talk groups on the system, the operations talk group was repeated and recorded. The PSAP had a primary dispatcher monitoring the dispatch talk group for every working fire. The operations talk group was monitored, when possible, in case of emergencies such as Maydays and "urgents." Each fire officer and firefighter was given one portable radio with scan function.

All portable radios in the county had a programmed emergency alert button (EAB) to use when a firefighter was in immediate danger. The county's protocol for EAB noted that upon activation, the portable radio

would automatically switch to the emergency county talk group channel and result in an open mic for the firefighter to say their name, emergency, and location.

Building Construction

This incident involved two commercial buildings that were the end of a row next to a river, 1 and 3 Main (**see Photo 2**). Official zoning department records indicated that 3 Main was built around 1885 and was about 25 ft x 75 ft, with 1,875 square feet on the first floor, and another 1,875 square feet in the basement. It was wood frame construction with clapboard siding on Side Bravo and Side Charlie. It had a flat roof and a small parapet wall. The roof and floor joists were pocketed into the adjacent brick building, 5 Main (**see Photo 3**). The original post-in-ground foundation was replaced in 1949 with steel beams and concrete piers. The building originally was used for the commercial manufacturing of carriages. Over the years, it was remodeled and the storefront had two entrances on Side Alpha. There was also a stone facade, supported by a wood frame, that was added before 1992. In the 1940's, three billboards were installed on the roof which spanned the length of the building. The billboards were present at the time of the incident.

Photo 2. The row of buildings in the incident in order from left to right: 1, 3, 5, 7, 9, and 11 Main. Red box shows 1 and 3 Main. ***(Courtesy of the fire department)***

Historical records indicated that 1 Main was built in 1938 as a wood frame addition to 3 Main to serve as a shoeshine shop. There was a shared doorway between both buildings. It was 24 ft x 21 ft, with 504 square feet on the first floor. 1 Main also had a small basement with steel beams and concrete piers as a foundation. It was remodeled with its storefront also having two entrances on Side Alpha. Both buildings had a sidewalk on Side Alpha and on-street parking. At the time of the incident, both 1 and 3 Main had most of their doors and storefront windows on Side Alpha boarded up with plywood.

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

Photo 3. The pockets that were built into 5 Main that supported roof and floor joists of 3 Main. The image was taken post-fire. ***(Courtesy of the fire department)***

Occupancy Status

At the time of the incident, both 1 and 3 Main were registered as vacant buildings. The authority having jurisdiction (AHJ) maintains a vacant property registration program. Property owners annually register both residential and commercial properties as vacant with the AHJ if they are unoccupied for more than four months or in foreclosure. This program allows the AHJ to track vacant properties but assigns responsibility to the property owner to ensure the buildings are secured and maintained per New York State code. The program requires an exterior visual inspection of each vacant property by a code enforcement representative annually to ensure these responsibilities are met. When an inspection finds that a vacant building is unsecured, a certified letter is sent to the property owner that instructs them to secure the property within seven days. A code enforcement representative re-inspects the building after seven days to verify the building is secured. If it is not, a work order is entered for the AHJ's parks department to board up and secure the building.

Inspections of 1 and 3 Main

Visual exterior inspections of both 1 and 3 Main were conducted in 2022 by code enforcement. 1 and 3 Main received violation notices for trash accumulation, other property maintenance issues, and the

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

buildings being unsecured (**see Photo 4**). Per New York State code, the fire prevention division performed fire and life safety inspections once every three years for the type of commercial occupancy at 1 and 3 Main.

The last inspection for 1 Main was conducted in 2022 and results indicated that the building was unoccupied with structural issues observed, such as holes in the floor. Fire prevention division records showed that the building was last occupied in 2011 when it was used as a clothing retail store.

A joint inspection of 3 Main was performed on February 8, 2023, by code enforcement and fire prevention representatives when it was found to be unsecured. The roof joists and stairway of 3 Main were observed to be pulling out of the pockets of the brick wall of 5 Main with some of the joists being unsupported. Fire prevention division records showed that the building was last occupied in 2008 as a barber shop.

Photo 4. Side Charlie of 3 Main in 2022.
(Courtesy of the fire department)

Pre-Incident Hazard Identification

The fire prevention division informed fire department personnel about the structural issue documented in 2023 by placing a "do not enter" electronic hazard notice for both 1 and 3 Main in the emergency response dispatch software. This software displayed a hazard marker on the map for the buildings to notify responding units of the hazard. The notes for this hazard notice indicated "unstable structure/floor." Additionally, the fire prevention division communicated this hazard to shift personnel for awareness. At the time of the incident, the responding units were aware of the documented structural issues observed in 2023, informing firefighters to not enter either building for fire suppression operations.

Incident Timeline

The following timeline is a summary of events that occurred as the incident evolved on February 12, 2025. Not all incident events are included in this timeline. The times are to the minute and were taken from the fire departments' *National Fire Incident Reporting System* (NFIRS) fire reports, dispatch log, and interview notes.

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

Time	Fireground Operations, Response, and Details
February 12, 2025	
21:37 Hours	• PSAP received a 9-1-1 call for a fire in an abandoned building.
21:39 Hours	• PSAP transmitted a full alarm assignment for a building fire. SQ21, QT212, QT213, TW21, EN214, and Car 21 were dispatched with operations assigned to talk group 3.
21:40 Hours	• 7121 was in the area during dispatch. Upon hearing the PSAP, 7121 stopped at scene and provided a size-up confirming a working fire with heavy smoke and visible flames from 1 Main with extension to 3 Main. They requested QT212 respond to Side Charlie on arrival.
21:42 Hours	• QT212, Car 21 (IC), TW21, and SQ21 arrived on-scene. • QT212 reported heavy smoke in the area, and believed the fire had possibly extended farther than 3 Main. QT212 officer went to Side Charlie and reported heavy fire in the basement and first floor of 1 Main and that he believed both buildings were vacant. • Car 21 established himself as IC and parked at the end of the row opposite of the bridge. He requested a 2nd alarm be transmitted and for spare apparatus to be staffed. He also requested fire investigators, a safety officer (SO21), and utility companies to be dispatched to the scene. • The off-duty assistant chiefs (CH21A, CH21B, and CH21D) went to the scene when they heard the 2nd alarm requested. • TW21 parked at the end of the bridge in anticipation of a defensive operation. • SQ21 pulled past TW21 and staged in the road in front of 3 and 5 Main. • SQ21 officer and TW21 officer had a face-to-face with the IC who ordered no entry into the buildings. He requested their crews to begin opening the doors and windows of the buildings for suppression. • SQ21 officer, backed up by SQ21 firefighter, prepared to flow water into 3 Main using a hoseline from SQ21.
21:43 Hours	• The PSAP dispatched fire departments 26, 32, 35, and 59 to standby in their stations.
21:44 Hours	• QT213 arrived on-scene and IC requested they deploy a hoseline to the Side Charlie/Side Delta corner for exposure protection.
21:45 Hours	• 7121 officer returned to his apparatus and radioed the PSAP that he was proceeding to the local hospital with a patient they picked up prior to the incident.
21:47 Hours	• IC requested the PSAP dispatch a mutual aid truck and engine to the scene as well as a 3rd alarm to staff spare apparatus. The PSAP dispatched Truck 59 and Engine 26-1.

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

Time	Fireground Operations, Response, and Details
	• EN214 arrived on-scene and prepared to establish a water supply from a hydrant to QT213.
21:48 Hours	• IC announced a defensive strategy for operations and ordered all units to exit the buildings. He requested all apparatus driver/operators on-scene to sound their air horns to reinforce the change to a defensive strategy. He made the announcement first on talk group 3 then the dispatch channel. • QT212 officer immediately responded reporting that all occupants were evacuated from an adjacent building in the row. • The PSAP dispatched the 3rd alarm units.
21:51 Hours	• IC reported a major collapse on Side Charlie on both talk group 3 and dispatch channels. • SQ21 firefighter was trapped under the fully intact collapsed facade on Side Alpha which spanned the sidewalk to a street parked car. • The Side Charlie collapse was confirmed by QT212 officer and was followed by an announcement from IC that a parapet had collapsed on Side Alpha. • Immediately following the collapse, IC requested a personnel accountability report (PAR) starting with QT212.
21:52 Hours	• IC reported to the PSAP that there was a firefighter down on Side Alpha.
21:53 Hours	• A Mayday was called with the PSAP sounding the emergency tones. • A QT212 firefighter at the collapsed facade activated their EAB. • IC requested all manpower to Side Alpha. • Multiple on-scene units were assigned to the extrication operation.
21:55 Hours	• IC called an “urgent” on talk group 3 requesting all available manpower to Side Alpha to assist with the downed firefighter.
21:56 Hours	• PSAP requested confirmation that either Chief 21 (CH21) or the IC received an additional Mayday (EAB activation) from QT212. • IC assigned CH21B to resolve the additional Mayday.
21:58 Hours	• 7121 arrived back on-scene from the local hospital and was requested by IC to report to Side Alpha to assist with the downed firefighter. • A firefighter radioed on talk group 3 that they needed a line on the fire on Side Alpha. • IC and a QT212 firefighter grabbed hoselines and TW21 directed its master streams to the fire of 3 Main to protect the extrication operations.
21:59 – 22:02 Hours	• CH21B advised the PSAP that the Mayday was for the firefighter that was trapped by the collapse that they are working to extricate. • IC requested PAR from QT212 who responded that they were working on the down firefighter. • PSAP sounded emergency tones stating there was a second Mayday from QT212 (EAB activation).

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

Time	Fireground Operations, Response, and Details
	• IC again requested PAR from QT212 who responded they were working on the down firefighter.
22:03 Hours	• IC requested a status from QT213 on Side Charlie who responded that the fire was somewhat knocked down and they were getting ready to open 5 Main to look for fire extension.
22:12 Hours	• IC notified the PSAP that QT212 had PAR, and their Mayday was for the member of SQ21 that they were working to extricate. • The facade was lifted by the SQ21 driver/operator using spreaders and a QT212 firefighter using a combination tool. This provided room for crews to pull SQ21 firefighter out towards the building.
22:13 Hours	• CH21A notified IC that SQ21 firefighter was fully extricated from under the facade. The PSAP acknowledged that extrication was complete. • SQ21 firefighter was placed on a stretcher and loaded into 7121 while fire investigator 21-2 (FI212) performed CPR and 7121 crew provided advanced life support care. • 7121 departed the scene to the local hospital where SQ21 firefighter was later pronounced deceased.
22:15 – 22:18 Hours	• IC requested a progress report from TW21 who responded that there was still heavy fire because of the wind. QT213 reported that they were holding the fire on Side Charlie. • IC initiated a PAR check for all on-scene units with all units confirming PAR.
February 13, 2025	
00:43 Hours	• The fire was declared under control with on-scene units working on hot spots.
16:59 Hours	• All units cleared the scene.

Personal Protective Equipment

At the time of the incident, SQ21 firefighter was wearing full structural firefighting turnout gear and a NIOSH Approved® self-contained breathing apparatus (SCBA). No evidence was identified to suggest that the structural firefighting turnout gear or SCBA contributed to the fatality.

Weather Conditions

At 21:39 hours on February 12, 2025, the outdoor temperature was 25°F, dewpoint was 16°F, the wind was out of the southeast at 16 mph, and conditions included light snow [Weather Underground 2025].

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

Investigation

At approximately 21:37 hours, the county PSAP received a 9-1-1 call from an occupant of a nearby residence reporting a fire in an abandoned building. At 21:39 hours, the PSAP transmitted a full alarm assignment for the reported building fire around the intersection at Main and Front. SQ21, QT212, QT213, TW21, EN214, and Car 21 were dispatched and assigned talk group 3. While units were enroute, crews in both SQ21 and TW21 discussed their knowledge of the deteriorated conditions of 1 and 3 Main. Officers of each apparatus informed their crews that no one enter the buildings.

At the time of dispatch, 7121 was transporting a patient to the local hospital and just entered the bridge headed towards the front of 1 Main. 7121 parked on the side of the road after clearing the bridge to investigate and provided a scene size-up. The 7121 officer walked up to 1 Main and observed smoke coming out of the boarded up windows on Side Alpha. The smoke billowed out of the boarded windows as if the building was charged with smoke. He walked onto the bridge and observed flames breaking through Side Bravo of 1 Main and heavy smoke coming from Side Charlie of 3 Main. The 7121 officer provided a detailed size-up of his observations to the PSAP that confirmed the working fire in 1 Main extended into 3 Main. He requested QT212 respond to Side Charlie on arrival. As he returned to Side Alpha, dark grey smoke from 1 Main became so heavy and banked down that he could no longer see his apparatus parked across the street (**see Photo 5**). The severe smoke conditions were caused by strong winds coming off the river. These winds blew into both buildings, advancing the situation to a wind-driven fire.

Photo 5. Example of smoke condition on Side Alpha.
(Courtesy of the fire department)

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

At 21:42 hours, QT212, Car 21 (IC), TW21, and SQ21 arrived on-scene. QT212 parked at the intersection at the end of the row opposite the bridge and reported heavy smoke in the area, believing the fire had possibly extended farther than 3 Main. Their crews received reports of elderly occupants that needed assistance to evacuate the buildings next to 3 Main. The crews broke into two teams. The QT212 officer went to Side Charlie and assessed conditions. He reported heavy fire in the basement and first floor of 1 Main (**see Photo 6**). He also reported that he believed both buildings were vacant and requested hoselines to Side Charlie. The other QT212 crew assisted police officers with evacuating the occupants of the other buildings in the row.

Photo 6. Conditions on Side Charlie upon arrival of QT212.
(Courtesy of the fire department)

Car 21 established himself as the IC and parked at the end of the row opposite the bridge. He requested a 2nd alarm be transmitted and for spare apparatus to be staffed. He also requested fire investigators, SO21, and utility companies to be dispatched to the scene. He walked along the row to the bridge and assessed conditions on Side Alpha of each building. When he was at the bridge, he noted that the buildings were hard to see because of the amount of smoke present. The off-duty assistant chiefs went to the scene when they heard the 2nd alarm requested.

Seeing the heavy smoke, the TW21 officer had the driver/operator park at the end of the bridge in anticipation of a defensive operation. SQ21 pulled past TW21 and staged in the road in front of 3 and 5 Main. The SQ21 officer and the TW21 officer had a face-to-face with IC who ordered no entry into the buildings. He requested their crews begin opening the doors and windows of the buildings for fire suppression. TW21 crews were unable to remove the plywood of 1 Main with hand tools. A TW21 firefighter retrieved a chainsaw and began cutting holes in the plywood. The SQ21 officer observed police officers trying to open 3 Main. He started removing the plywood on the windows and doors with hand tools while the SQ21 driver/operator and the SQ21 firefighter stretched a 1 ¾-inch hoseline around the parked cars to the front of 3 Main. The TW21 firefighter cut a hole in the plywood the SQ21 officer was working on. The SQ21 officer, backed up by the SQ21 firefighter, began flowing water into 3 Main. The SQ21 officer did not observe any active fire in 3 Main but believed the fire was in the basement. He continued to flow water, periodically stopping to evaluate conditions.

The PSAP dispatched fire departments 26, 32, 35, and 59 to standby in their stations. IC radioed EN214 and asked if they were on-scene yet. When QT213 arrived on-scene, IC requested they deploy a hoseline

to the Side Charlie/Side Delta corner for exposure protection. QT213 crews deployed 300 feet of 1 ¾-inch hoseline to Side Charlie of 3 Main which was fully involved. The QT213 officer had crews deploy an additional 2 ½-inch hoseline after seeing the volume of fire. The QT212 officer reported on talk group 3 that his crew was evacuating occupants from 5 Main out through the exterior stairs of Side Charlie. EN214 radioed IC stating they were almost on-scene and asked if he wanted them to establish a water supply. IC responded requesting their location and gave orders for EN214 to establish a water supply to QT213. The 7121 officer returned to his apparatus and radioed the PSAP that he was proceeding to the local hospital with their patient.

IC requested the PSAP to dispatch a mutual aid truck and engine to the scene and a 3rd alarm. He requested the QT212 driver/operator establish a water supply to TW21. As QT213 performed fire suppression on Side Charlie of 3 Main, EN214 arrived on-scene and prepared to establish a water supply from a hydrant. While at the same time, a QT212 firefighter deployed 300 feet of 1 ¾-inch hoseline to Side Alpha from QT212.

At 21:48 hours, IC announced a defensive strategy for operations and ordered all units to exit the buildings. He requested all apparatus driver/operators on-scene to sound their air horns to reinforce the change to a defensive strategy. He made the defensive strategy announcement first on talk group 3 then on the dispatch channel. The QT212 officer immediately responded reporting that all occupants had been evacuated from an adjacent building in the row. The PSAP dispatched the 3rd alarm units. Hearing the order from IC and the QT212 officer's response, the SQ21 officer and other firefighters on Side Alpha assumed the order was for interior crews that were in adjacent buildings evacuating occupants. IC requested TW21 crews set up the aerial ladder as the SQ21 driver/operator began to deploy a 2 ½-inch hoseline.

IC requested QT213 and EN214 to deploy a blitz gun to Side Charlie to protect exposures. EN214 secured the water supply to QT213 while firefighters from QT212 and QT213 added EN214's blitz gun to the deployed 2 ½-inch hoseline. CH21A and SO21 arrived on-scene. IC radioed on the dispatch channel asking if any chief officers were on-scene. CH21A responded that he was on-scene and IC ordered him to Side Charlie to manage the exposure protection operations. SO21 had a face-to-face with IC who requested he also stage on Side Charlie. The QT212 driver/operator completed the water supply to TW21 who began operating two master streams from the bucket into the fire of 1 Main. Fire ambulance 7121 was requested to return to the scene as they left the local hospital. At this time, the SQ21 officer told the SQ21 firefighter that their suppression operations weren't working and they needed to regroup. The SQ21 firefighter began to walk away from the front of 3 Main towards Side Delta. The SQ21 officer then dropped the 1 ¾-inch hoseline and followed.

At 21:51 hours, IC reported a major collapse on Side Charlie on both talk group 3 and dispatch channels. 3 Main experienced a progressive collapse that started when the roof failed and caused the billboards to drop (**see Photo 7 and 8**). This caused the Side Bravo wall to fall outward and push the walls of 1 Main. This also caused the facade on Side Alpha to collapse outwards onto the sidewalk toward the street parked cars. The SQ21 firefighter was trapped under the fully intact facade which spanned the sidewalk to a street parked car. His head to his diaphragm were covered by building materials. His waist, one arm, and legs were exposed through a window frame. The SQ21 officer was hit in the head by the facade,

knocking off his helmet. The collapse caused zero visibility conditions on Side Alpha; some smoke conditions occasionally improved because of shifting winds. The Side Charlie collapse was confirmed by the QT212 officer and was followed by an announcement from IC that a parapet had collapsed on Side Alpha. Immediately following the collapse, IC requested a PAR starting with QT212. IC did not witness the facade collapse onto the SQ21 firefighters because of the severe smoke conditions.

CH21D arrived on-scene. A TW21 firefighter and the SQ21 driver/operator notified IC that the SQ21 firefighter was trapped under the facade. IC reported to the PSAP that there was a firefighter down on Side Alpha. The PSAP requested confirmation from IC that there was a firefighter down on Side Alpha. This transmission was followed by a Mayday with the PSAP sounding the emergency tones. The PSAP attempted to contact the Mayday firefighter twice with no response. Since the firefighter calling the Mayday had their transmissions being stepped on, a QT212 firefighter at the collapsed facade activated their EAB. IC then requested all manpower to Side Alpha and QT212 crews from Side Charlie made their way to Side Alpha through a building in the row. CH21A was assigned to lead the extrication operation. As EN211 arrived on-scene they reported to IC, who requested they assist with extricating the SQ21 firefighter. Along with crews from QT212 and SQ21, they began the operation by attempting to lift the facade, but it was too heavy. Crews also attempted to pull SQ21 firefighter by his lower body which was exposed through the window frame. This was also unsuccessful.

Photo 7 and 8. Progressive collapse of 3 Main showing the billboard drop and pushing out the Side Bravo wall.
(Courtesy of the fire department)

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

7121 went to the scene from the local hospital as FI212 arrived on-scene. IC requested that EMS bring a stretcher to Side Alpha. A QT213 firefighter reported to IC that the "single-story" building only had part of the Side Alpha and Side Bravo walls left standing. This was followed by IC calling an "urgent" on talk group 3 and requesting all available manpower to Side Alpha to assist with the downed firefighter. The SQ21 officer responded requesting a saw to Side Alpha for crews working the extrication to cut the facade frame apart (**see Photo 9**).

Photo 9. The collapsed facade on Side Alpha.
(Courtesy of the fire department)

The PSAP requested confirmation that either CH21 or the IC received an additional Mayday (EAB activation) from QT212. CH21 responded noting that he was not on-scene and could not confirm. IC assigned CH21B to resolve the additional Mayday. He began to search for QT212 officer to verify they had PAR. When 7121 arrived on-scene, IC requested they report to Side Alpha to assist with the downed firefighter. Upon acknowledging their arrival report, the PSAP requested that 7121 confirm with IC that they were aware of the Mayday from QT212. IC responded by requesting a PAR from QT212 as the 7121 officer staged a stretcher by the collapsed facade on the street side of the parked cars. A firefighter radioed on talk group 3 that they needed a line on the fire on Side Alpha (**see Photo 10**). Following the collapse, the wind began to blow direct heavy smoke, heat, and fire over the edge of the sidewalk towards the facade and extrication operations. IC and a QT212 firefighter grabbed hoselines and TW21 directed its master streams to the fire of 3 Main to protect the extrication operations. The EN214 driver/operator established a water supply to SQ21 which was running low on tank water. Crews switched out operating the hoselines to protect the extrication operation from smoke, heat, and flames.

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

Photo 10. View of fire that became wind-driven from bridge with master streams and hoseline attempting to protect the extrication operation.
(Courtesy of the fire department)

CH21B advised the PSAP that the Mayday was for the firefighter trapped by the facade, who they were working to extricate. The PSAP acknowledged while IC requested PAR from QT212. QT212 responded that they were working on the downed firefighter. A firefighter requested water on the fire on Side Alpha. This transmission was followed by emergency tones from the PSAP about a second Mayday from QT212 (EAB activation). The PSAP requested confirmation from IC that they were aware of the second Mayday. CH21B confirmed as fire investigator 21-3 (FI213) arrived on-scene. Crews began to use chainsaws to cut the wood frame of the facade. One chainsaw kept stalling from the amount of smoke while the other would not cut the material of the wall. Again, IC requested PAR from QT212 who responded they were working on the downed firefighter. IC requested confirmation that QT212 knew where all its firefighters were. IC requested a status from QT213 on Side Charlie who responded that the fire was somewhat knocked down and they were getting ready to open 5 Main to look for fire extension. IC requested TW21 stop their master streams as they were working against the extrication operations.

EN219 and SQ219 arrived on-scene and were assigned to assist with the extrication operations by staging tools. IC notified the PSAP that QT212 had PAR, and their Mayday was for the member of SQ21 that they were working to extricate. The SQ21 driver/operator used spreaders and a QT212 firefighter used a combination tool to lift the facade together. This provided enough room for crews to pull the SQ21 firefighter out towards the building. At 22:13 hours, CH21A notified IC that the SQ21 firefighter was fully extricated from under the facade. The PSAP acknowledged that extrication was complete. The SQ21 firefighter was placed on a stretcher and loaded into 7121 while FI212 performed CPR and the 7121 crew provided advanced life support care. IC requested the PSAP to notify the local

hospital of the SQ21 firefighter being transported to them. 7121 went to the local hospital where the SQ21 firefighter was later pronounced deceased.

IC requested a progress report from TW21 who responded that there was still heavy fire because of the wind. QT213 reported that they were holding the fire on Side Charlie. IC then initiated a PAR check for all on-scene units with all confirming PAR. At this time, IC was transferred to CH21D, and on-scene units were rotated off. Multiple firefighters were treated for smoke inhalation because they worked the extrication operation without an SCBA.

The next day, the fire was declared under control with on-scene units still working on hot spots. All units cleared the scene that afternoon. Three firefighters were evaluated at a local hospital for smoke inhalation, an overexertion injury, and head injuries.

The fire department created a peer support program three years ago. After the incident, the fire department activated their internal peer support team for those who responded to this incident. The availability of the peer support team and its mental health resources were communicated to the department personnel via email, text message, word-of-mouth, and through the supervisory chain. The resources were also available to spouses and children of responding personnel.

Fire Origin and Cause

The State cause and origin investigation determined that the fire started in 1 Main and was classified as arson. The fire was believed to have been started by an individual experiencing homelessness.

Cause of Death

According to the county coroner report, the cause of death of the SQ21 firefighter was traumatic asphyxiation.

Contributing Factors

Occupational injuries and fatalities are often the result of one or more contributing factors or key events in a larger sequence of events that ultimately result in injuries or fatalities. The NIOSH investigator identified the following items as key contributing factors in this incident that ultimately led to the fatality:

- *Strategy and tactics*
- *Wind-driven fire/structural collapse*
- *Divisions/groups and ISOs*
- *Rapid intervention team/crew*
- *Personnel accountability system*
- *Vacant buildings and arson*

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

Recommendations

Recommendation #1: Fire departments should establish and enforce collapse zones when a defensive strategy begins.

In this incident, the IC announced a defensive strategy for operations and ordered all units to exit the buildings three minutes before the collapse. He requested all apparatus driver/operators on-scene sound their air horns to reinforce the change to a defensive strategy (i.e., exterior fire control). The QT212 officer immediately responded, reporting that all occupants had been evacuated from an adjacent building in the row. Hearing the order from IC and the QT212 officer's response, the SQ21 officer and other firefighters interviewed by NIOSH assumed the order was only for interior crews in adjacent buildings who were evacuating occupants. A collapse zone was not established or enforced by the IC, company officers, or ISO prior to the collapse.

In a defensive operation, the IC should make a reasonable determination of what the fire may consume and where it can be stopped. The IC should acknowledge that if the fire has significantly strengthened, some or all of the building may be lost. This determination should be based on the fire department's capability to extinguish the fire without placing firefighters in unnecessary risk. Conducting a thorough scene size-up and deploying effective tactics on what can be saved and where the fire can be stopped minimizes losses [NIOSH 2025a]. NFPA 1700 states that abandoned or vacant structures are often in an unknown state of condition or compromise, which could result in weakened structural components, holes in floors, and structural deficiencies. When controlling fires in these structures, a defensive strategy should be considered to avoid entry, and early collapse should be anticipated. Structural deficiencies in these buildings may result in unpredictable and increased fire activity [NFPA 1700 2021].

A decision for a defensive strategy is based on the incident's hazards outweighing the ability to safely operate inside the structure. Recognizing and defining collapse signals and risk through exclusion and control zones are fundamental to collapse zone management principles [NIOSH 2014]. Clear announcement of a defensive strategy is crucial as it helps all responders understand the IC's goal (control the spread from the outside) [NIOSH 2025a]. When the structure is visibly unstable, a collapse zone equal to one and a half times the height of the building should be established at minimum [NFPA 1550 2024]. This perimeter size keeps firefighters and other personnel out of imminent danger in the event of a collapse. When a collapse zone is established, the IC should communicate a "no re-entry" strategy until otherwise directed [NIOSH 2008]. The IC, with the help of the ISO(s), should define, establish, and enforce collapse areas. Once in place, the IC must clearly communicate where the collapse area(s) is/are to all firefighters operating on the fireground. The IC, division/group supervisors, and company officers should ensure firefighters do not enter the collapse areas. Preventing deviance from the strategy requires communication with everyone on the fireground, including the dispatcher and other responding units [NIOSH 2025b].

Recommendation #2: Fire departments should educate fire officers and firefighters in building performance under fire conditions and the potential for structural collapse.

At this incident, the majority of responding personnel knew that the condition of the incident buildings were vacant and deteriorated. Some crews decided while enroute that no one would enter them for

interior operations. Recognizable characteristics of a wind-driven fire were present based on smoke conditions and fire behavior. Due to their single-story structure, many of the firefighters interviewed by NIOSH expressed they did not predict the buildings to fail so quickly.

Understanding a building's design and structural anatomy, construction methods and materials, and vulnerabilities under fireground conditions has been linked to safer firefighting operations and firefighter survivability [NIOSH 2013]. Knowledge of building construction is critical to help firefighters recognize the potential for structural collapse. During the growth stage, the fire consumes combustible structural members. During the decay stage and post-suppression activities, the structure is further weakened due to the poor state of remaining structural members and the buildup of water. The contents of a building, such as furniture or machinery, also contribute to the potential for structural collapse by [IFSTA 2015; NIOSH 2025b]:

- Adding fuel load into the structure and generating higher temperatures that weaken structural components.
- Adding weight to the weakened structural members.
- Retaining water, which increases weight of contents and applies more stress on the structural members.

The progressive collapse of 3 Main resulted in the stone facade on Side Alpha falling straight out as a unit. Exterior masonry and veneer walls are not load-bearing. They are attached with ties and supports to the structure [IFSTA 2013]. When the load-bearing walls of 3 Main failed due to the collapse, the weight of and imposed load from the stone on the facade pulled it straight out onto the sidewalk. It is important for firefighters to be aware of how masonry or stone veneer construction influence the potential for structural collapse.

The term "wind-driven" fire is used to describe a fire in which the wind has the potential to, or is already causing, a dramatic and sudden increase in fire, heat, and smoke conditions. When responding to a reported structure fire, an overriding consideration concerning size-up must be wind conditions and their potential effect on the fire. The key to successfully operating at wind-driven fires depends on recognizing the wind-impacted fire conditions that may change a seemingly routine fire into a "blowtorching" fire [NIOSH 2016]. At this incident, the poor structural condition of the buildings, including multiple openings paired with the wind from the Side Bravo/Side Charlie corner facilitated rapid fire growth. This led to a quicker structural failure of the buildings. Fire officers and firefighters should be trained to consider building performance under fire conditions, such as wind-driven fires, to better recognize the potential for structural collapse and adjust tactics as applicable.

Recommendation #3: Fire departments should establish divisions/groups with a supervisor or use multiple safety officers for fireground management and risk assessment at geographically complex scenes, as early in the incident as possible.

This incident involved a geographically complex scene with a row of buildings near a river. The fire department in this incident used the training division instructor (SO21) as the designated ISO. The ISO

only responds when requested by the IC. At the time of this incident, SO21 was off-duty and responded from home. He arrived on-scene two minutes before the collapse.

As the incident escalates and additional alarms are requested, the span of control must be expanded to maintain effective command and coordination of the incident. This tactical-level management can be supported by establishing divisions or groups to direct operations in specific geographic areas or manage incident functions [IFSTA 2015]. Within a division/group, firefighters advise their supervisor of work progress and provide accountability for crew members engaging in task level activities. The IC should assign divisions/groups to a supervisor early. This is especially important when firefighters are operating from tactical positions that the IC has little or no direct control over (e.g., out of sight). All requests for additional resources or assistance within a division/group are directed to the supervisor who is responsible for communicating with the IC. Supervisors can provide ongoing conditions, actions, needs (CAN) reports to the IC of all four sides and the interior of an incident which may influence tactics and strategy [SKCFTC 2023]. Division/group supervisors can also assist in providing PARs when requested by the IC, ISO, or operations.

Tactical-level management at geographically complex scenes can also be accomplished by using multiple safety officers. The ISO provides a fire department with a higher level of expertise to perform the necessary incident scene functions and assist the IC with fireground safety. An ISO can perform initial and ongoing size-ups throughout the incident. Expectations and authority for the ISO include determining hazardous incident conditions, advising the IC to modify control zones or tactics to address corresponding hazards, communicating fire behavior and forecasting growth, and estimating building/structural collapse hazards. The ISO also has the authority to stop or suspend incident operations based on imminent threats to firefighter safety [NFPA 1550 2024]. The ISO should be separate from the IC, operations, or accountability positions so they can focus on their responsibilities and the primary objective of continually assessing all on-scene hazards to firefighter life and safety [NIOSH 2025b].

Larger fire departments can consider having one or more full-time dedicated ISOs who are on duty and can routinely respond to working fires (e.g., full-time shift ISOs). This can include increasing staffing to fulfill this role. In smaller departments, every officer should have the ability to function as the ISO when assigned by the IC [NIOSH 2025c]. Whether the ISO position is predesignated or filled by a fire officer, ISOs should be trained in how to assist the IC and other officers in fireground operations. While a fire department may use an appointed officer as an ISO, they may be delayed in recognizing a hazardous situation or operation. This delay can be mitigated by training all individuals who may be appointed as an ISO, to ensure they have clear understanding of responsibilities and expectations if deemed necessary [Dodson 2021; Sullivan 2012; NIOSH 2013].

Specific to this incident, the IC might have considered the use of multiple or assistant ISOs for fireground management and risk assessment at such a geographically complex scene. Incidents at large geographical areas such as commercial buildings or scenes with access issues that hamper the ability to do a 360 (e.g., riverside, row of buildings) often require expansion of the ISO role. Consequently, assigning assistant ISOs into branches, divisions, or groups for specific areas of responsibility (e.g. Side Charlie) might be necessary [NIOSH 2016].

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

Recommendation #4: Fire departments should ensure a rapid intervention team/crew is dedicated, assigned, and in place during structural firefighting operations to immediately respond to a firefighter emergency.

The fire department in this incident used the 7121 crew as their assigned rapid intervention team (RIT) for working fires. The 7121 crew would collect the RIT equipment stored in Car 21 and stage it at the scene. At this incident, 7121 was the first arriving unit. On arrival, the IC observed 7121 on-scene and believed those crews were there for RIT assignment. However, 7121 departed the scene for the local hospital with the patient they had from a previous call for service. No RIT was present on-scene at the time of the collapse or extrication operation.

Effective RIT operations are dependent on being proactive. On arrival, the RIT officer with one member of the RIT, receives a report from the IC. This report informs the RIT of on-scene details before they perform an incident scene survey to complete their evaluation. The remaining RIT members assemble the RIT equipment. After these tasks are completed and the RIT equipment is in place, the RIT officer informs the IC that a scene survey is complete and the RIT is ready, if needed. The entire RIT should stay immediately accessible for rapid deployment and maintain radio contact with the IC. The RIT officer should brief all RIT members with results of the incident scene survey [Toledo Fire & Rescue Department 2012]. The RIT officer and members coordinate with the IC to form rescue plan contingencies and to monitor radio and fireground conditions. RIT protection is an active assignment. This is an ongoing process of comprehensive information gathering and diligent scene monitoring until the unit is released by the IC [NIOSH 2024; NIOSH 2025d; NFPA 1407 2020].

RIT personnel should be qualified with operations level training of structural collapse search and rescue, as established in NFPA 2500. This includes being able to perform tasks such as conducting hasty primary and secondary search operations (low and high coverage) to locate victims trapped on, inside, and beneath collapse debris; accessing victims trapped inside and beneath collapse debris; and performing extrication operations involving packaging, treating, and removing victims trapped within and beneath collapse debris [IFSTA 2019; NFPA 2500 2022].

In terms of this incident, the RIT equipment was not staged and ready for use during the extrication operation, this includes appropriate tools based upon conditions present. RIT equipment not only includes lifesaving resources such as spare SCBA cylinders within RIT kits, but also forcible entry, cutting, and striking tools. This may include battery-powered chainsaws that are unaffected by the smoke conditions present on Side Alpha when crews attempted to cut the facade [IFSTA 2019].

Recommendation #5: Fire departments should use a personnel accountability system to readily identify the location and function of all operating personnel.

At this incident, the IC was not able to maintain accountability of on-scene personnel because of smoke conditions on Side Alpha and the geographically complex scene. Additionally, the multiple Maydays and PAR attempts for QT212 could not be resolved in a timely manner.

A personnel accountability system is a system that identifies the location and function of all members operating at an incident scene [NFPA 1550 2024]. This system is activated during an incident to collect

and maintain the status and location of personnel that may be working in an immediately dangerous to life and health environment. All personnel operating at an incident are responsible for understanding and participating in this system. The IC is responsible for all personnel but may delegate certain responsibilities to another person such as the ISO. An integral part of the accountability system is to make sure that the firefighters who are assigned and operating in the hazard zone are accounted for throughout the entire incident. A properly initiated and enforced personnel accountability system can improve firefighter safety and survival [NIOSH 2024]. A functional personnel accountability system can identify [NIOSH 2025e]:

- Members operating in the hazard zone
- Where members are in the hazard zone
- Conditions in the hazard zone
- Actions used in the hazard zone
- Paths of access and egress in and out (i.e., exits) of the hazard zone
- Rapid intervention teams/crews and their assignments

Different methods and tools are available for resource accountability, including [NIOSH 2025e]:

- Tactical worksheets
- Command boards
- Apparatus riding lists
- Company responding boards
- Electronic bar-coding systems
- Accountability tags or keys

Completion of personnel accountability can be assigned to a staff aide (e.g. incident command technician) by the IC. Functions of the staff aide include maintaining the tactical worksheet; maintaining personnel accountability of all members operating at the incident (resource status and situation status); monitoring radio communications on the dispatch and operations channels; control information flow; and accessing reference material and pre-incident plans. Some fire departments use firefighters as staff aides and other fire departments use fire officers to serve as a staff aide for a command officer. This position can be appointed, or fire departments can consider increasing staffing to fulfill this position [NIOSH 2016; NIOSH 2025d].

Recommendation #6: Governing municipalities (federal, state, regional/county, and local) should ensure the delegated zoning or code enforcement authority, law enforcement agency, and fire department collaborate to proactively remediate vacant and abandoned buildings to reduce arson.

In this incident, the AHJ maintained a vacant property registration program that provided contact information and generated fees to cover municipal costs associated with these properties. This included a vacant property officer who interacted with owners and municipal departments, emphasizing compliance more than enforcement. At the time of the incident, there were more than 350 vacant properties registered with the AHJ. The fire department in this incident generally responds to 10 or more fires annually in vacant and abandoned buildings.

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

Many fire departments have vacant/abandoned/derelict (high-risk) structures in their jurisdictions. These types of buildings are of increasing concern to the life and safety of firefighters. These structures lack structural integrity and may contain unknown hazards [USFA 2023]. The best way to prevent vacant building fires is to reduce or eliminate vacant (i.e., high-risk) buildings. However, most fire departments lack the necessary legal standing or resources to carry out the demolition of a building. So, it is critical for them to form strategic partnerships with zoning, code enforcement, and law enforcement agencies of their AHJ to develop and implement strategies for timely remediation of these buildings [NIOSH 2025a].

After vacant and abandoned buildings have been identified, the fire department should work with the AHJ to remediate them by securing all entrances or demolition. Preventing unauthorized individuals from entering a building can reduce the risk of a fire igniting and arson. Securing the building might include physical barriers to deny access [NIOSH 2025a]. The effectiveness of physical barriers should be evaluated during building inspection. Once secured, buildings must be patrolled with regular frequency to make sure they remain secure. High visibility of law enforcement patrols can also be an effective control in deterring unauthorized access [USFA 2023].

The National Vacant Properties Campaign describes several strategies to address the problem of vacant properties and provides examples of how these strategies have been used. Strategies include [National Vacant Properties Campaign 2024]:

- Land banks for property seized from nonpayment of taxes
- Rehabilitation programs for owner-occupied housing and home repair programs
- Information systems to capture data about individual properties and neighborhoods that allow developing problems to be identified, tracked, and addressed
- Property maintenance codes related to occupied housing that reduce the likelihood a property falls into serious disrepair and abandonment
- Nuisance abatement authority that allows municipalities to address threats to the general public, typically, through administrative hearings rather than courts
- Receivership, which is legal action that places property in dispute under the control of an independent person (e.g., court-appointed neutral party)

Post-Incident Fire Department Prevention Actions

After this incident, the fire department implemented changes to its incident response and fireground operations. These changes were based on the department's critique of the incident on February 12, 2025.

- **Collapse hazards in CAD data:**
  Vacant and derelict buildings that have response hazards identified from inspections and crew observations are now recorded in the fire department's CAD data to ensure that arriving units have additional information on incident buildings prior to arrival.
- **Building Owner Remediation:**

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

When the fire prevention division identifies fire and life safety code violations at commercial buildings, the fire marshal's office issues violation notices for building owners to appear in court if the code violations are not remedied. This includes vacant buildings.

References

Dodson D [2021]. Fire department incident safety officer, 3rd Ed. Burlington, MA: Jones & Bartlett Learning.

IFSTA [2013]. Essentials of fire fighting. 6th ed. Stillwater, OK: International Fire Service Training Association.

IFSTA [2015]. Fire and emergency services safety officer. 2nd ed. Stillwater, OK: International Fire Service Training Association.

IFSTA [2019]. Rapid intervention teams. 2nd ed. Stillwater, OK: International Fire Service Training Association.

National Vacant Properties Campaign [n.d.]. Strategies and technical tools. Date accessed: June 13, 2025.

NFPA [2020]. NFPA 1407, Standard for training fire service rapid intervention crews. Quincy, MA: National Fire Protection Association.

NFPA [2021]. NFPA 1700, Guide for structural fire fighting. Quincy, MA: National Fire Protection Association.

NFPA [2022]. NFPA 2500, Standard for operations and training for technical search and rescue incidents and life safety rope and equipment for emergency services. Quincy, MA: National Fire Protection Association.

NFPA [2024]. NFPA 1550, Standard for emergency responder health and safety. Quincy, MA: National Fire Protection Association.

NIOSH [2008]. Career fire fighter dies when trapped by collapsed canopy during a two alarm attached garage fire – Pennsylvania. By Koedam R, Merinar T, and Kovacevic L. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, F2007-08.

NIOSH [2013]. Career lieutenant and fire fighter killed and two fire fighters injured by wall collapse at a large commercial structure fire - Pennsylvania. By Miles S., Bowyer M., Merinar T., Tarley J., and Loflin M. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, F2012-13.

Career Firefighter Dies after being Trapped by Collapse of Two Vacant Commercial Buildings – New York

NIOSH [2014]. Preventing deaths and injuries to fire fighters by establishing collapse zones at structural fires. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health (NIOSH), Publication No. 2014-120.

NIOSH [2016]. Lieutenant and fire fighter die and 13 fire fighters injured in a wind-driven fire in a brownstone – Massachusetts. By Bowyer ME, Loflin ME, and Miles ST. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, F2014-09.

NIOSH [2024]. Volunteer firefighter killed after becoming trapped at an assisted living facility fire and two firefighters injured – New York. By Loflin M and Attwood W. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, F2021-10.

NIOSH [2025a]. Three firefighters die and another seriously injured during the collapse of an abandoned, derelict, 3-story row house fire – Maryland. By Funke JR, Attwood WR, Haas EJ, Miles ST, Bowyer M, and Loflin ME. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, F2022-01.

NIOSH [2025b]. A military firefighter killed and two firefighters injured by a wall collapse at a barn fire – West Virginia. By Loflin ME, Attwood WR, and Ringer SJ. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, F2021-09.

NIOSH [2025c]. Career candidate firefighter found unresponsive at a residential structure fire and dies 5 days later–Illinois. By Loflin ME and Saunders R. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, F2021-20.

NIOSH [2025d]. Firefighter dies and lieutenant seriously injured at a multi-family residential structure fire – Connecticut. By Loflin ME, Attwood WR, and Funke JR. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, F2021-11.

NIOSH [2025e]. Lieutenant dies from a floor collapse in residential structure fire with unpermitted renovations – Illinois. By Loflin ME, Attwood WR, and Austin E. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, F2022-09.

SKCFTC [2023]. Command procedures: Structure fires. Kent, WA: South King County Fire Training Consortium. March 2023.

Sullivan J [2012]. ISO's role when transitioning from an offensive to a defensive attack. FireRescue, April: 86–89.

Toledo Fire & Rescue Department [2012]. Rapid intervention team (RIT) standard operating procedure C82. Toledo, OH: Toledo Fire & Rescue Department.

USFA [2023]. Reducing arson at vacant and abandoned buildings. Emmittsburg, MD: U.S. Fire Administration.

Weather Underground [2025]. Weather history. The Weather Underground. Date accessed: June 6, 2025.

Investigator Information

This investigation report was authored by Dr. Wesley R. Attwood, Senior Investigator, with the Fire Fighter Fatality Investigation and Prevention Program, Surveillance and Field Investigations Branch, Division of Safety Research, NIOSH. James Johnson, Fire Ground Survival Master Instructor and Codes and Standards Representative, and Jeffrey Seaton, an expert in firefighter survival, International Association of Fire Fighters, provided a subject matter expert review of the investigation report.

Additional Information

Preventing Deaths & Injuries to Firefighters by Establishing Collapse Zones at Structure Fires
Firefighters are at significant risk for injury or death due to structural collapse during firefighting operations. Structural collapse often occurs without warning. NIOSH recommends that the IC establish defensive operations and collapse zones when there is potential for a structural collapse during fire-fighting operations. Access more information at: https://www.cdc.gov/niosh/docs/wp-solutions/2014-120/.

Partnering to Reduce the Risk to Firefighters Responding to High-risk Buildings
This NIOSH Science Blog discusses strategic partnerships fire departments and authorities having jurisdiction can develop to create solutions to large community safety issues such as abandoned or condemned structures.

NFPA 1700, Guide for Structural Fire Fighting (2021 edition)
NFPA 1700, *Guide for Structural Fire Fighting*, 2021 edition, is the first NFPA document connecting fire dynamics research and its application to strategy, tactics, and best practices for firefighters in controlling fires within a structure.

Disclaimer

The information in this report is based upon dispatch records, audio recordings, witness statements, and other information that was made available to the National Institute for Occupational Safety and Health (NIOSH). Information gathered from witnesses may be affected by recall bias. The facts, contributing factors, and recommendations contained in this report are based on the totality of the information gathered during the investigation process. This report was prepared after the event occurred, includes information from appropriate subject matter experts, and is not intended to place blame on those involved in the incident. Mention of any company or product does not constitute endorsement by NIOSH, Centers for Disease Control and Prevention (CDC). In addition, citations to websites external to NIOSH do not constitute NIOSH endorsement of the sponsoring organizations or their programs or

products. Furthermore, NIOSH is not responsible for the content of these websites. All web addresses referenced in this document were accessible as of the publication date. *NIOSH Approved is a certification mark of the U.S. Department of Health and Human Services (HHS) registered in the United States and several international jurisdictions.*