Carroll County Department of Fire & EMS
Standard Operating Procedure

DOCUMENT DETAILS

Standard Operating Procedure: 3.08	**Effective Date: November 19, 2025**
Subject: Explosive Bombing Incidents	**Section: Emergency Medical Services**
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Applicability: **[X] Volunteer** **[X] Career**

I. PURPOSE

This policy outlines operational procedures for Carroll County Department of Fire & EMS at bomb threats and explosions, emphasizing prevention measures and response tactics regarding the threat or intentional detonation of bombs or explosives.

II. DEFINITIONS

CBRN: Chemical, biological, radiological, and nuclear (CBRN) terrorist attacks.

WMD: Weapons of mass destruction.

EMS: Emergency Medical Services.

IC: Incident command

PPE: Personal protective equipment

III. BACKGROUND

Explosives are a specific type of hazardous material. While chemical, biological, radiological, and nuclear (CBRN) terrorist attacks remain a threat via weapons of mass destruction (WMD), one of the most frequent weapons of the terrorist or person looking to harm is the conventional bomb or Improvised Explosive Device (IED).

An IED is usually a crudely designed, homemade bomb used to destroy, incapacitate, harass, or distract. IEDs may include incendiary or CBRN materials or hardware to add to the destructive power and psychological effect of the device. IEDs can utilize commercial or military explosives, or military ordnance and ordnance components. IEDs may be constructed at low cost with little skill and can be easily disguised. This allows the bomber to detonate the device from a safe distance without being identified. From small pipe bombs to large truck bombs, the device's

size, type, and effectiveness are only limited by the goals and technical sophistication of the individual or organization that produces it.

A. Types of Explosives

1. **Pyrotechnics**
    a. Creates smoke, heat, light, and sound.
    b. Examples: Fireworks
2. **Low Order Explosives**
    a. Controlled release of gas that creates a propellant, causing a pushing effect.
    b. Designed to burn.
    c. Easier to ignite; initiated by flame, impact.
    d. Detonate at speeds less than 3000 ft./sec.
    e. Examples: black powder, smokeless powder, rocket fuel.
3. **High Order Explosives**
    a. Initiated by shock from a detonator or blasting cap
    b. Creates a shattering effect in an instantaneous release of energy for maximum dispersion and damage.
    c. Detonates at speeds greater than 3000 ft./sec.
    d. Weapon of choice for terrorist.

B. Types of IEDs

All IEDs consist of components that include a power supply, an initiator, explosives, and a switch. IEDs may be delivered and detonated using any of the following methods: vehicle, incendiary, suicide, letter, carried, or planted.

1. Vehicle Borne Improvised Explosive Device (VBIED)

A vehicle-borne improvised explosive device is a car, limousine, van, or truck loaded with explosives and driven to a target where it is detonated. VBIEDs are the most often used method of attack against the United States or allied interests worldwide by terrorist organizations, other vehicles may be used or have been used as VBIEDs, including boats, airplanes, bicycles, and motorcycles.

a. Characteristics of a VBIED
    i. Vehicles have a large capacity. Without much cost or planning, they can be used to cause mass casualties, wide-scale destruction, and tremendous fear and panic.
    ii. A small pick-up truck can hold as much as 2 to 3 times the amount of explosives used in the 1993 Would Trade Center bombing.
    iii. VBIEDs can be driven to a location where the device can be detonated remotely, or a suicide bomber can choose to drive the vehicles into the intended target.

iv. Commercial vehicles acquired by those looking to cause harm could be disguised by using package delivery, food delivery, or building maintenance-type vehicles.
v. Fire apparatus, EMS transport units, and police cars have also been used to deliver a VBIED.

2. Letter IED

a. Letter IEDs may be in envelopes or packages delivered by mail containing explosives. They are usually victim-activated during the opening process and include letters, books, musical greeting cards, or candy boxes. These devices may also be contaminated with CBRN.

3. Suicide Bombers

a. Description of Suicide Bomber
    i. An individual who transports a device to detonate at a particular location with the intention of killing bystanders as well as themselves. The devices used are usually anti-personnel in nature, designed to injure or kill people, not cause structural damage.

    ii. *The profile of the contemporary suicide bomber is that there is no profile.* However, the majority of attackers have been young, unmarried, middle-class males who received fundamentalist religious education.

b. Description of Suicide Attack
    i. Suicide attacks are cost-effective and very difficulty to defend against it has recently been the deadliest form of terrorism, responsible for 48% of total deaths due to terrorism (excluding September 11th). Suicide attacks also guarantee extensive media coverage.

c. Description of Suicide Attack Containers
    i. Type I: **Package:** IED in a container (backpack, briefcase)

    ii. Type II: **Belt:** Worn under or as part of clothing.

    iii. Type III: **Vehicle:** Concealed in a vehicle and driven to target

d. Methods of Suicide Attacks

i. Suicide bombers often detonate their devices in places where large groups are gathered and augment the device with items such as nails, bolts, or CBRN materials.

ii. **Suicide bombers routinely use more than one device in a targeted area. Secondary devices usually detonate within 20 minutes of the primary explosion and are often carried out along the evacuation route near the first targeted area.**

C. The Effects of Detonated Explosives

Explosions result from a sudden and violent release of massive volumes of gas followed by temperature (exothermic) release, shock, and loud noise. Rapid decomposition occurs as the material changes from a solid to a superheated gas. (Explosives are classified according to their degree of response once initiated and the stimuli to which they respond).

1. **Blasé Pressure** – Blast pressure is excess pressure caused by a detonated explosive device. Positive blast pressure moves quickly away from the center of the explosion, followed by a vacuum effect. Negative blast pressure follows as the pressure moves back toward the explosion's center at a high speed. **Severe injuries to internal organs may result from blast pressure.**

2. **Fragmentation** – Pieces of the device, added shrapnel (nails, ball bearings), or surrounding materials are propelled away from the explosion. Flying fragments may cause severe injuries. Depending on the power of the device, a fragment can travel three times faster than a bullet.

3. **Thermal Effects** – Sometimes called incendiary effects, the detonation generates heat and appears briefly as a fireball that may be up to 3650 degrees F lasting no more than 0.5 seconds.

D. Blast Injuries

External indicators of blast wave injury may not be evident. Victims who were near the seat of the blast should be monitored for delayed onset of symptoms. Injuries that may be encountered at the scene of an explosion include:

1. **Type I Blast Injuries** – Primary blast injuries are the result of pressure created from the blast. Areas that are air-filled are most susceptible. Rapid changes in pressure can cause tearing or distortion of internal organs.
    a. Ears
        i. Bleeding

ii. Hearing loss
iii. Vertigo

b. Lungs
   i. Difficulty breathing
   ii. Blue or gray color tongue, lip, nailbeds, and skin.

c. Central Nervous System (most likely cause of death)
   i. Cerebral hemorrhage, embolism, or concussion may occur
   ii. Headache
   iii. Blurred vision
   iv. Stiff neck
   v. Progressive deterioration of mental alertness

d. Gastrointestinal Tract
   i. Rebound tenderness
   ii. Involuntary guarding of the stomach
   iii. Spleen and liver most likely affected
   iv. More common in explosions on or underwater

e. Eye
   i. Detached retina
   ii. Eyes removed from the orbital socket
   iii. Loss of vision

f. Cardiac
   i. Myocardial contusion
   ii. Air embolism

2. **Type II Blast Injury** – Propelled fragmentation of containers, surrounding materials, or additives (nails, ball bearings) may cause multiple large, possibly contaminated wounds. Flying glass is a major secondary injury – causing hazard.
   a. Abrasions
   b. Contusions
   c. Lacerations
   d. Penetrating Injuries
   e. Fractures
   f. Blunt trauma
   g. Partial or complete amputated body parts

3. Type III Blast Injury
   a. The victim becomes a projectile.

IV. PROCEDURE

Operational Guidance for pre and post-detonation of explosives

A. <u>Pre-detonation (bomb threats, suspicious packages).</u>

A. Command

a. Command Intent – Carroll County Department of Fire & EMS role in a bombing incident, as well as bomb threats, should be limited to rescue activities, Emergency Medical Services (EMS), and fire suppression activities. The Incident Commander (IC) shall decide whether to deploy fire department personnel in these incidents following a quick assessment. **Following risk management principles, resources must be immediately deployed whenever live, viable victims need rescue.** When this occurs, communications and coordination with law enforcement agencies must be established and maintained to ensure the maximum degree of safety for our personnel.

b. Establish Command Post – A Unified Command post with law enforcement must be established as soon as possible. The Unified Command Post should be established out of sight of the device and away from anything that may contain a secondary device (dumpsters, mailboxes). **Have the Command Post swept for explosives ASAP.**

2. Unit Staging

i. Units shall stage at least 1500 feet from the incident at the one location. This distance may increase or decrease as more information about the threat becomes known. Stage units upwind, uphill, and far away from the device and behind structural or natural barriers, if possible. Shock waves move around buildings. Fragments or shrapnel can travel faster than a bullet. Avoid areas where window glass may fall on staged personnel. Consider power failure when staging in high-rise buildings.

ii. The IC should have all units visually check the immediate staging area for anything suspicious. Anything deemed suspicious must be reported immediately to the Unified Command. **Have the staging area swept for explosives ASAP.**

3. Communications

a. If a suspected device is located at the incident site, units in staging should not transmit on mobile or portable radios or cell phones within 300 feet of the incident site.

4. **Safety**
    a. Always maintain situational awareness
    b. Use time, distance, and shielding
    c. All members will be in full PPE

5. **Priorities**
    a. Establish command
    b. Check immediate surroundings
    c. Communication and coordination with law enforcement agencies will be maintained throughout the incident.
    d. No units will be deployed from the staging area unless directed by the IC.
    e. Establish Level III accountability at the entry point.
    f. If the situation warrants, fire department resources may assist law enforcement agencies with evacuations, limited area searches, initial perimeter control, etc.

B. <u>Post-blast Incidents – Assume that all explosions are deliberate and involve WMD</u>

1. **Establish Command**
    a. A Unified Command will be established with law enforcement and other appropriate agencies. Establish the Command Post out of the site of the device and away from anything that may contain a secondary device (dumpsters, mailboxes, etc.). **Have the Command Post swept for explosives ASAP**

2. **Staging**
    a. Units, except the first due Engine Company, will initially stage at a minimum of 1500 feet from the incident at one designated location. Stage units upwind, uphill, and far away from the device and behind structural or natural barriers, if possible. As more information about the incident becomes known, staging distances may be increased or decreased. **Have the staging area swept for explosives ASAP.**

3. **Personal Protective Equipment**
    b. Personnel operating at the bombing incidents shall initially wear full protective equipment, including SCBA. Depending on whether chemical, biological, or radiological contaminants are involved, this level of personal protective equipment may be increased or decreased by the IC with guidance from Special Operations. **Do not remove SCBA until "All Clear" or you have gone through decontamination.**

4. **Safety**
    a. Be alert for secondary devices and hazards

b. Assess the structural stability of surrounding buildings after a sweep has been performed. Stabilize collapsed/damaged structures.
c. Avoid windows and falling glass.
d. Avoid garbage cans, parked vehicles, and mailboxes; they may be receptacles for secondary devices
e. Do not approach a suspect's remains or explosives still on the scene; there may be undetonated or partially detonated explosives or secondary devices present or a booby-trap. The device could be susceptible to external stimuli and have a functioning backup system or secondary initiator.
f. Be aware that one of the victims may be the suspect.
g. Do not let privately owned vehicles (POV) be started or moved from locations, even by owners, until cleared.

5. Initial On-Scene Actions

a. All units equipped with Personal Radiation Detection (PRD) will activate the device while enroute.
b. The first due engine company shall cautiously approach the area and stop at least 500 feet from the incident scene **or** where debris/damage is first encountered, whichever comes first, and proceed with the following:
    i. Provide a brief initial report (BIR) and notify the first due responding shift commander/chief officer of the reading on the PRD.
    ii. Follow up with more detailed reconnaissance report covering the following items:
        a) Obvious rescues
        b) Number of apparent victims and need for emergency medical services.
        c) Fire control problems
        d) Building collapse and structural stability problems
        e) information from law enforcement authorities if already on the scene
        f) recommended ingress and egress routes
        g) evacuation needs
        h) perimeter control needs

6. Priorities

a. All members will don their full PPE and SCBA
b. Perimeter and exclusionary zones will be established based on hazards such as collapse, hazmat, chemical, radiological, etc.
c. Ambulatory victims will be directed away from the immediate incident site to a casualty collection point to minimize exposure to secondary devices.

Obvious and surface rescues should be undertaken. **If a thorough bomb sweep of the immediate incident site is not underway after 15 minutes from arrival, the IC will consider**

removing rescuers to a safe location until cleared by explosive ordinance disposal (EOD) personnel. EOD assets should be requested immediately.

d. Determine if the incident site has been contaminated with CBRN material take the following actions
    iii. Notify all involved agencies
    iv. Determine appropriate levels of PPE
    v. Reevaluate perimeters
    vi. Begin appropriate decontamination of victims and emergency responders
    vii. Notify receiving hospitals.
e. No units shall be deployed from the staging area unless directed to by the IC.
f. Minimize the number of responders committed to hazard areas.
g. Egress and ingress routes shall be established to facilitate victim and responder movement. Assistance in securing these routes may be requested from law enforcement agencies.
h. Request needed specialized resources, both from within Carroll County Department of Fire & EMS as well as those resources available through mutual aid agreements.
i. Control utilities (electric, natural gas, etc.) in the damaged area, if necessary, with the assistance to law enforcement agencies.

7. Crime Scene Preservation

a. Recognize potential evidence
b. Secure evidence found with the victims, in ambulances, or at the hospital until it can be turned over to law enforcement
c. Consider embedded objects as possible evidence
d. The clothing of victims should be considered evidence.
e. Try not to wash down the area, as evidence may be destroyed.
f. Leave the obviously dead undisturbed.
g. Leave all emergency vehicles that were inside the primary blast/crime scene in place until the bomb squad can determine if they are safe to move and if moving them will not destroy key evidence.

V. RECISION

This Standard Operating Procedure rescinds all directives regarding the Response to Explosive Bombing Incidents or similar content previously issued for personnel of the Carroll County Department of Fire & EMS.

VI. RELATED STANDARD OPERATING PROCEDURES / DOCUMENTS

FBI Bomb Threat Stand-Off Table

Threat Description	Explosive Capacity *1 (TNT Equivalent)	Building Evacuation Distance *2	Outdoor Evacuation Distance *3
Pipe Bomb	5 LBS/2.2 KG	70 FT/21 M	850 FT/259 M
Briefcase/Suitcase Bomb	50 LBS/22.7 KG	150 FT/46 M	1,850 Ft/564 M
Compact Sedan	500 LBS/227 KG	320 FT/98 M	1,500 FT/457 M
Sedan	1,000 LBS/450 KG	400 FT/122 M	1,750 FT/534 M
Passenger/Cargo Van	4,000 LBS/1,814 KG	640 FT/195 M	2,750 FT/838 M
Small Moving Van/Delivery Truck	10,000 LBS/4,536 KG	860 FT/263 M	3,750 FT/1,143 M
Moving Van/Water Truck	30,000 LBS/13,608 KG	1,240 FT/375 M	6500 FT/1,982 M
Semi-Trailer	60,000 LBS/27,216 KG	1,570 FT/465 M	7,000 FT/2,134 M

VII. ATTACHMENTS

N/A