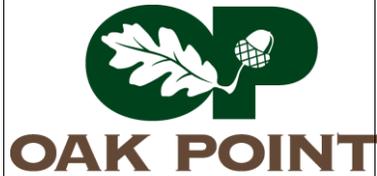


3.5 APPARATUS POSITIONING WHILE OPERATING IN OR NEAR MOVING TRAFFIC



City of Oak Point Department of Public Safety Fire Department

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I. Overview

This guideline identifies vehicle positioning practices for Fire Department apparatus and emergency vehicles that provides maximum protection and safety for personnel operating in or near moving vehicle traffic. In addition, these procedures emphasize efforts to maintain lanes of moving traffic around the incident scene to minimize the traffic queue and the inherent probability of secondary collisions. Efforts to complete safe and efficient clearance of the incident scene in as short a timeframe as possible are recommended.

It shall be the policy of the Fire Department to initially position apparatus and other emergency vehicles at an incident on any street, road, highway or expressway in a manner that best protects the incident scene while at the same time providing for traffic movement past the incident scene as much as reasonably possible. Such positioning shall afford protection to fire department personnel, law enforcement officers, tow service operators, other emergency personnel while working in or near moving traffic.

All personnel should understand and appreciate the high risk that personnel are exposed to when operating in or near moving vehicle traffic. Responders should always operate within a protected environment at any roadway incident.

Always consider moving vehicles as a threat to your safety. At every roadway emergency scene, personnel are exposed to passing motorists of varying driving abilities. Responders must accept that motorists approaching the incident scene on the roadway may be a 'D' driver; drunk, drugged, drowsy, distracted, or just plain dumb. It is the 'D' driver that may be completely oblivious to your presence due to distractions or impairments. Distracted motorists will often be looking at the scene and not the roadway in front of them where you might be operating. Assume that all approaching traffic is a 'D' driver and is out to get you until proven otherwise.

Nighttime incidents and inclement weather conditions are particularly hazardous. Visibility is reduced and driver reaction time to hazards in the roadway is slowed. Adjust operations accordingly.

II. Terminology

1. Advance Warning- notification procedures that advise approaching motorists to transition from normal driving status to that required by the temporary emergency traffic control measures ahead of them.
2. Block- positioning a fire department apparatus on an angle to the lanes of traffic creating a physical barrier between upstream traffic and the work area. Includes 'block to the right' or 'block to the left'.

3. Buffer Zone- the distance or space between personnel and vehicles in the protected work zone and nearby moving traffic.
4. Downstream- the direction that traffic is moving as it travels away from the incident scene.
5. Flagger- a fire department member assigned to monitor or direct approaching traffic and activate an emergency signal if the actions of a motorist do not conform to established traffic control measures in place at the highway scene
6. Linear- positioning a fire department apparatus parallel to or within a travel lane or shoulder of a roadway. Linear positioning only creates a physical barrier within that lane or shoulder of the roadway.
7. Taper- the action of merging lanes of moving traffic into fewer moving lanes.
8. Temporary Traffic Control Zone- the physical area of a roadway within which emergency personnel perform their fire, EMS and rescue tasks at a vehicle-related incident.
9. Transition Zone- the lanes of a roadway within which approaching motorists change their speed and position to comply with the traffic control measures established at an incident scene.
10. Upstream- the direction that traffic is traveling from as the vehicles approach the incident scene.

III. 'Move It' Incidents

All emergency personnel are at great risk of injury or death while operating in or near moving traffic. There are several specific tactical procedures that should be taken to protect all responders and emergency service personnel at the incident scene including;

1. Consider that all approaching drivers are 'D' drivers
2. Establish an initial "block" with the first arriving emergency vehicle or fire apparatus while the initial size-up survey is completed
3. Always wear high visibility, florescent and reflective garments (vest or jacket) during roadway operations. When full protective NFPA compliant clothing is required by department SOG, high-visibility vests must be worn over structural turnout gear except for members combatting a fire situation or dealing directly with hazardous materials.
4. All fire department members must wear structural firefighting helmet with chinstrap donned properly.
5. Operators of emergency vehicles at the scene should complete 'light shedding'; turning off all lights such as vehicle headlights, forward-facing warning lights, or spotlights that might create vision impairment to approaching motorists at nighttime incidents.
6. Employ the 'Move It' or 'Work It' strategy. Determine if vehicles involved can be moved out of the travel lanes to an off-roadway location. Moving to an off-roadway location improves responder safety, minimizes congestion, and assists with safe, quick clearance; the "Move It" strategy
7. If vehicles can be moved out of the travel lanes of the roadway, attempt to clear the travel lanes in less than 30 minutes; Minor duration incident.

IV. 'Work' Incidents

The following are benchmarks for Safe Positioning of apparatus and emergency vehicles when the crash-damaged vehicle cannot be moved out of the travel lanes of the roadway and crews must work the incident at the location found upon arrival. If incident is a 'Work' situation, establish Command according to ICS protocols, employ upstream advance warning and temporary traffic control transition measures to warn approaching motorists, and attempt to reduce their vehicle speed. Incident duration is anticipated to exceed 30 minutes.

1. Position first-arriving apparatus to protect the scene, patients, and emergency personnel.
 - a. Initial apparatus placement should create an initial incident area protected from traffic approaching in at least one direction. Intersections or where the incident may be near the middle lanes of a multi-lane roadway require two or more sides of the incident to be protected.
 - b. Angle apparatus on the roadway with a “block to the left” or a “block to the right” if possible to create a physical barrier between the crash scene and approaching traffic. If possible block at least one additional traffic lane more than that already obstructed by the crashed vehicle(s); obstructed Lane + 1 strategy. Shoulder of the highway can be counted as a lane.
 - c. The front wheels of blocking vehicles should be turned away from the downstream work area
 - d. For first arriving fire department units where a charged hose line may be needed, block so that the pump panel is downstream, on the opposite side of on-coming traffic. This will protect the pump operator.
2. Ambulances should be positioned within the protected work area and have their rear patient loading area angled away from the nearest lanes of moving traffic
3. Additional responder vehicles and personnel working the incident should either support advanced warning efforts or be positioned within the protected area created by the blocking apparatus.
4. Command shall stage unneeded emergency vehicles off the roadway, place them in a Staging area on the downstream side of the incident, or return these units to service.
5. Lanes of traffic shall be identified numerically as “Lane 1”, “Lane 2”, etc., beginning from the left to the right when considered from the motorist’s point of view driving in those lanes.
6. Traffic cones or cones with flares alongside should be deployed upstream to increase the advance warning for approaching motorists. Cones and flares identify but only suggest the transition and tapering actions that are requested of the approaching motorist.
7. Personnel shall place cones and flares as well as shall retrieve cones while facing oncoming traffic. A Buddy system is recommended for deployment and retrieval.
8. Adequate advance warning to approaching motorists should be put in place using flares or traffic cones deployed at intervals of no greater than 40’ apart upstream of the blocking apparatus. The furthest traffic cone that begins the taper and closing of a travel lane should be positioned upstream along the edge or shoulder of the roadway.
9. Additional personnel may extend the advanced warning area by placing additional emergency vehicles, traffic cones, flares, deployable signs, and arrow boards to build upon initial traffic control measures as the incident duration exceeds 30 minutes. Placing flares, where safe to do so, adjacent to and in combination with traffic cones for nighttime operations greatly enhances motorist warning and scene safety.
10. Progressively open lanes of traffic as safely and efficiently as practical as the incident is dealt with. Once cleared of vehicles, patients and debris, opening of a traffic lane will reduce the queue and minimize the chances of secondary collisions.

V. Incident Command Benchmarks

The **initial-arriving company officer** and/or the **Incident Commander** must complete critical benchmarks to assure that a safe and protected work environment for emergency scene personnel is established and maintained including;

1. Assure that the first-arriving apparatus establishes an initial block to create an initial safe work area
2. Determine if incident is a ‘Move It’ situation where vehicles can be relocated out of the normal travel lanes thereby reducing responder exposure to moving traffic and improving incident clearance time.

3. Determine if the incident is a 'Work It' situation in which the vehicles involved must remain in their present location as fire, rescue, and medical activities take place.
4. Assure that all ambulances on-scene are placed within the downstream, protected work area of the larger apparatus.
 - a. Assure that all patient loading into ambulances is done from within a protected work area.
5. The initial company officer and/or Incident Commander must operate as the Scene Safety Officer until this assignment is delegated.
6. Command shall assure that 'light-shedding' protocols including Opticom strobe systems and high-beam headlights are turned OFF and that other emergency lighting remains ON as necessary.

VI. Emergency Crew Personnel Benchmarks

Listed below are benchmarks for safe actions of **individual personnel** when operating in or near moving vehicle traffic.

1. Always maintain an acute awareness of the high risk of working in or near moving traffic. They are out to get you!
2. Never trust the 'D' driver in the moving traffic that is approaching you.
3. Always look before you move!
4. Avoid turning your back to moving traffic.
5. Personnel arriving in crew cabs of fire apparatus should exit and enter the apparatus from the protected, downstream side, away from moving traffic.
6. Officers, apparatus operators, crew members in apparatus with individual jump seat configurations and all ambulance personnel must exit and enter their units with extreme caution remaining alert to moving traffic at all times.
7. Protective clothing, high-visibility safety garment, and helmet with chin strap in position should be donned prior to exiting the emergency vehicle.
 - a. During normal daylight conditions, don helmet and high visibility garment or NFPA compliant turnout PPE and high-visibility vest when operating in or near moving traffic.
 - b. During dusk to dawn operations or when ambient lighting is reduced due to inclement weather conditions, don helmet, full NFPA compliant protective clothing and high-visibility vest.
 - c. All staff personnel and any other personnel arriving on an apparatus or emergency vehicle should don assigned helmet and high-visibility garment prior to exiting their vehicle.
8. Always look before opening doors and stepping out of apparatus or emergency vehicle into any moving traffic areas. When walking around fire apparatus or emergency vehicle, be alert to your proximity to moving traffic.
 - a. Stop at the corner of a blocking position unit, check for moving traffic, and then proceed along the unit remaining as close to the emergency vehicle as possible.
 - b. Maintain a 'reduced profile' when moving through any area where a minimum 'buffer zone' condition exists.

VII. High-Volume, Limited Access Highway Operations

High-volume, limited access divided highways include expressways, turnpikes, freeways, tollways, and other multi-lane roadways within the response area. A desire to keep the traffic moving on these high-volume thoroughfares is inherent in all operations. When in the judgement of Command (or Unified Command), it becomes essential for the safety of operating personnel and the patients involved, any or all lanes, shoulders, and entry/exit ramps of these limited access highways can be completely shut down. This, however, should rarely occur and should be for as short a period of time as practical.

Unique Safe Positioning procedures at locations such as expressway, freeway, and limited-access, high-volume multi-lane roadway incidents include;

1. Travel lanes are typically 12 feet in width. First-arriving engine company apparatus should establish an initial Lane +1 block position.
2. A large and heavy second fire apparatus such as a ladder truck shall be automatically dispatched to all incidents on all limited-access, high-volume expressways, tollways, freeways, and highways.
3. The primary assignment of this second unit shall be to;
 - a. Establish an upstream block occupying a minimum of two 12' lanes plus the paved shoulder of the highway or blockage of three 12' driving lanes of traffic upstream of the initial block provided by the first-due apparatus.
 - b. The position of this apparatus shall take into consideration all conditions that might limit sight distance of the approaching traffic including ambient lighting conditions, weather-related conditions, road conditions, curves, bridges, hills and over- or underpasses.
 - c. Traffic cones and/or cones illuminated by flares and the NFPA-compliant retro-reflective pink Emergency Scene Ahead deployable sign should be placed upstream of the second vehicle by its crew at the direction of the company officer.
 - d. Traffic cones on limited-access, high-volume roadways can be placed at 40' intervals with the furthest cone and or flare approximately 200 feet "upstream", to allow adequate warning to drivers. When incident duration exceeds two hours, advance warning efforts should be as compliant with the Manual of Uniform Traffic Control Devices (MUTCD) requirements as possible.
 - e. A flagger/spotter person should be positioned if available to monitor the response of approaching motorists as they are directed to transition to a slower speed and taper into merged lanes of traffic.
 - f. Command should be notified by this flagger/spotter on the incident operating channel of any approaching traffic that is not responding to the speed changes, transition, tapering and merging directions.
 - g. Flagger/spotter should have the capability of activating a pre-determined audible warning to operating personnel of a non-compliant motorist approaching.
4. Vehicles from law enforcement and transportation departments can be used to provide additional blocking of additional traffic lanes as needed as incident duration exceeds 30 minutes; MUTCD minor duration.
5. When an incident duration exceeds 30 minutes, it becomes an Intermediate duration incident as defined by the MUTCD. During this period of time, efforts should evolve around clearing the scene as expeditiously as possible. For extended duration incidents such as hazardous materials situations, Command should request appropriate traffic incident management personnel and resources. When the lane or road closure exceeds two hours in duration, MUTCD-compliant traffic control measures should be in place. This can include traffic control center protocols, transportation department arrow board trucks, road detours, changeable message sign notifications, media contacts, etc, as appropriate.
6. Fire Department Command officer should establish a liaison with the Police Department supervising officer as soon as possible. This Unified Command team will jointly coordinate activities and determine how to most efficiently resolve the extended duration incident and clear the obstructed travel lanes in as safe and efficient manner as practical.
7. Termination of the incident should be managed with the same aggressiveness as initial actions. Crews, apparatus, and equipment must be removed from the highway in a coordinated process to reduce exposure to moving traffic and minimize traffic congestion.

Officer's Safe Parking "Cue Card"

"Block" with first-arriving apparatus to protect the scene, patients, and emergency personnel.

- When practical block at least one additional lane
- Block so pump panel is "down stream"
- Block most critical or highest traffic volume direction first
- Consider requesting additional PD assistance if PD units not on scene

Crews wear proper PPE w/Helmet

- High-visibility garments at all times
- Helmet at all times
- Full PPE plus high-visibility vest between dusk and dawn or inclement weather
- NFPA Compliant turnout gear is appropriate PPE whenever the crew is directly exposed to fire, heat, flame and/or hazardous materials.

Establish more than adequate advance warning

- Traffic cones at up to 40'
- Deploy minimum 5 cones upstream
- Cones only "Suggest" they don't Block!
- Expand initial safe work zone as temporary traffic control devices are available

Direct placement of ambulances

- Assure ambulances park within shadow of blocking apparatus as directed
- Lane 1 is furthest left lane, next is Lane 2, then Lane 3, etc. from approaching motorist's point of view
- Direct ambulance to "block to the right" or "block to the left" to protect loading doors
 - Place ambulance patient loading area facing away from closest lane of moving traffic
- All patient loading into ambulances is done from within a protected work zone

You are the Scene Safety Officer

- Consider assigning FF as upstream "Spotter" as necessary for approaching traffic when available

Night or Reduced Light Conditions

- Turn OFF vehicle headlights
- Turn OFF Opticom
- Provide overall scene lighting
- All personnel in appropriate PPE w/helmets
- Illuminate cones with flares

Limited access, high-volume highway incidents

1. Establish initial block
2. Place cones and/or cones illuminated by flares upstream of larger upstream blocking vehicle with the furthest cone approximately 100 feet "upstream" of apparatus

3. Establish Flagger position
 3. monitor approaching traffic
 3. sound emergency signal as necessary
4. Use police department and/or transportation department vehicles for additional blocking , advance warning, and traffic incident management.
5. Stage additional companies off highway
6. Terminate incident aggressively with safe, quick clearance strategies.