



WASHINGTON COUNTY VOLUNTEER FIRE & RESCUE ASSOCIATION STANDARDS MANUAL

Title: Roadway Incident Safety

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Section 1. Purpose: To establish a policy that requires all Washington County operational personnel to wear issued personal protective equipment, and to use appropriate safety practices, when responding to and operating on the scene of incidents occurring in traffic and on roadways. The policy provides guidance on establishing a safe and protected work zone by positioning apparatus and other vehicles to block emergency service personnel and patients from the risks to which they are exposed when operating in or near moving traffic.

Section 2. Applicability. This policy applies to all WCVFRA member companies and their employees, DFES personnel, and was developed in cooperation with the WCVFRA Chief's Committee and the Washington County Department of Fire & Emergency Services.

Section 3. Definitions

- a. **Advance Warning.** Notification procedures that advise approaching motorists to transition from normal driving speed to that required by the temporary emergency traffic control measures ahead of them.
- b. **Block/Blocking.** The action of positioning apparatus on an angle to the lanes of traffic to create a physical barrier between upstream traffic and the work area. Personnel may position apparatus to direct moving traffic to "block to the right" or "block to the left."
- c. **Buffer Zone.** The distance or space between personnel and vehicles in the protected work zone, and nearby moving traffic.
- d. **Downstream.** The direction toward which traffic is moving as it travels away from the incident scene.
- e. **Flagger.** A public safety member (usually fire police, police agency or DOT/Traffic Management personnel) assigned to monitor 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.
- f. **Lane.** The portion of a roadway within which a single line of vehicles travel. Lanes are numbered from left to right, with the left-most travel lane designated lane #1. Roadway shoulders are not included in lane numbering.
- g. **Limited-access Highway.** A section of roadway that permits entrance and exit only at marked exits. Examples in Washington County include: all interstate highways (e.g., I-81, I-70, and I-68).



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- h. **Median Strip**. A wide paved or unpaved area separating two opposite directions of travel on a limited-access highway or other roadways. Median strips are usually protected in some way to prevent vehicles from crossing them into the opposite direction of travel by guard rails or a channeled ditch. The median strip does not include the shoulders on either side of the roadway.
- i. **Shadow**. The protected work area at a vehicle-related roadway incident that is shielded by the block from apparatus and other emergency vehicles.
- j. **Shoulder(s)**. The area(s) flanking both sides of a roadway that are normally not used for traffic; often referred to as “breakdown lanes.”
- k. **Standard Roadway**. A non-limited access road, e.g., Dual Highway, Old National Pike, Jefferson Boulevard.
- l. **Temporary Work Zone**. The blocked or protected area of a roadway within which emergency personnel perform their tasks on an incident scene for a period usually not exceeding about 30 minutes duration.
- m. **Traffic Safety Unit (TSU)**. A primary unit (Engine, Truck, or Rescue Squad) dispatched to the reported location of an incident/collision, used to protect fire/rescue personnel while setting up traffic control devices upstream of the incident scene. The TSU is assigned the primary responsibility to oversee the safety of the incident operations. The unit officer will be the Incident Scene Safety Officer, unless otherwise directed by the Incident Commander.
- n. **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.
- o. **Turnaround**. Marked locations where fire/rescue apparatus can pull into a median strip and/or the shoulder of the roadway, to reverse their direction on a limited-access highway. A turn-around has either a paved or gravel surface, and must have properly posted highway signs indicating its intended use for “Emergency or Authorized Vehicles Only.”
- p. **Upstream**. The direction from which traffic is moving as vehicles approach the incident scene.
- q. **Work Zone**. The blocked or protected area of a roadway within which emergency personnel perform their tasks on an incident scene for a period exceeding about 30 minutes duration.



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Section 4. A. General Traffic Safety Policy. Fire and rescue apparatus and other emergency vehicles should be positioned and parked at a vehicle-related incident on any street, road, or highway in a way that protects personnel, the incident scene, and the work area. The purpose of positioning vehicles in this manner is to protect public safety personnel and the public from the hazards of working in or near moving traffic. Consideration also must be given to traffic management to move roadway users reasonably safely and expeditiously past or around a traffic incident (Reference: Manual on Uniform Traffic Control Devices, Chapter 61.)

Section 4. B. Policy on Use of Medians, Turnarounds, and Cross-Overs.

- 1 Vehicles must not cross over median strips or use median strip crossovers marked "Authorized Vehicles Only" unless all traffic movement has been stopped in all lanes.
- 2 The use of U-turn and turnaround access points in Jersey barriers is extremely hazardous, and may be used only when apparatus can complete the turn without obstructing the flow of traffic in either travel direction, or when all traffic movement has stopped. Personnel should not climb over Jersey walls for operations.
- 3 Unless a roadway is completely shut down, fire and EMS crews must not cross over lanes of traffic on foot. Any action that allows personnel to operate in a non-shielded environment should be avoided.

Section 5. A. Personnel Safety Procedures. Personnel risk injury or death while operating in or near moving traffic, and must protect themselves on the incident scene by taking the precautionary measures below.

- a. Personnel must always don protective clothing or Class II high visibility reflective safety vest, **before** exiting the vehicle.
 - During daylight operations, don protective clothing and/or Class II high visibility reflective safety vest when operating in or near moving traffic.



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- From dusk to dawn, or during inclement weather conditions, don full protective clothing, and/or Class II high visibility reflective safety vest when operating in or near moving traffic.
 - b. When operating near moving traffic, personnel must be extremely cautious when exiting and entering units. Exit and enter the apparatus from the protected **shadow** side, away from moving traffic.
 - Be aware of moving traffic, and always look before you move.
 - Avoid turning your back to approaching traffic
 - Look before opening vehicle doors and stepping out of vehicles into moving traffic.
 - Never walk around an open door. When walking around vehicles, always be aware of your proximity to moving traffic. Stop at the corner of the unit, check for traffic, and then proceed along the unit, remaining as close to the vehicle as possible.
 - Maintain a reduced profile when moving through any area where a minimum **buffer zone** exists between you and moving traffic.

Section 5. B. Apparatus and Emergency Vehicle Procedures.

Safe positioning and parking of apparatus and emergency vehicles when operating in or near moving traffic are indicated below.

- a. Always position first-arriving apparatus to protect the scene, patients, and emergency personnel.
 1. Initial apparatus placement should provide a work area protected from approaching traffic from at least one direction.
 2. Establish an initial **block** with the first arriving emergency vehicle or fire apparatus
 3. Angle apparatus on the roadway, and **block to the left**, or **block to the right** to create a physical barrier between the crash scene and approaching traffic.
 4. Use fire apparatus and police vehicles to slow approaching traffic and redirect it around the scene.
 5. Use fire apparatus to **block** at least one additional traffic **lane** more than that already obstructed by the crashed vehicle(s).



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6. When practical, position apparatus to protect the pump operator position from exposure to approaching traffic.
 - b. During night incidents on narrow roadways, turn off headlights and spotlights to avoid visually impairing or temporarily blinding approaching drivers.
 - c. Establish advance warning and adequate **transition zone** traffic control measures **upstream** of the incident to reduce the speed of approaching drivers.
 - d. Use traffic cones, and/or cones illuminated by flares where appropriate for sustained highway incident traffic control and direction.
 - e. The Incident Commander should consider establishing a **flagger** to monitor approaching traffic and activate an emergency signal if a driver's actions do not conform to the established traffic control measures in place at the incident scene. This action should be required for incidents when mitigation exceeds 30 minutes in duration.
 - f. Position large apparatus to create a safe parking area for EMS units and other emergency vehicles. Keep personnel, equipment and patients within the **shadow** created by the **blocking** apparatus at all times.
 - g. When using apparatus to **block** or protect the emergency scene, establish a **work zone** of sufficient size to include all damaged vehicles, roadway debris, the patient triage and treatment area, the extrication **work zone**, personnel and tool staging area, and the EMS unit loading zone.
 - h. Position the EMS unit(s) within the protected **work zone**, with the rear patient loading door(s) area angled away from the nearest lanes of moving traffic.
 - i. At **limited access highway** incidents, the Incident Commander should stage uncommitted emergency vehicles on a **standard roadway** with access to the incident.
 - j. At intersections, or if the incident is near the middle lane of the **standard roadway**, protect two or more sides of the incident, as necessary. At intersection incidents, consider requesting additional police response. Provide specific directions to the police regarding exactly what your traffic control needs are, and request police to park their vehicles in a position and location that provides additional protection of the scene.
 - Request police vehicles to position themselves to expand the initial safe **work zone** for traffic approaching from opposing directions. All exposed sides of the **work zone** should be effectively **blocked**. Prioritize **blocking** the **work zone** from the most critical/highest traffic volume flow, to the least critical



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traffic direction.

- For first arriving engine or truck companies where a charged hose line may be needed, **block** so that the pump panel is **downstream**, opposite to oncoming traffic, to protect the pump operator.
 - k. Deploy traffic cones from the rear of the **blocking** apparatus toward **upstream** traffic, to increase the **advance warning** to approaching drivers. Cones identify and suggest the **transition zone** and tapering actions that are required of approaching drivers.
 - l. **Personnel must face oncoming traffic while placing and retrieving cones and flares.**
 - Deploy cones at 15 foot intervals **upstream** of the **blocking** apparatus, with the farthest traffic cone approximately 75 feet **upstream** to provide adequate advance warning to drivers.
 - Use additional cones from other units to extend the **advance warning** area for approaching drivers.
 - Law enforcement personnel may also place traffic cones or flares at the scene to direct traffic. This action builds upon initial fire department cone deployment, and can be expanded, if needed, as later arriving law enforcement units arrive.
 - Where it is safe to do so, place flares adjacent to and in combination with traffic cones for night operations to enhance scene safety. Flares will slow and direct approaching traffic.

Section 5. C. Incident Command (IC) Procedures. The initial company officer/Incident Commander must operate as the Incident Scene Safety Officer until this assignment is delegated. To accomplish the critical tasks that will ensure the establishment and maintenance of a safe and protected work environment for emergency scene personnel and patients, the IC will:

- a. direct the first-arriving apparatus to establish an initial **block** to create an initial safe **work zone**;
- b. direct the EMS unit's driver to **block to the right** or **block to the left** (from the approaching drivers' point of view) as it is parked at the scene, to position the rear patient loading area away from the closest **lane** of moving traffic;
- c. designate a parking/positioning location for all EMS units, as well as later-arriving apparatus;



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- d. ensure that all EMS units on-scene are placed within the protected **work area (shadow)**, **downstream** of the larger apparatus;
 - e. ensure that all patients are loaded into EMS units from within the protected **work zone**;
 - f. require that strobe lighting systems are turned off, and that other emergency lighting remains on;
 - g. notify appropriate police agencies and traffic management officials of incidents that will exceed the 30-minute **temporary work zone**; and
 - h. whenever possible, at residential medical emergencies, direct ambulances to park at the curb nearest to the residence for safe patient loading.

Section 5. D. Procedure for High-Volume, Limited Access Highway Operations.

High-volume, **limited access highways** are multi-lane roadways. When the IC considers it necessary 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. However, this action should rarely occur, and should last as short a period of time as is practical.

- a. The first-arriving engine should initially **block** the **lane(s)** occupied by the damaged vehicle, plus one additional traffic **lane**.
- b. A **Traffic Safety Unit** should be dispatched automatically to all vehicle-related incidents on all **limited-access**, high-volume highways, and **standard roadways** with a speed limit exceeding 45 miles per hour. The primary assignment of this **TSU** and crew is to establish an **upstream block** occupying at least two **lanes**, or if necessary, the paved **shoulder** of the highway, or **block** driving **lanes** of traffic **upstream** of the initial **block** provided by the first-due apparatus.
- c. The position of the **TSU** will consider all factors that limit the sight distance of the approaching traffic, including ambient lighting conditions, weather-related conditions, road conditions, design curves, bridges, hills, and over- or underpasses.
- d. At the direction of the company officer, the **TSU** crew should place traffic cones and/or cones illuminated by flares **upstream** of the **Traffic Safety Unit**.
- e. **Personnel must face traffic while placing and retrieving cones and flares**, and should place traffic cones farther apart on **limited-access**, high-



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volume roadways, with the last cone approximately 150 feet **upstream** to provide adequate warning to drivers.

f. Assign **flaggers** to monitor the response of approaching drivers as they are directed to **transition** to a slower speed and taper into merged **lanes** of traffic. **Flaggers** should activate a pre-determined audible warning to operating personnel when a non-compliant motorist approaches.

g. The **flagger** should notify Command on the incident operating channel of any approaching traffic that is not responding to the speed changes, **transition zone** tapering, and merging directions.

h. The driver/operator of **TSUs** must sound a series of long blasts on the apparatus air horn to audibly warn all operating personnel of the concern for the actions of an approaching motorist.

i. Law enforcement units can be used to **block** additional traffic **lanes** as needed. EMS units must always be positioned within the safe **work zone**.

j. Staging additional companies off the highway may be required. EMS units may be brought onto the highway scene one or two at a time. An adequately sized, multi-patient loading area must be established.

k. Command should establish a liaison with law enforcement personnel as soon as possible to jointly coordinate a safe **work zone**, and to determine how to most effectively terminate the incident and re-establish normal traffic flows.

Section 5.E. Incident Termination Procedure. The IC must manage the incident termination as aggressively as initial actions. Crews, apparatus, and equipment must be removed from the highway promptly, to reduce exposure to moving traffic and minimize traffic congestion.