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Overview & Purpose:

Learn/Practice manual traffic control signals

Topics:

- NFPA 1091
- PPE / high visibility apparel
- Manual traffic control signals
- Manual traffic control equipment

Pre-Class Assignment:

Complete the following modules on learning.respondersafety.com. Bring certificates to class.

- Understanding the New NFPA 1091
- Intro to Fire Service Traffic Control Professional
- Safe Fire Service Traffic Control Practices

Read our department's SOPs related to manual traffic control (see Appendix B for model SOPs)

Materials:

- Department SOP handouts
- Copy of NFPA 1091
- Traffic Incident Management Area (TIMA) diagram (Appendix D)
- High visibility apparel for all personnel
- Manual traffic control equipment, as required by department policy
- Sufficient space to practice manual traffic control
- Safety Do's and Don'ts Of Directing Traffic (Appendix C)

Learning Objectives:

- Understand the importance of manual traffic control
- Understand the role of the department in providing manual traffic control
- Describe the purpose of NFPA 1091 and its relevance to the department's work
- Demonstrate proper manual traffic control signals in accordance with department policy



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NFPA 1091 JPRs:

- 4.2.3 Establish a TIMA at a traffic incident
- 4.2.5 Operate as a member of a team within a TIMA

Correlations to Dept Training Rotations:

To be filled in by Instructor

Related SOPs/SOGs:

Titles to be filled in by Instructor

Introduction:

Introduce the topic of manual traffic control:

- Show the TIM in a Minute video.
- Explain what NFPA 1091 is, how it relates to traffic control duties at the scene, and how training in manual traffic control relates to the standard.
- Explain the purpose of manual traffic control and when it is to be provided (and not provided).
- Discuss a struck by or near miss case related to manual traffic control (or lack thereof), local if possible. See Appendix A for suggested cases.

SOP Review (10 min):

- Distribute TIMA diagram and refresh students on the TIMA areas and orient them to where manual traffic control takes place within the TIMA.
- Distribute a copy of the department's traffic control SOP. Review the SOP with the group. Discuss and answer questions about the expectations set by the SOP and the standard manual traffic control signals used by the department.
- Remind personnel that SOP requires wearing high visibility apparel when performing manual traffic control. Turnout gear is only suitable if personnel are exposed to heat or flame during the operation. If they are not, ANSI-compliant high visibility clothing is required by the MUTCD, NFPA 1500, NFPA 1091, and state and federal OSHA regulations.



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Discussion (15 min):

Discuss with the group:

- Situations in which manual traffic control is used.
- Situations in which manual traffic control is not used.
- How the determination whether to use manual traffic control is made and who makes it.
- Identify gaps between current practice and the SOP.
- Discuss how to eliminate those gaps.

Exercises (20 min):

Assemble the group in an area large enough to practice manual traffic control (such as a large meeting room or parking lot). Make sure that the chosen area is not subject to moving traffic, unless that is part of the exercise and suitably controlled for safety.

Pass out Safety Do's and Don'ts of Directing Traffic (Appendix C) and review it.

Have all personnel don high visibility apparel that is MUTCD-compliant.

First, demonstrate the manual traffic control hand signals used by your department (stop, slow, go, turn left, turn right, turn around). Have all personnel repeat these signals as you demonstrate them. If your department also uses stop/slow paddles or other manual traffic control equipment, demonstrate those as well. Simulate actual conditions as closely as possible. For example, if practicing with stop/slow paddles, have personnel stand far apart (out of earshot) and use radios for communication between personnel to change traffic direction flow.

Then, pair off or make groups to practice signals. You may do this as partners, as would be done if using stop/ slow paddles and two ends of a road closure, or have the pairs or groups take turns practicing the signals.

If you choose to set up a closure in the practice area and use live traffic during the exercise, take all safety precautions, including closing off the area to actual civilian traffic, using only slow speeds, providing a full TIMA setup including a blocking vehicle, and using spotters. Practice situational awareness as well, asking participants to choose the correct spot to stand to perform manual traffic control and having them articulate their two escape routes from that location.

Wrap Up (10 min):

Discuss how to coordinate traffic control with other agencies present at roadway incidents in your jurisdiction. Discuss under what circumstances your department is tasked with providing traffic control and under what circumstances a different department may provide it. Discuss whether those other departments use the same or different signals and how you might train together to be fluent in each others' systems.



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Resources:

Additional resources available at:

https://learning.respondersafety.com/Training_Programs/Safe_Fire_Service_Traffic_Control_Practices.aspx

https://learning.respondersafety.com/Training_Programs/Intro_to_Fire_Service_Traffic_Control_Professional.aspx

https://learning.respondersafety.com/Training_Programs/Understanding_the_New_NFPA_1091.aspx

One example of accepted manual traffic control signals is demonstrated in Safe Fire Service Traffic Control Practices during the section titled, "Using Basic Traffic Control Equipment" and can be used as a video demonstration for your students.



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Appendix A: Suggested Case Studies

Volunteer Fire Fighter Struck and Killed While Directing Traffic at an Interstate Highway Incident – Iowa <https://www.cdc.gov/niosh/fire/reports/face201123.html>

Volunteer Fire Chief Struck and Killed on Interstate Highway While Directing Traffic – Pennsylvania <https://www.cdc.gov/niosh/fire/pdfs/face201312.pdf>

Volunteer Fire Police Captain Dies From Injury-Related Complications After Being Struck By Motor Vehicle While Directing Traffic - New Jersey <https://www.cdc.gov/niosh/fire/reports/face200316.html>

A Volunteer Fire Fighter Died After Being Struck by a Motor Vehicle While Directing Traffic-New York <https://www.cdc.gov/niosh/fire/reports/face200107.html>

Volunteer Fire Police Captain Dies After Being Struck by a Motor Vehicle at a Controlled Roadway - Pennsylvania <https://www.cdc.gov/niosh/fire/reports/face201006.html>

Career fire captain killed, fire fighter and police officer injured at the scene of a motor vehicle crash - Arkansas <https://www.cdc.gov/niosh/fire/reports/face201209.html>

Volunteer Assistant Chief Killed When Struck by Tractor-Trailer While Operating at a Motor Vehicle Crash – North Carolina <https://www.cdc.gov/niosh/fire/pdfs/face200817.pdf>

Career Fire Fighter Struck and Killed While Working a Crash Scene on Ice Covered Interstate Overpass – Texas <https://www.cdc.gov/niosh/fire/reports/face201406.html>



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Appendix B: Model SOP for Safety Apparel While Working in or Near Moving Traffic

_____X_____ FIRE DEPARTMENT

STANDARD OPERATING PROCEDURE

Safety Apparel While Working In or Near Moving Traffic

PROCEDURE # XXX.XX

EFFECTIVE DATE:

PURPOSE

The purpose of this Policy is to describe the required personal protective apparel to be worn by _____ Fire Department members when working at an incident that places the member in or near moving traffic. Incidents such as vehicle collisions/injury crashes, extrications, fluid spills, dangerous conditions, and vehicle fires are typical situations where this policy is applicable.

BACKGROUND

For incidents where exposure to the hazards of moving traffic are present for fire department personnel working on foot, this department policy can be summarized in the statement. "If your feet are on the street, your vest is on your chest." Conforming to this policy places the member in compliance with the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD).

PROCEDURE

Specifically, when the nature of the incident requires the member to work in or near moving traffic, the following personal protective apparel shall be worn:

- Structural fire helmet with chin strap properly donned
- NFPA compliant turnout gear for firefighting or rescue operations
- ANSI 107-compliant Type R or Type P Class II or Class III garment
- Protective footwear

If a member prefers to wear a structural turnout coat due to inclement weather; i.e. rain, cold, etc, or is required to wear structural turnout gear due to duties assigned at the incident scene, the ANSI compliant safety vest must be donned over the turnout coat. Turnout coats are not acceptable as high-visibility highway safety apparel when donned without the ANSI-compliant vest on the outside of the coat, unless personnel are exposed to fire, flame, heat or hazardous materials.

Structural bunker pants and boots may be worn in lieu of standard protective footwear.



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NON-VEST INCIDENTS

Several unique incident types may be encountered where the donning of a highway safety vest may actually increase risk of injury for the fire department member or where wearing of a vest may in fact be otherwise impractical. Under these limited situations, the requirement for donning ANSI-compliant vests by members directly involved in hazard area "Hot Zone" activities is modified.

The exemptions for wearing a highway safety vest applies only to members directly involved in activities within an established "Hot Zone" and only when the "Hot Zone" is protected from the hazards of moving traffic by apparatus blocking, lane closures, etc.

The required ANSI-compliant Highway Safety vest need not be worn when a member is required to:

1. Don structural PPE and/or SCBA to work in close proximity to a source of heat, flame, or fire such as during suppression of a vehicle fire
2. Don hazardous material personal protective equipment to avoid potential exposure to chemicals or other contaminants, or
3. Don technical rescue PPE and/or equipment for a technical rescue incident such as extrication, high or low-angle rope rescue, swift water rescue, etc.

All members on-scene performing duties or involved with activities other than those listed above are required to don ANSI-compliant garments when working in or near moving traffic.

Members directly involved in source of heat, chemical, or technical rescue activities as listed above who complete their activities within the designated Hot Zone are required to don ANSI-compliant vests once their activities within the Hot Zone are completed or they leave the immediate "Hot Zone" area of the incident scene.



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Appendix C: Safety Do's and Don'ts Of Directing Traffic

Don't ever turn your back to traffic. If a situation arises where you cannot face the traffic when completing a task, enlist the assistance of a second person to be next to you as a lookout who can face traffic.

Do understand the purpose of traffic control – giving clear, concise direction to the traveling public. You need to be sure whoever is approaching the scene understands what you want them to do.

Do don proper clothing and PPE before you arrive. You may not have time on scene and you do not want to be exposed, even for a short period of time.

Do assess the individual situation and tailor the traffic control to it. For example, on interstates, you set up and get off the road. On rural roads, roads and lanes are less easily closed and you may need to maintain proximity to passing traffic and direct it with stop/slow paddles and other devices.

Don't stand in traffic. Locate yourself behind traffic control devices like cones, but do not have a false sense of security. Motorists disregard traffic control devices all the time. Have an escape route protected by a physical block to an oncoming vehicle. Know what is in your escape path, such as what is beyond the guardrail, and ensure that it is safe egress.

Do maintain situational awareness at all times. Situational awareness means understanding and assessing all potential hazards and remaining vigilant to those hazards throughout the response. These hazards include weather, road conditions, road geometry, topography, and oncoming traffic. Recognize that traffic control devices can be perceived differently by motorists than you might expect.

Do take weather, topography, and road geometry into account. Know the geometrics of where you are — back side of a curve, a hill — and make sure you are being seen. Take weather — rain, snow, fog, sun glare — into account.

Do be aware of distracted, impaired, aggressive, and drowsy drivers. Drivers will do what you do not expect and will behave in confounding ways. Anticipate it.

Do make and maintain good eye contact with drivers. This helps you be seen, attracts their attention to your directions, and helps you see where they are looking and if they are following your instructions.

Do reassess and revise if conditions change — including weather, traffic speed and volume, incident characteristics, and darkness. **Do have SOPs in place** for dealing with common events such as a struck traffic control professional, run away vehicle, or an irate motorist.

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APPENDIX D

Roadway Incident Safety Teaching Topic Package 7: MANUAL TRAFFIC CONTROL



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Appendix D: TIMA Diagram

Traffic Incident Management Area (TIMA)

also known as a Temporary Traffic Control Zone (TTC)

