



<b>Environment, Health and Safety</b>	
<b>Work-Zone Protection Program</b>	
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## **ABOUT WORK-ZONE PROTECTION**

Work-zone protection is the process of temporarily controlling traffic to protect maintenance, construction, and utility workers, pedestrians, cyclists, and vehicle drivers.

This program applies to all U.S. Verizon employees.

### **1.0 RESPONSIBILITIES**

#### **1.1 Leadership is responsible for**

- providing resources and support for the effective implementation, maintenance, and ongoing compliance with the requirements of this program

#### **1.2 Environment, Health and Safety (EHS) is responsible for**

- providing program oversight and updates
- monitoring compliance with the requirements of this program
- providing guidance on technical applications of the program including guidance on the Manual of Uniform Traffic Control Devices (MUTCD)
- assisting Verizon Learning and Development in creating or modifying training for employees
- investigating incidents occurring in or near a work-zone protection area

#### **1.3 Managers and Supervisors are responsible for**

- checking that employees are aware and understand the requirements of this program
- checking that employees are trained and that records of training are current
- monitoring compliance with the requirements of this program
- reporting deficiencies in this program to EHS or Leadership
- providing work-zone protection devices
- checking that work-zone protection devices are used and stored properly
- requiring a temporary traffic-control plan specific to the work zone
- reinforcing procedures during safety meetings and work observations
- performing a Critical Skills Assessment or safety-knowledge review that includes a hands-on demonstration of competency

#### **1.4 Employees are responsible for**

- following the requirements of this program
- completing assigned training
- using required PPE and devices for work-zone protection
- understanding and complying with the requirements of this program
- reporting questions or concerns to their immediate supervisor

- completing a prejob hazard survey and reviewing the traffic control plan before starting work
- setting up the temporary traffic-control devices for work-zone protection as indicated in the traffic-control plan

### **1.5 Contractors and Suppliers are responsible for**

- complying with regulatory and Verizon program requirements for work-zone protection
- ensuring that their personnel or subcontractors are trained
- using required PPE and devices for work-zone protection
- understanding and complying with the requirements of this program

### **1.6 Verizon's Engineering Group is responsible for**

- providing the Engineering Work Order (EWO) and necessary permits before scheduled work begins
- providing work prints and traffic-control plans where required (e.g.; state, federal, or local roadways), including work-zone plans during emergency restoration work (if requested)

## **2.0 PROCEDURES**

This section describes requirements for work-zone protection including traffic-control plans, permits, and determining the appropriate temporary traffic-control devices for work-zone protection setup such as signs and cones.

### **2.1 Personal Protective Equipment**

When working in or near a work zone, use of inspected personal protective equipment (PPE) is required. At a minimum, PPE includes:

- hard hat
- safety glasses
- retroreflective safety apparel - Class 3
- protective footwear
- work gloves

Verizon requires Class 3 retro reflective apparel when working roadside at all times – day and night.

### **2.2 Prejob Hazard Survey**

A prejob hazard survey must be conducted before beginning roadside work. For vehicles not active in the work area, parking separate from the work zone should be planned and used.

The survey should include:

- if required, reviewing the work permit and EWO for all planned work. A permit is required by the Department of Highways when work is done on a state road. Cities, towns, and villages may also have permit requirements. A traffic-control plan must be included in the permit
- reviewing the traffic control plan for:
  - scheduled work, type of road, traffic volume, duration of the job, and changing speed limits. If work is not planned (emergency callout) or a permit is not required, the Verizon MDI Work Zone Traffic Control Reference Guide® can be used as the traffic plan as long as the appropriate setup is identified
  - manholes and pedestrian, bicycle, and vehicle traffic
  - motorist and pedestrian line of sight to determine where to place ( i.e., straight, level road, hills, curves) temporary traffic control devices
- determining the temporary traffic control devices required for work-zone protection, including signs and number of channeling devices
- assessing the location of power transmission or other service provider equipment near the work zone. Account for any non-Verizon workers sharing the work zone (e.g., power company, local or state employees)
- evaluating whether a lane closure is necessary, and flaggers may be needed
- identifying slip, trip, and fall hazards before moving material or tools

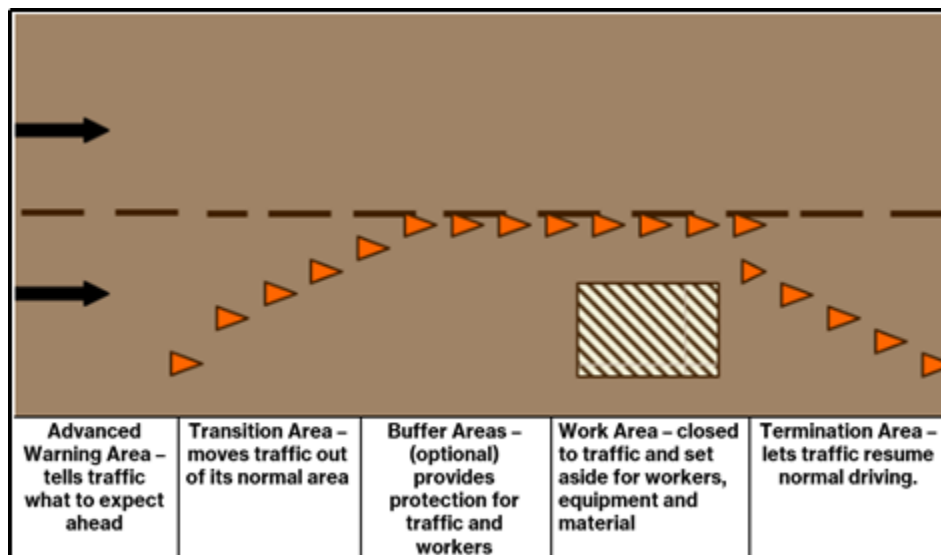
- determining environmental factors including light and pending weather events

## 2.3 Traffic Control Areas

The traffic-control plan must include the entire section of roadway between the first advanced warning sign through the last traffic-control device. The traffic-control plan consists of five control areas:

1. Advanced Warning Area - traffic is informed of what to expect.
2. Transition Area - traffic's path of travel is redirected with cones, barricades, or drums.
3. Buffer Areas - traffic safe space used to correct movements if failing to obey early warning signs (separates traffic flow from the work area).
4. Work Area - the space employees are working in.
5. Termination Area - where traffic is returned to its normal path of travel.

**Figure 1: Traffic Control Areas**



The Manual on Uniform Traffic Control Devices (MUTCD) 2009 (including revisions 1 and 2, May 2012), Part 6, Temporary Traffic Control

## 2.4 Work-Zone Protection Devices

All placement of warning and channeling devices must be planned in advance.

Traffic-Device Setup Steps:

1. Park the vehicle in a safe area before setting up work-zone protection. Use truck flashers or a beacon light, turn wheels toward the curb if facing downhill, away from the curb if facing uphill. Set the emergency brake and wheel chocks.
2. Start with the first sign motorists will see. The beginning of the work zone is the end closest to the oncoming traffic.
3. Set up the next furthest sign.
4. Place cones for taper - Start at the shoulder and move into the area being blocked off.
5. Test the effectiveness of the setup by driving through the work zone once all traffic-control devices have been placed.
6. Park the vehicle in the buffer zone.

When removing channeling devices, workers should follow the steps in the reverse order used to install them.

## Signs

Signs are used to notify motorists, pedestrians, and cyclists of specific situations or conditions that might not be apparent on or adjacent to a roadway. Where any part of the roadway is obstructed or closed by work activities, advance warning signs must be installed to alert users. Warning signs should always reflect current work status and should be the proper shape, size and color. Warning signs should be placed at varying distances in advance of the work area, depending on the roadway type, condition, and traffic speed.

Warning signs should be placed 350 to 500 feet from the beginning of the work zone for speeds 45 mph or less. When speeds are greater than 45 mph, the distance should be increased to 500 to 1,000 feet before the work zone begins.

**Table 1: Recommended Advance Warning Sign Minimum Spacing**

Road Type	Distance Between Signs		
	A	B	C
Urban (low speed)	100 feet	100 feet	100 feet
Urban (high speed)	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway or Freeway	1,000 feet	1,500 feet	2,640 feet

The Manual on Uniform Traffic Control Devices (MUTCD) 2009 (including revisions 1 and 2, May 2012), Part 6 Temporary Traffic Control

Portable sign supports should not be located on sidewalks, bicycle facilities, or areas designated for pedestrian or bicycle traffic.

## Channeling

Traffic cones are Verizon's main channeling device for tapers. Day and night work requires orange cones that are 28 to 36 inches in height, and that have two or more white retroreflector collars.

The number of channeling devices and the taper angle used will vary depending on

- where vehicle, equipment or personnel will be positioned
- the speed of traffic
- the volume of traffic
- how long the employee will be working at the location

The maximum spacing between channeling devices in a taper is a distance in feet, which is approximately equal to the speed limit (35 mph would be approximately 35 feet). All tapers should be made up of **at least six channeling devices** including speed limit zones below 30 mph. The table below illustrates the minimum number of cones required for work-zone traffic control, depending on the speed limit of the roadway and the width of the lane.

**Table 2: Minimum Taper Length and Number of Cones by Speed**

Speed (mph)	Minimum Taper Length and Number of Cones (Based on Lane Width)			
	9 feet	10 feet	11 feet	12 feet
30	135 feet (6)	150 feet (6)	165 feet (7)	180 feet (7)
35	185 feet (7)	205 feet (7)	225 feet (8)	245 feet (8)
40	240 feet (7)	270 feet (8)	295 feet (9)	320 feet (9)
45	405 feet (10)	450 feet (11)	495 feet (12)	540 feet (13)
50	450 feet (10)	500 feet (11)	550 feet (12)	600 feet (13)
55	495 feet (10)	550 feet (11)	605 feet (12)	660 feet (13)
60	540 feet (10)	600 feet (11)	660 feet (12)	720 feet (13)
65	585 feet (10)	650 feet (11)	715 feet (12)	780 feet (13)

MDI Work Zone Traffic Control Reference Guide®

Simplified control procedures may be warranted for short-duration work. A reduction in the number of devices may be offset by the use of other more dominant devices such as high-intensity rotating, flashing, oscillating, or strobe lights on work vehicles.

Some local jurisdictions may require traffic attenuators, also known as crash cushions, to reduce the damage resulting from a collision to structures, vehicles, and motorists. Check local requirements.

## 2.5 Illumination

Performing work in limited-light conditions requires the selection and use of appropriate illumination devices and equipment including light towers and reflective devices (e.g. cones, signs, and paddles). Appropriate illumination of the work zone should be designed for the safety of workers as well as pedestrians, cyclists, and motorists.

Illuminating devices must not create a disabling glare for drivers. Proper device and equipment placement for the elimination of glare can best be determined by driving through the work zone in each direction and observing conditions for effects from glare.

Uniformity of illuminance in a work zone can help to reduce glare. The following steps should be followed for set-up of illuminating devices:

1. determine work activities and evaluate current illumination levels
2. select type of lighting source and reflective devices

3. place selected lighting fixture and reflective devices in identified locations for adequate illumination
4. drive the work zone and check lighting design and reflective device placement for adequate illumination and uniformity

## 2.6 Flaggers

A flagger may be necessary to alert or stop traffic intermittently, as required by the progress of work in a work zone. The flagging operation provides protection for other workers and the public. Flaggers should be considered if it is observed that vehicular traffic cannot effectively self-regulate around the work zone. Flaggers must be trained in accordance with the federal, state, and local law requirements, which vary from state to state.

The flagger's only job is traffic control for work-zone protection. The flagger must never assist the crew with work activities, never engage in distracting activities, and must remain on duty until relieved. Stop-slow paddles should be used where feasible.

There are a variety of situations where flaggers are used, including:

- one lane is alternately used for both directions of traffic
- the roadway is closed for a brief period
- traffic speeds need to be substantially reduced
- inadequate sight distance hinders advance warning
- information, such as changing conditions, needs to be conveyed to motorists
- opposing traffic needs to be controlled at an intersection
- installing and removing other traffic-control devices

The use of one flagger is limited to low speed, low volume roads with clear line of sight in both directions, when the work area is small, and when the flagger is visible to traffic in both directions.

If two flaggers are needed, they must use two-way radios for communication between flaggers. If the flaggers can easily see each other, hand signals may substitute for two-way radios. Cell phones must not be used – they can be a source of distraction. Communication must be maintained for the duration of the work.

An air horn may be used by the flaggers to signal drivers who are distracted or moving too fast through the work zone.

## 2.7 Training

Employees who work roadside must receive instruction on work-zone protection as part of their initial training. Refresher training is provided through the Verizon learning portal every three years thereafter. (VZ Learn course VZ48539 Work Zone Safety). This training includes a demonstration of competency as part of the Critical Skills Assessment.

Employees must be retrained after an incident or as necessary to refresh their understanding and knowledge of work-zone protection. (VZ Learn course VZ124112 Work Zone Safety Awareness).

Flagger training must comply with federal, state, and local regulations. Some states require certification and photo identification.

## 3.0 DEFINITIONS AND ACRONYMS

**channeling device** – devices used to warn and guide motorists of conditions created by work activities in or near the traveled way and to guide road users

**EWO** – Engineering Work Order

**short duration work** – work that occupies a location up to 1 hour

**work print** – a section of the Engineering Work Order that shows a schematic of the work to be completed

#### 4.0 REGULATIONS AND AUTHORITY

American Traffic Safety Services Association (ATSSA)

Department of Transportation (DOT)

The Manual on Uniform Traffic Control Devices (MUTCD) 2009 (including revisions 1 and 2, May 2012), Part 6, Temporary Traffic Control

OSHA Telecommunications Standard §49 CFR 1910.268(d)(1)

#### 5.0 RELATED DOCUMENTS

MDI® Worldwide - Work Zone Traffic Control Reference Guide

VZ SAF-100-006, Unit #2 of Package 6

Work Area Safety – Critical Skills Assessment (YYJS0121)

Work-Zone Protection - EHS Lesson Plan (YYJS0097)

#### 6.0 APPENDIX

None

#### 7.0 REVISION HISTORY

Number	Revision Date	Revised By	Reason
Original	September 27, 2021	Kim Clawson	Original
Rev 1			
Rev 2			
Rev 3			