

Work Zone Safety

How to make your projects ADA Compliant

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Disclaimer

- ▶ These materials are intended to assist employers, workers, and others as they strive to improve work zone safety. All of the pictures, video and information in the following presentation are to be utilized for training purposes only. Any individuals or companies named or shown can not be retroactively perused based upon information gained during this presentation as it is being utilized for training and education purposes.

Lets take a look at the past

- 2003 (Before My time at MDOT)



Do you see it?



Can you see?



(Before my time 2006)







2012-2014 We Have Improved ... A little



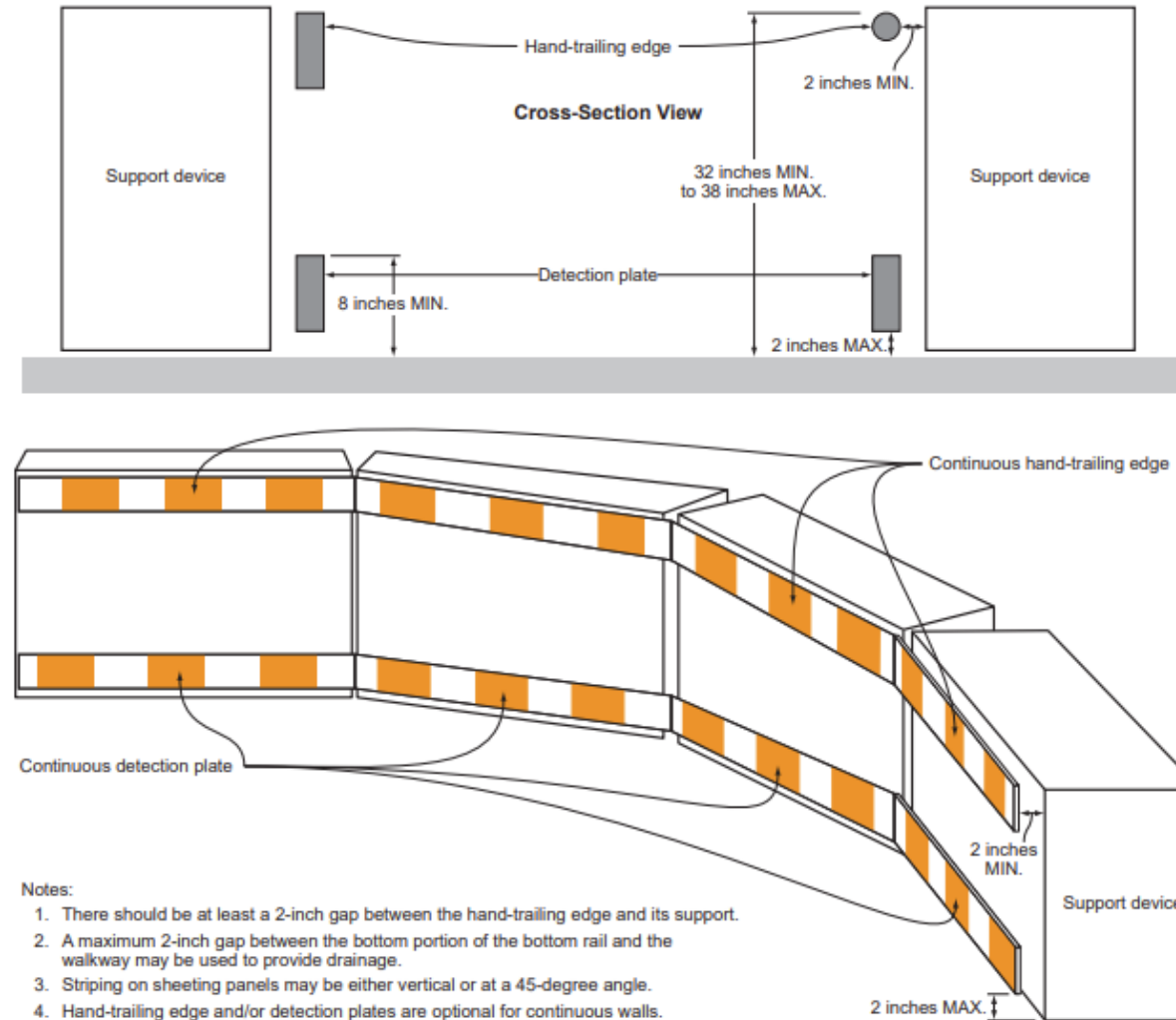
Upcoming Changes

- ▶ FHWA is in the process of updating the MUTCD Part 6
 - ▶ Looking at adding additional guidance on ADA devices
 - ▶ The next 4 slides are from the 11th edition that MDOT is reviewing currently



- 04 An example of a pedestrian channelizing device is depicted in Figure 6K-2.
- Standard:**
- 05 Pedestrian channelizing devices shall be crashworthy (see definition in Section 1C.02) when exposed to vehicular traffic.
- 06 Devices used to channelize pedestrians shall be detectable to users of long canes and visible to pedestrians with vision disabilities.
- 07 When used as a sidewalk closure, the device shall cover the entire width of the sidewalk.

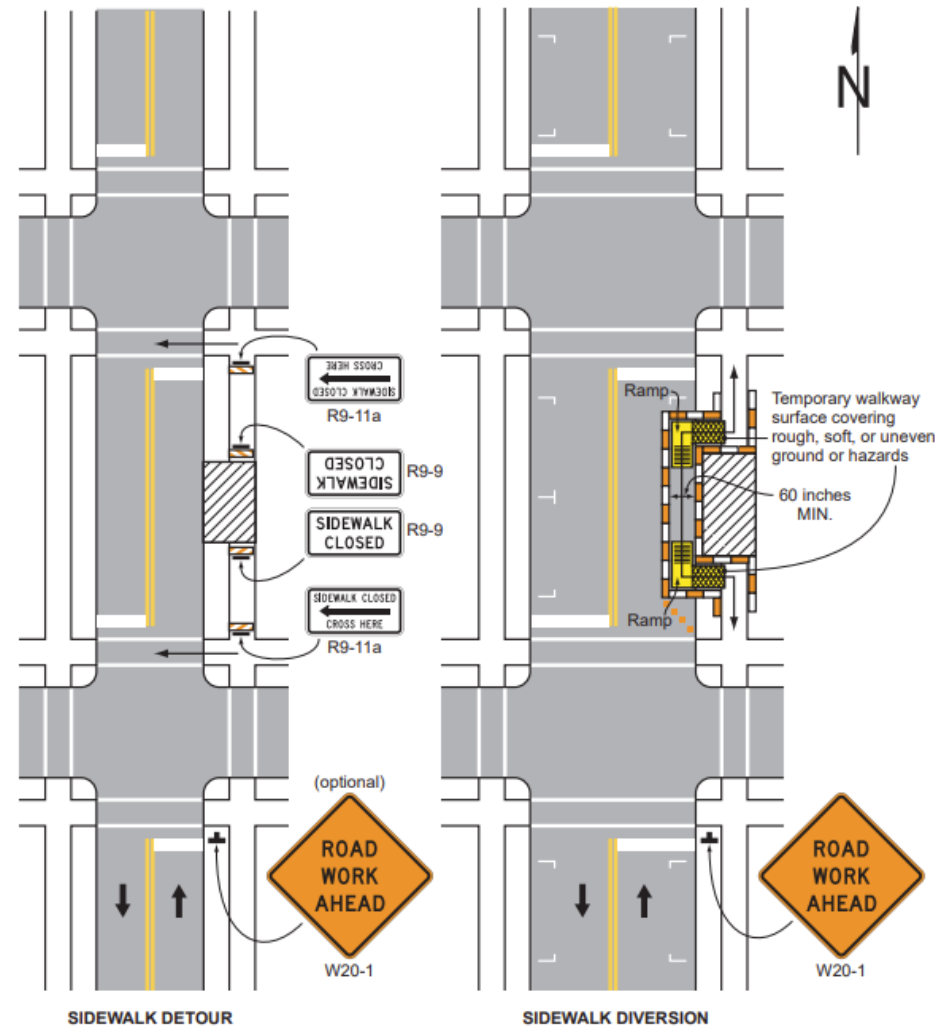
Figure 6K-2. Pedestrian Channelizing Device



Notes:

1. There should be at least a 2-inch gap between the hand-trailing edge and its support.
2. A maximum 2-inch gap between the bottom portion of the bottom rail and the walkway may be used to provide drainage.
3. Striping on sheeting panels may be either vertical or at a 45-degree angle.
4. Hand-trailing edge and/or detection plates are optional for continuous walls.

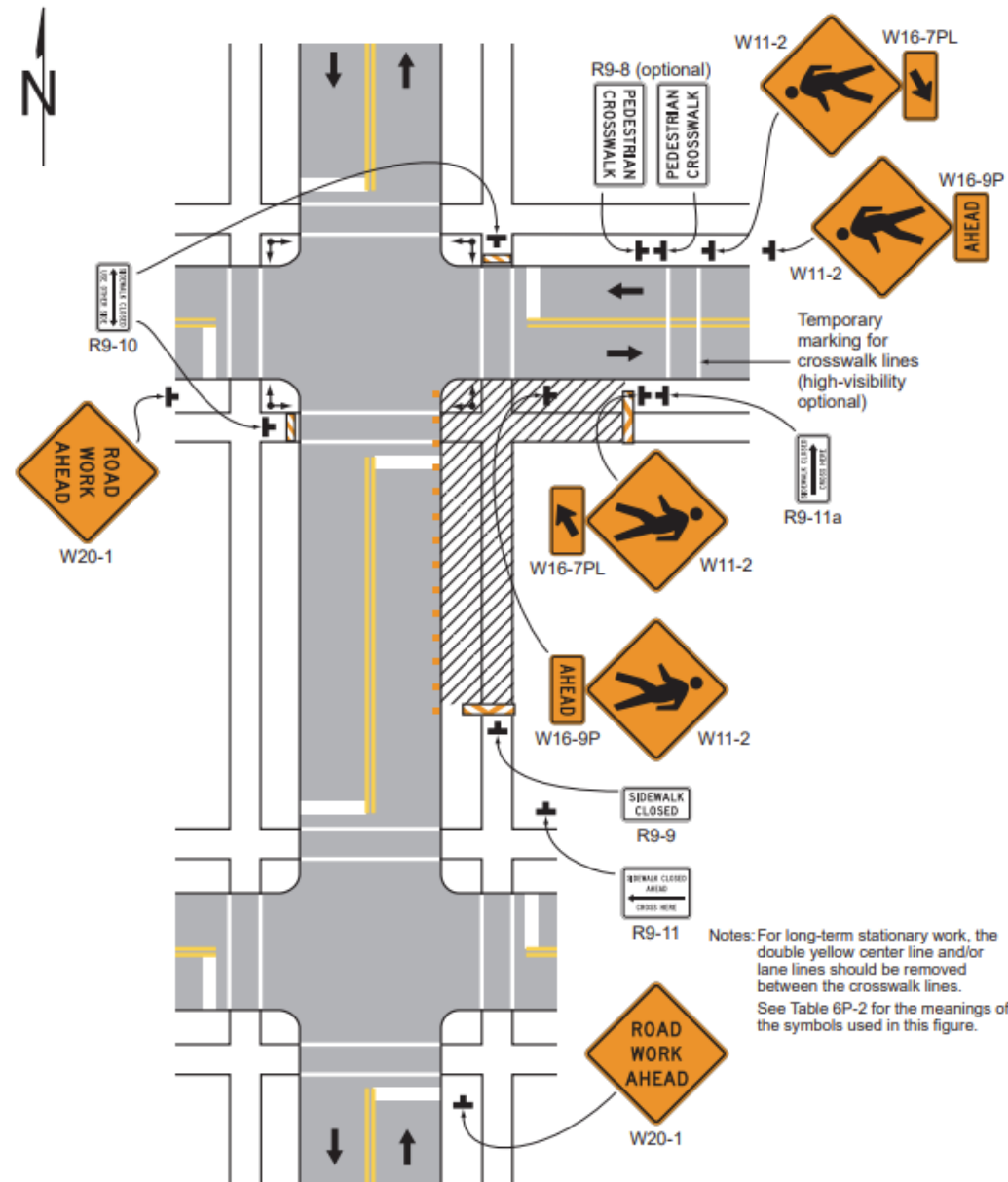
Figure 6P-28. Sidewalk Detour or Diversion (TA-28)



Typical Application 28

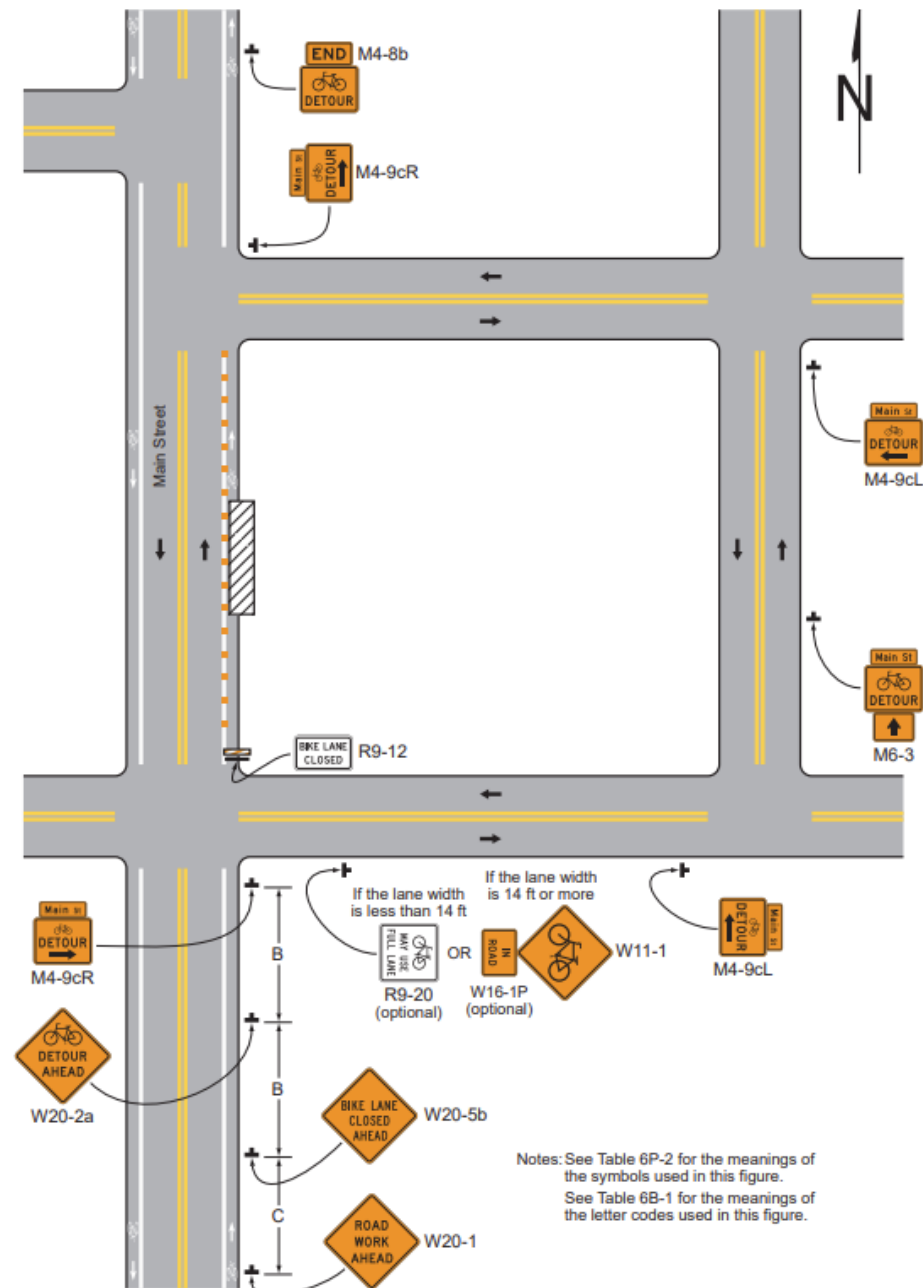
Note: See Table 6P-2 for the meanings of the symbols used in this figure.

Figure 6P-29. Crosswalk Closures and Pedestrian Detours (TA-29)



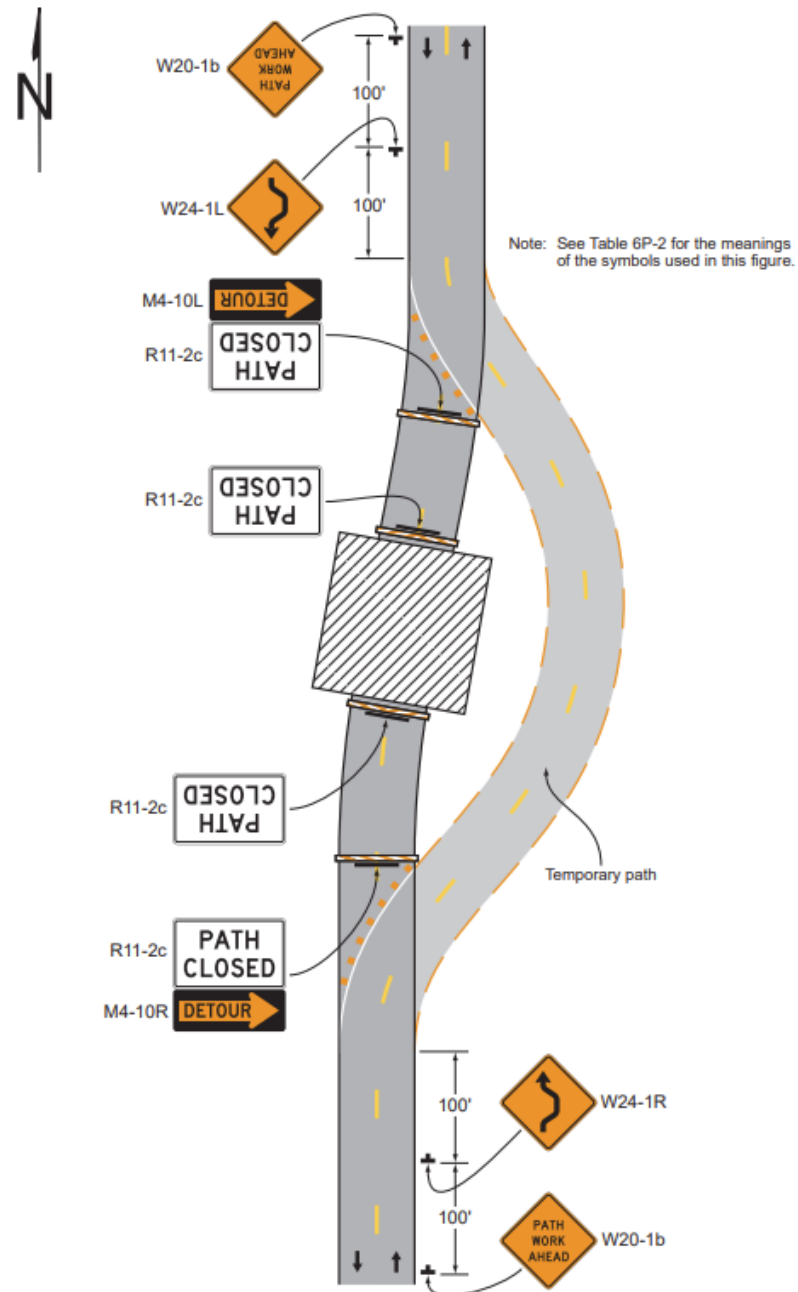
Typical Application 29

Figure 6P-48. Bicycle Lane Closure with an On-Road Detour (TA-48)



Typical Application 48

Figure 6P-49. Shared-Use Path Closure with a Diversion (TA-49)



Typical Application 49

Pedestrian ADA 2016

New SP's are approved and posted on the Web

- ▶ 2012 Previously Approved
- ▶ Division 812 - Temp Traffic Control for Constr Zone Operation
 - ▶ Temporary Pedestrian Barrier with Fence-12DS812(J800)-10-30-15
 - ▶ Temporary Pedestrian Type II Barricade-12DS812(J820)-10-30-15
 - ▶ Temporary Pedestrian Type II Channelizer-12DS812(J825)-10-30-15
- ▶ Division 8 - Incidental Construction
 - ▶ Temporary Pedestrian Path-12DS800(J810)-10-30-15
 - ▶ Temporary Pedestrian Ramp-12DS800(J815)-10-30-15
 - ▶ Temporary Pedestrian Passing Space-12DS800(J805)-10-30-15
- ▶ 2012 Templates Division 8 - Incidental Construction
 - ▶ Temporary Bus Stop-12TM800(A325)-10-30-15

Pedestrian ADA 2024 - FUSP's

20SP-812E-01

20SP-812E-01 TEMPORARY PEDESTRIAN TYPE II BARRICADE - Use in all projects with Pedestrian Type II Barricade, Temp pay item.

20SP-812F-01

20SP-812F-01 TEMPORARY PEDESTRIAN TYPE II CHANNELIZER - Use on all projects with Pedestrian Type II Channelizer, Temp pay item.

20SP-812G-02

20SP-812G-02-TEMPORARY PEDESTRIAN PATH - Use on all projects with Pedestrian Path, Temp pay item.

20SP-812H-01

20SP-812H-01 TEMPORARY PEDESTRIAN RAMP - Use on all projects with Pedestrian Ramp, Temp pay item.

Understanding The Motorist

- ▶ The Motorist may also have physical limitations or reduced skills:
 - ▶ Poor vision
 - ▶ Reduced reaction time
 - ▶ Medications
 - ▶ Distracted driving



Entrance ramp upstream of closure



Temporary Pedestrian Barrier With Fence



- Use to channelize pedestrians, and provide a high level of protection.
- May be used to separate pedestrian and vehicle traffic.
- Concrete or water-filled barrier sections are allowed.

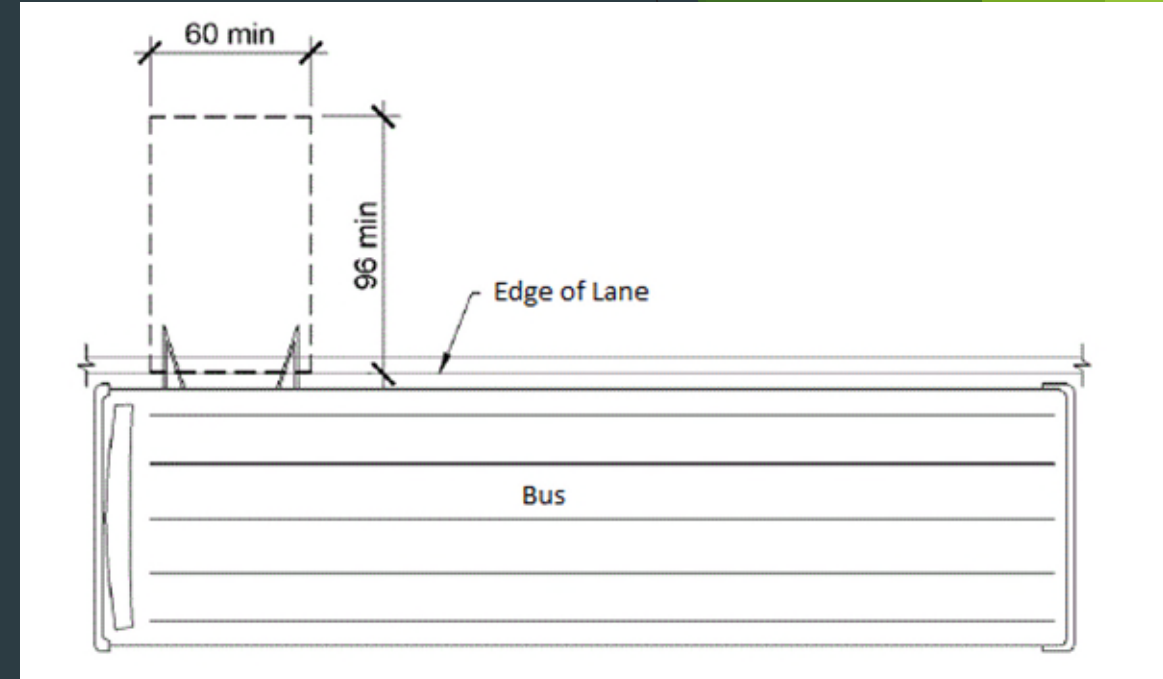
Pay Item

Pay Unit

Pedestrian Barrier with Fence, Temp..... Foot

Temporary Bus Stop

- Include in projects when permanent bus stops cannot be accessed due to construction.
- Dimensions listed are minimums, size can be increased with demand.
- The perimeter must be delineated with a pedestrian channelizing system, paid separately, to separate the bus stop from the work area.
- The bus stop may be constructed on a temporary surface or an existing surface.



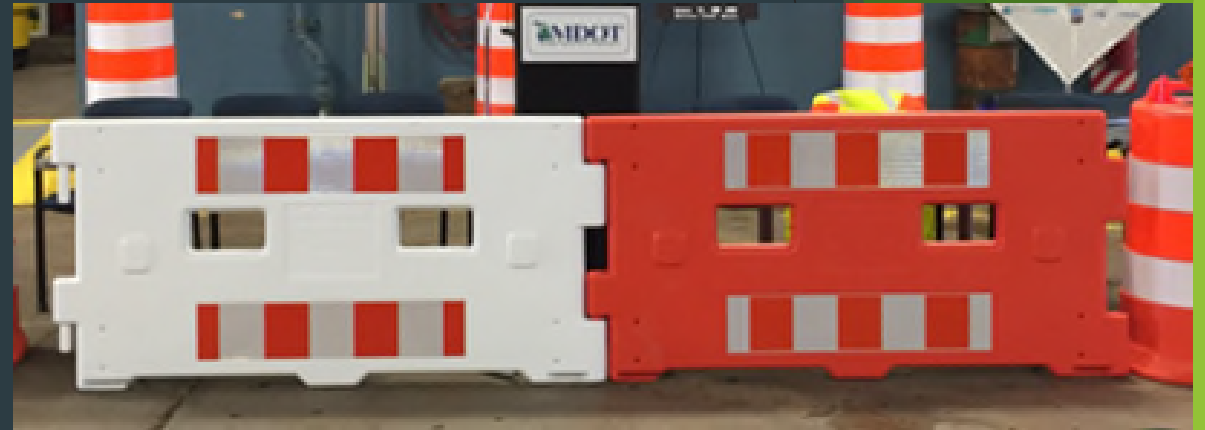
Pay Item

Pay Unit

Bus Stop, Temporary.....Each

Temporary Pedestrian Type II Barricade

- Use to close non-motorized facilities in an ADA compliant manner.
- Cannot be used to channelize, or separate motorized traffic, or to close motorized facilities.
- One barricade is defined as a 4' section.
- Several devices available from different manufacturers.



Pay Item

Pay Unit

Pedestrian Type II Barricade, Temp..... Each

Temporary Pedestrian Type II Channelizer

- Use to channelize non-motorized traffic when a high level of protection is not needed.
- Cannot be used to separate pedestrians and motorized traffic.
- Paid separately from Pedestrian Type II Barricade.
- Various devices are available.



Pay Item

Pay Unit

Pedestrian Type II Channelizer, Temp.....Foot

Temporary Pedestrian Ramp

- Used when slopes on temporary paths are greater than 1:12, or to route pedestrians over a vertical obstacle.
- Detectable edging and handrails are not always required.
- All dimensional constraints per the Special Provision.



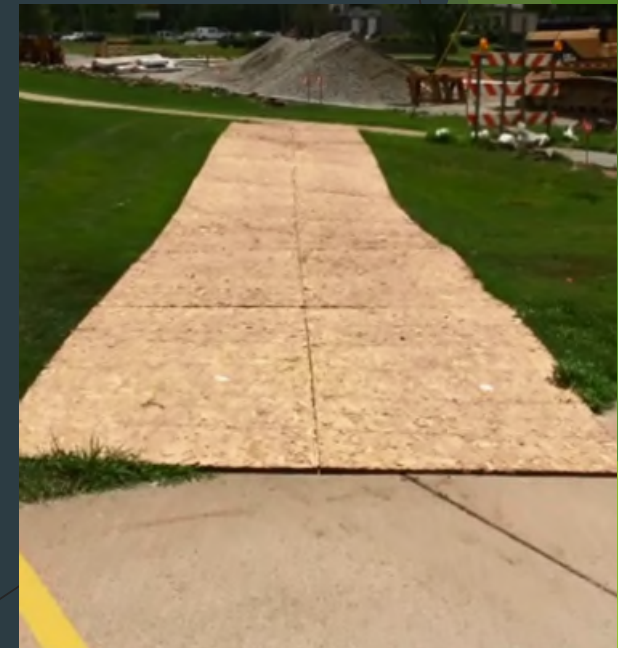
Pay Item

Pay Unit

Pedestrian Ramp, Temp.....Each

Temporary Pedestrian Path

- Encompasses all temporary pedestrian/non-motorized facility construction.
- Minimum width 4 feet.
- Cross-slope maximum of 2%
- Longitudinal slope maximum of 1:12, anything greater requires a temporary ramp, paid separately.
- Suitable materials to construct the path include asphalt materials, Oriented Strand Board (OSB), plywood, dimensional lumber, reclaimed, or other as approved by the Engineer. Compacted soils, aggregate and sand are prohibited.



Pay Item

Pay Unit

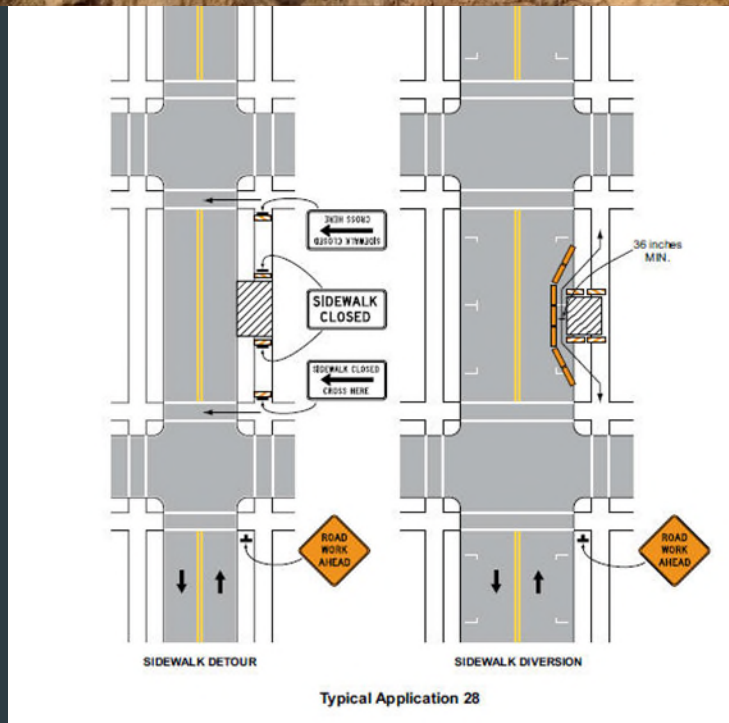
Pedestrian Path, Temporary..... Foot

Estimation on Quantities

- ▶ These are paid for when delivered to the jobsite
- ▶ Furn - Doesn't get paid until items are used







Minimum FHWA Requirement

- ▶ From FHWA *“the minimum accessibility requirement, to be enforced by our office is “replace in kind” - so , if the existing route is accessible, the detour must be accessible and detectable also; if existing route is not accessible and detectable, detour route need not be made accessible and detectable.”*
 - ▶ We can always do more and go above what is required.

MUTCD 2009

Chapter 6D Pedestrian and Worker Safety

Section 6D.01 Pedestrian Considerations

- ▶ *Advance notification of the sidewalk closures shall be provided by the maintaining agency.*
- ▶ *If the TTC zone affects the movement of pedestrians, adequate pedestrian access and walkways shall be provided. If the TTC zone affects an accessible and detectable pedestrian facility, the accessibility and detectability shall be maintained along the alternate pedestrian route.*

MUTCD 2009

Chapter 6D Pedestrian and Worker Safety

Section 6D.02 Accessibility Considerations

05 Because printed signs and surface delineation are not usable by pedestrians with visual disabilities, blocked routes, alternate crossings, and sign and signal information should be communicated to pedestrians with visual disabilities by providing audible information devices, accessible pedestrian signals and barriers and channelizing devices that are detectable to pedestrians with the aid of a long cane or who have low vision.

06 The most desirable way to provide information to pedestrians with visual disabilities that is equivalent to visual signing for notification of sidewalk closures is a speech message provided by an audible information device. Devices that provide speech messages in response to passive pedestrian actuation are the most desirable. Other devices that continually emit a message are also acceptable.

Example from the Field















Pedestrian Detours



Pedestrian Detours



Temporary Bus Stop





Audible Systems



System - Installation





Facts

- ▶ Nearly 10% of all adult Americans reported they either "have trouble" seeing, even when wearing glasses or contact lenses, or that they are blind or unable to see at all.

2013 National Statistics

Alabama	143,900	Montana	23,800
Alaska	13,600	Nebraska	33,600
Arizona	157,100	Nevada	81,100
Arkansas	98,100	New Hampshire	22,000
California	790,700	New Jersey	179,100
Colorado	106,600	New Mexico	71,300
Connecticut	65,300	New York	402,800
Delaware	20,800	North Carolina	252,800
District of Columbia	12,600	North Dakota	11,500
Florida	494,900	Ohio	270,900
Georgia	262,400	Oklahoma	124,400
Hawaii	25,600	Oregon	107,300
Idaho	42,700	Pennsylvania	285,300
Illinois	266,500	Rhode Island	23,700
Indiana	165,400	South Carolina	127,600
Iowa	53,100	South Dakota	18,700
Kansas	54,200	Tennessee	203,900
Kentucky	138,700	Texas	634,600
Louisiana	147,800	Utah	45,600
Maine	27,200	Vermont	13,800
Maryland	111,900	Virginia	155,100
Massachusetts	136,500	Washington	147,500
Michigan	229,400	West Virginia	72,200
Minnesota	83,500	Wisconsin	106,600
Mississippi	107,700	Wyoming	12,600
Missouri	143,900	Puerto Rico	206,400

ADA - Field Examples



ADA - Field Examples



































Why do we need to do all the extra work?

- ▶ A basic requirement of work zone traffic control, as provided in the Manual on Uniform Traffic Control Devices (MUTCD), is that the needs of pedestrians, including those with disabilities, must be addressed in temporary traffic control plans (TCPs) in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130
- ▶ The law requires pedestrians with physical and/or mental disabilities be accommodated not only in completed publicly accessible facilities, but also during times of construction or improvement.
- ▶ **BUT THIS WILL COST MILLIONS!**
- ▶ **What a waste!!**

WHY?





ADA - Field Examples





ADA - Field Examples





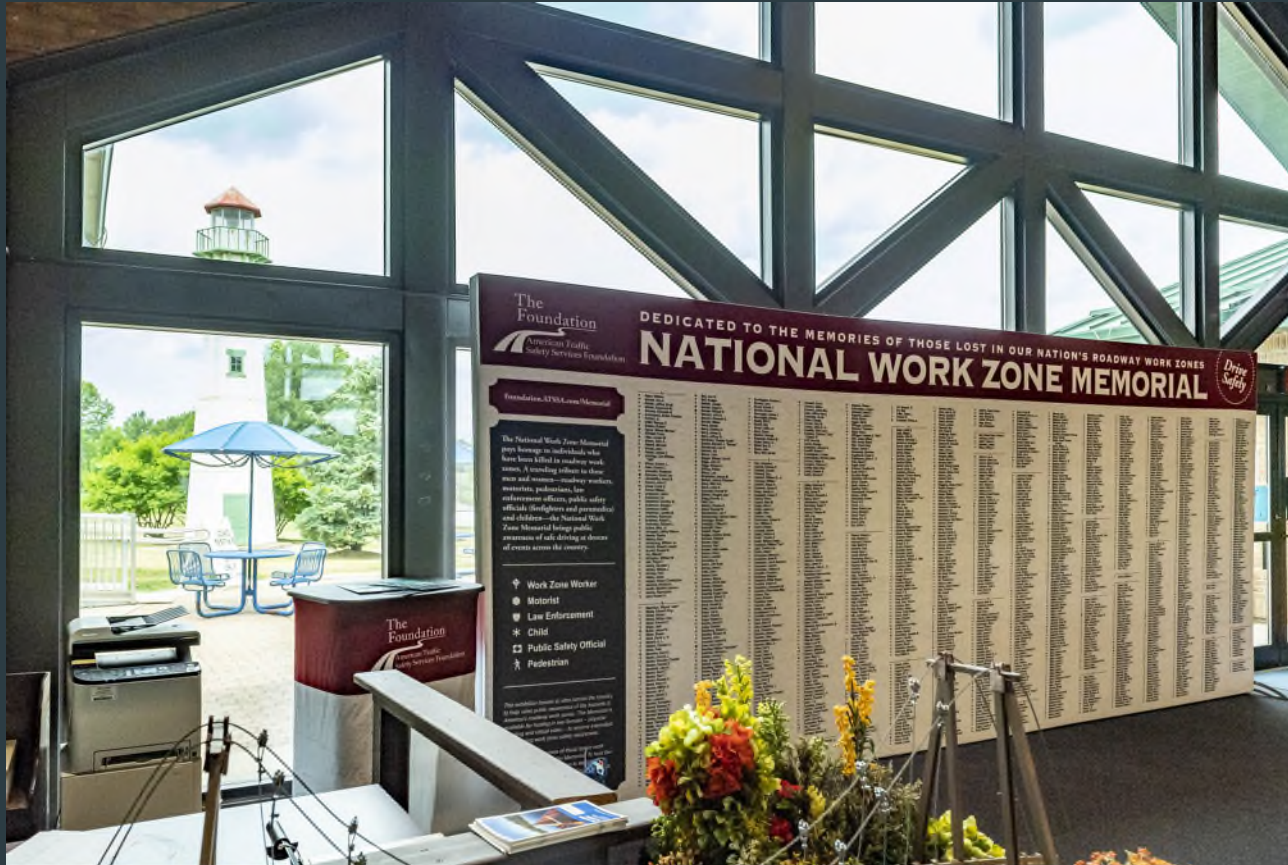












Questions?
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