

# Building Accessible, Temporary Pedestrian Pathways through Sidewalk Construction



**CARSP 2016 Conference**  
**Halifax, Canada**

# Pedestrians in a work zone need:

- Who are the pedestrians
- What guidance do they need
  - Accessible
  - Detectable
- What models are there

# Pedestrians include

**Able bodied**



**Users of Mobility Devices**





# Intersection as seen by someone with "normal" vision

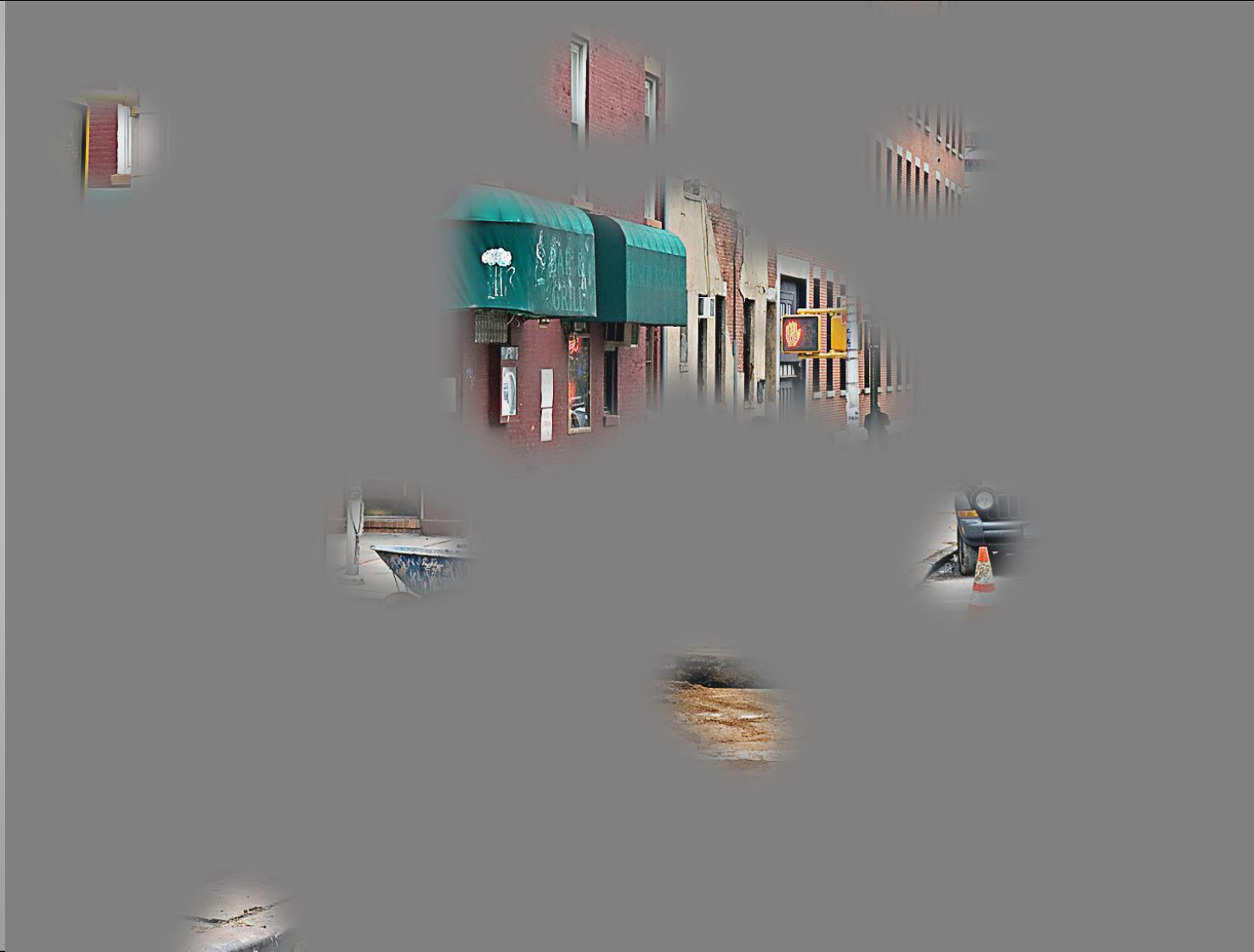




# Intersection as seen by someone with central vision loss



# Intersection as seen by someone with peripheral vision loss



# Intersection as seen by someone with overall acuity loss



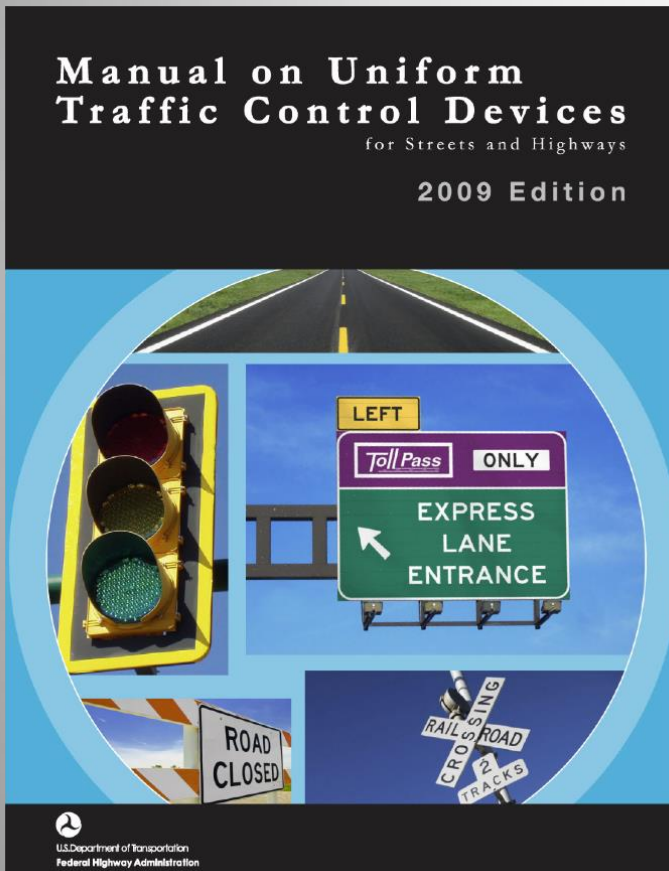
# Intersection as seen by someone that is totally blind



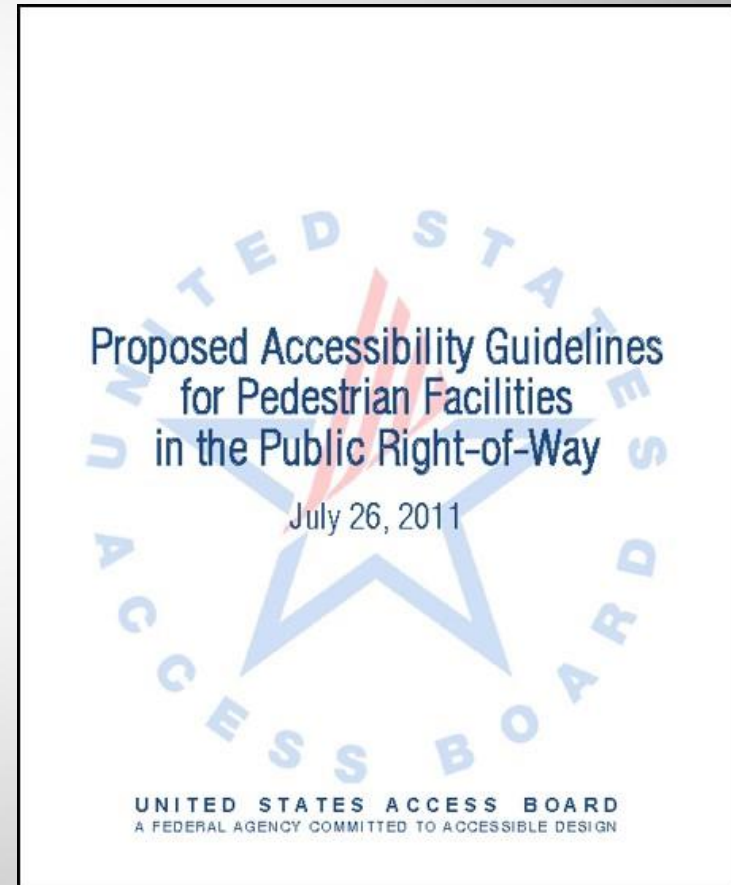


# US Rules

## MUTCD - US Federal Highways



## PROWAG – US Access Board



# What makes a facility Accessible?



# Elements of Accessible Pathway

- Surface
- Channelizer
- Sidewalk Closure
- Ramps
- Signage



# Elements - Surface

**Firm, Stable, Slip-resistant**



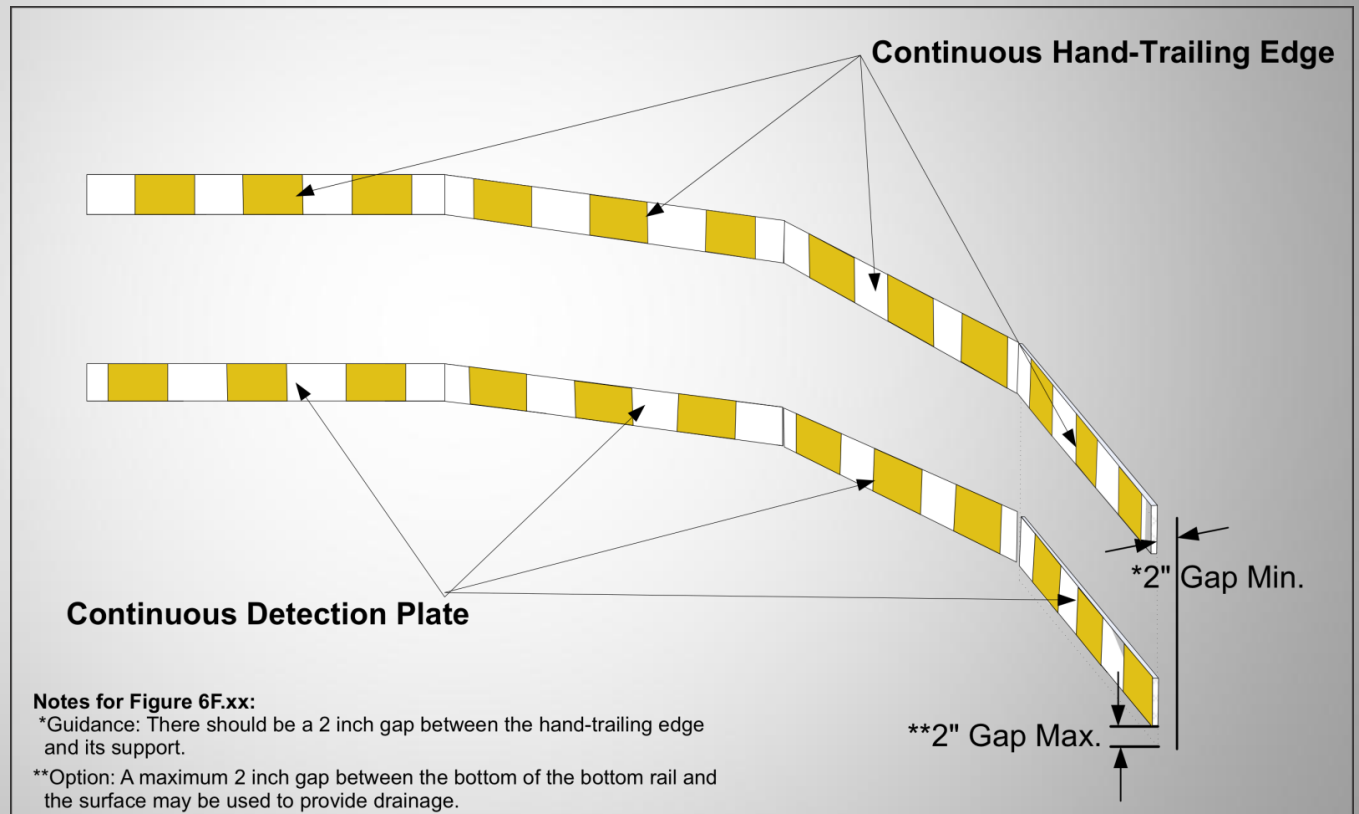
**Width – 1.5 M minimum**





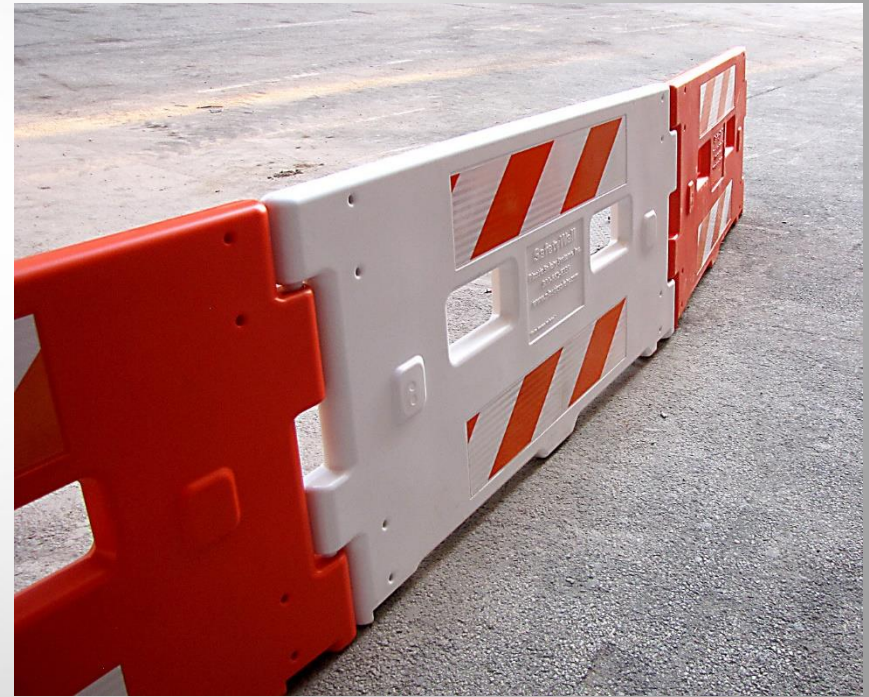
# Elements - Channelizer

- Cane-Ready
- Hand-Trailing
- Obstacle-Free
- Continuous



# Elements - Channelizer

Cane-ready? Continuous?



# Elements – Sidewalk Closure

Close entire sidewalk



Detectable to cane users

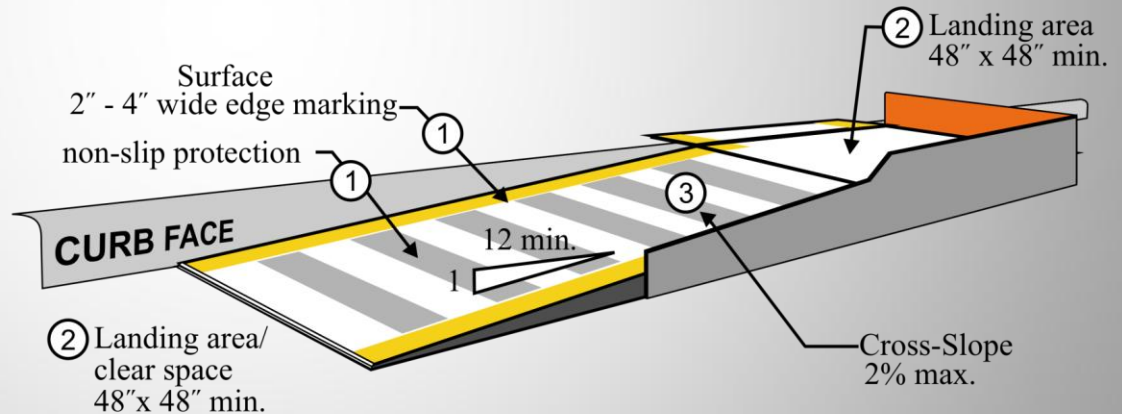


# Elements - Ramp

## Requirements

- Slope
  - Running – 8%
  - Cross – 2%
- Width – 1.2 M
- Landing – 1.2 M<sup>2</sup>
- Slip-resistant
- Color - yellow

Temporary Curb Ramp - Parallel to Curb





# Elements - Ramp

Columbus, Ohio



Salem, Oregon



# Elements - Signage



# Halifax Regional Municipality – Appendix A Traffic Control Manual Supplement

## SIDEWALK CLOSURES

The Engineer must approve all sidewalk closures. Where there is another sidewalk available on the opposite side of the street, pedestrians must be directed to use that sidewalk. This shall include “Sidewalk Closed Ahead” signs in advance of the work area at the closest marked or unmarked crosswalk indicating the sidewalk is closed ahead. “Sidewalk Closed” signs must be placed on either side of the work area that is closed to pedestrians. These signs must appear on traffic control plans being submitted for HRM review.

On collector and arterial streets where pedestrians cannot be directed to a sidewalk on the opposite side of the street (e.g. detour too long, no crosswalks available, no sidewalk on the opposite side), **the contractor shall be required to provide a temporary pedestrian walkway for pedestrian use.** Any temporary surface provided must be safe for all users, **a minimum of 1.5m wide clear width**, unless otherwise directed by the Engineer, and wheelchair accessible. Asphalt or compacted crusher dust may be acceptable for this purpose.

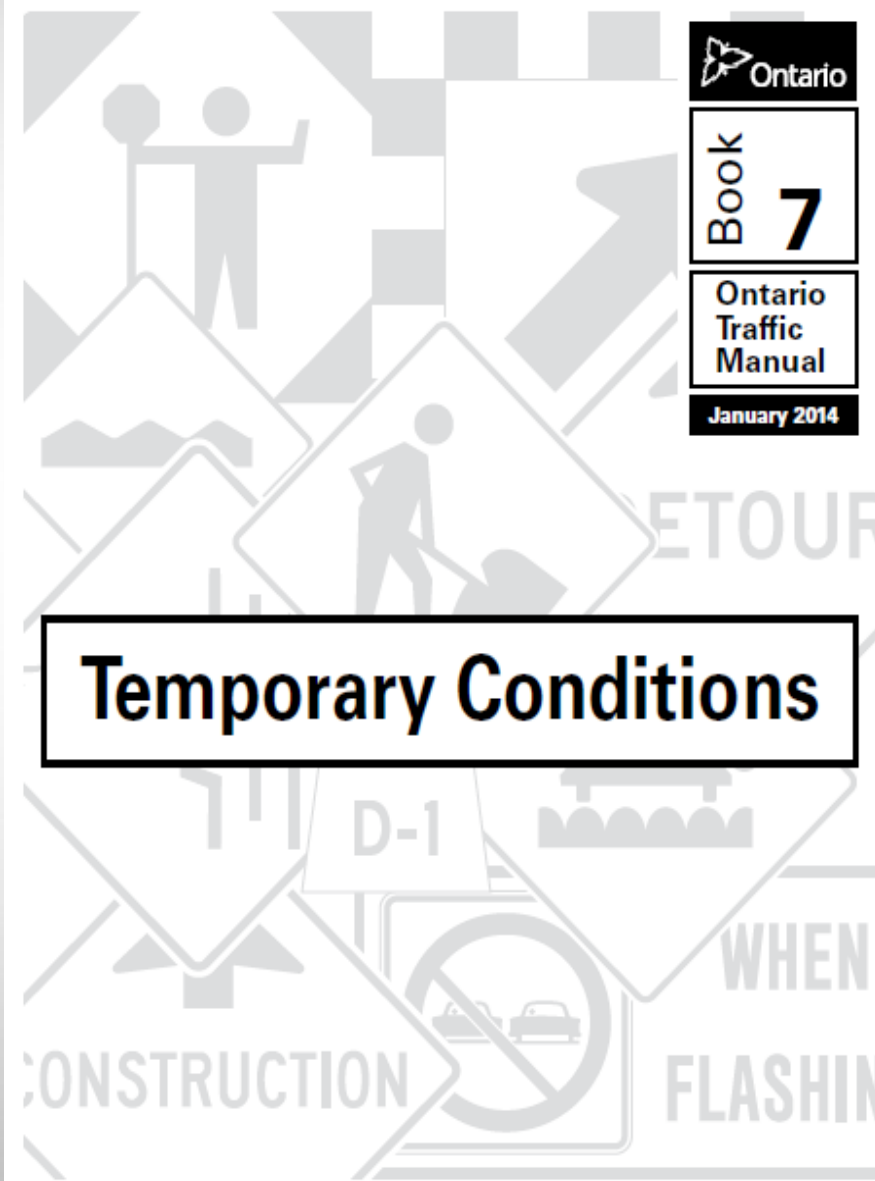
Should the temporary sidewalk be part of the travelled way of a street, adequate delineation of the sidewalk space must be provided for the safety of all pedestrians. For plans which include a temporary sidewalk in the travelled way of a street, **delineation of the sidewalk must be provided with continuous F-shape Barriers** unless otherwise approved by the Engineer.

For the purposes of this document, only an improved area – asphalt or concrete – between the travelled way and the edge of the right of way shall be considered a sidewalk. This is not consistent with the definition of a sidewalk in the Nova Scotia Motor Vehicle Act.

# Ministry of Transportation, Ontario

## *Ontario Traffic Manual (OTM)*

Language similar to  
**PROWAG & MUTCD!**







# OTM Book 7: Characteristics of Pedestrian Pathways

## *Pedestrian Safety Considerations, Section 2.62*

- **Travel paths: safe, convenient, clearly delineated**
- **Pedestrian barricade: minimum 1.0 m (3.3') above surface**
- **Sidewalk width: minimum 1.2 m (3.9')**
- **Width of 1.8 m (5.9') preferred, for 2 wheelchairs to pass**
- **Use curb ramps to avoid hazards**
- **Avoid slippery walkway surfaces**

# Ontario Traffic Manual – Book 7

## Pedestrian Direction Sign

TC-40	TC-41t
PEDESTRIAN DIRECTION SIGN	SIDEWALK CLOSED TAB
	
Minimum Background Reflectivity: Engineering Grade (Type I)	

### Size:

TC-40 450 mm x 450 mm

TC-40t 300 mm x 450 mm

### Purpose:

The TC-40 sign is used to indicate to pedestrians the intended pathway through or around a construction, maintenance, or other work area. The sign should be used where the pedestrian is likely to be uncertain as to the intended pathway.

### Conditions:

The TC-40 sign must be placed at locations that clearly mark the alternate pathway at all pedestrian decision points.

# Ontario Traffic Manual – Book 7

Figure TL-64

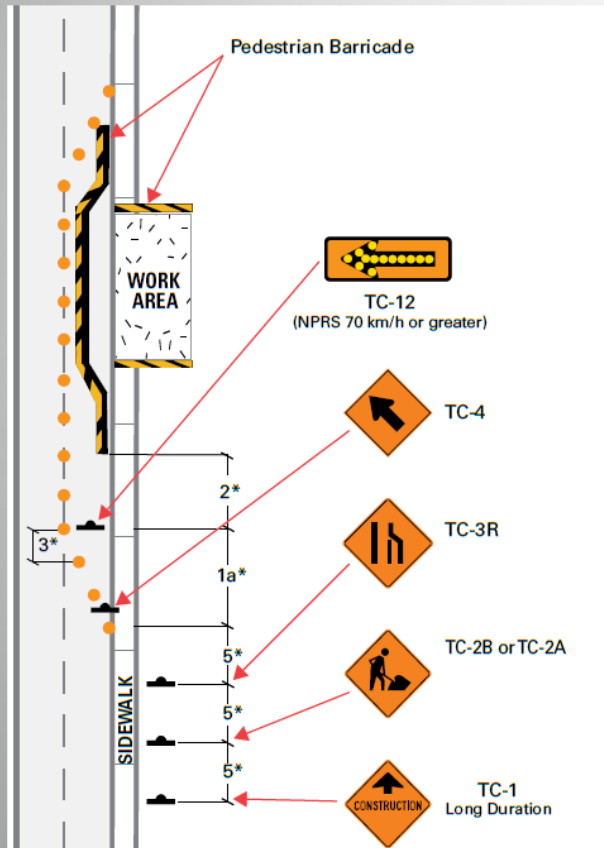
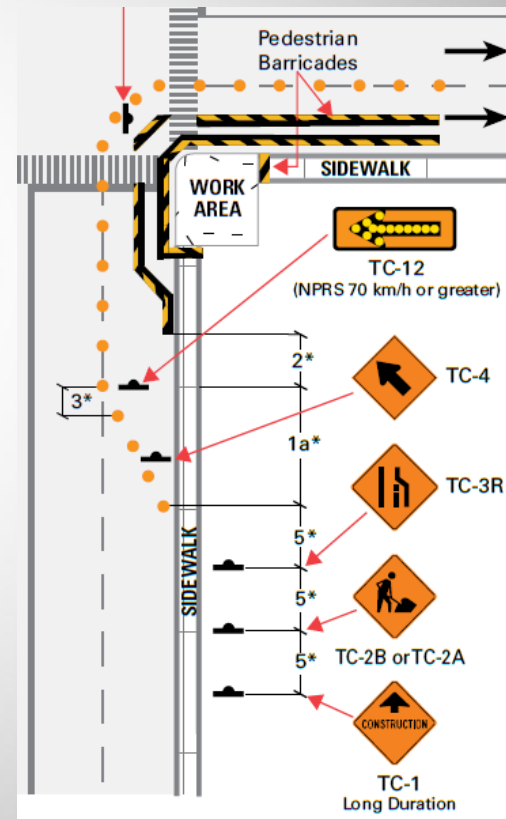
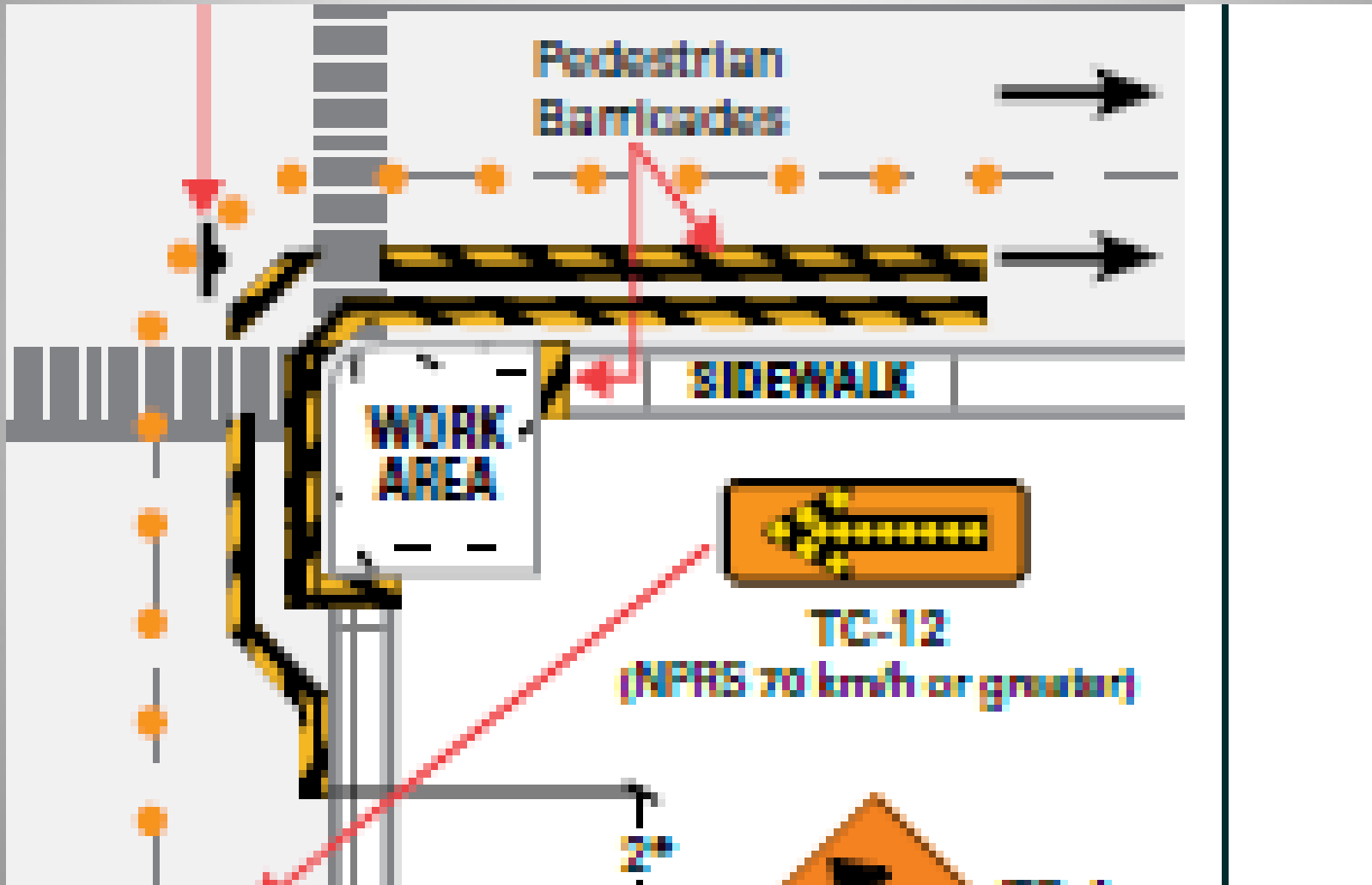


Figure TL-65



# OTM Traffic Layout: Detail, TL-65 Pedestrian Accommodation





# Training Seminars & Webinars

- **Guide Booklet**
- **On-site Seminar**
- **Webinar**



# References

- *“Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way”*, United States Access Board web site,  
<http://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines>
- *“Manual on Uniform Traffic Control Devices”*, 2009 Edition, (pages 57, 59, 100, 106, 82) US Department of Transportation, Federal Highway Administration, Washington DC.  
<http://mutcd.fhwa.dot.gov/pdfs/2009/part6.pdf>
- *“Ontario Traffic Manual, Book 7: Temporary Conditions,”* Ministry of Transportation, Ontario, St. Catherine’s Ontario, January, 2014  
<http://applications.roadauthority.com/Standards/?Id=66B9CBB8-B451-4F71-A8CD-81C40C554C91>

# Thank You.



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