Public Right of Way Accessibility Guidelines

Course No: C02-041

Credit: 2 PDH

John McNally, P.E., A.I.A, LEED AP

Continuing Education and Development, Inc.
22 Stonewall Court
Woodcliff Lake, NJ 07677

P: (877) 322-580
info@cedengineering.com

Public Right-of-Way Accessibility Guidelines (PROWAG)

John J. McNally, P.E, AIA

Introduction:

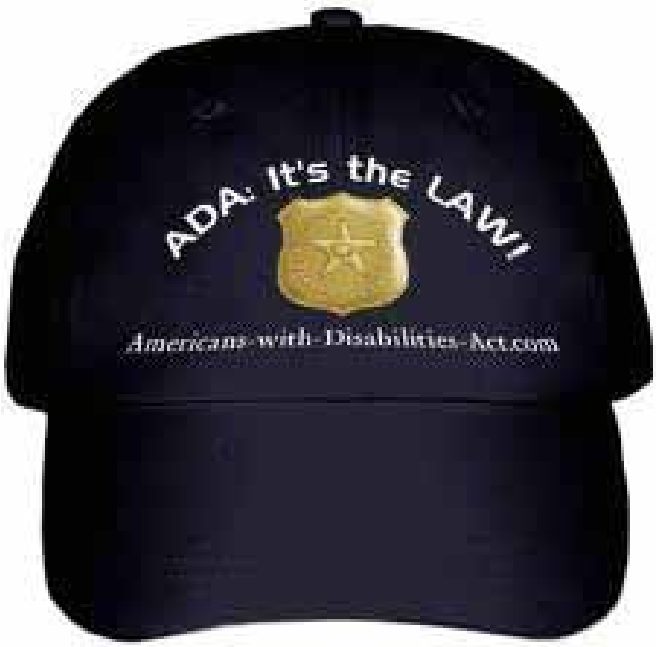
Local jurisdictions must ensure that the facilities they build or alter are accessible to people with disabilities. The current United States Access Board's ADA and ABA accessibility guidelines specify the minimum level of accessibility in new construction and alteration projects and serve as the basis for enforceable standards maintained by other agencies.

Before PROWAG the Access Board's guidelines focused mainly on facilities on sites. While they address certain features common to public sidewalks, such as curb ramps, further guidance is necessary to address conditions unique to public rights-of-way. Various constraints posed by space limitations at sidewalks, roadway design practices, slope, and terrain raised valid questions on how and to what extent access can be achieved. Access for blind pedestrians at street crossings and wheelchair access to on-street parking are typical of the issues for which additional guidance was needed.

Brief History:

The Access Board previously proposed guidelines for public rights-of-way in 1992 and 1994. Based on the comments received, the Access Board determined that it should further coordinate with the transportation industry and State and local governments before continuing its rulemaking.

Consequently, the Board undertook an outreach and training program on accessible public rights-of-way. Under this program, the Board developed various materials on accessible public rights-of-way. On July 26, 2011 – The Access Board published proposed guidelines for public comment. The public comment period ends in February of 2012 and soon after the Guidelines will be adopted into law.



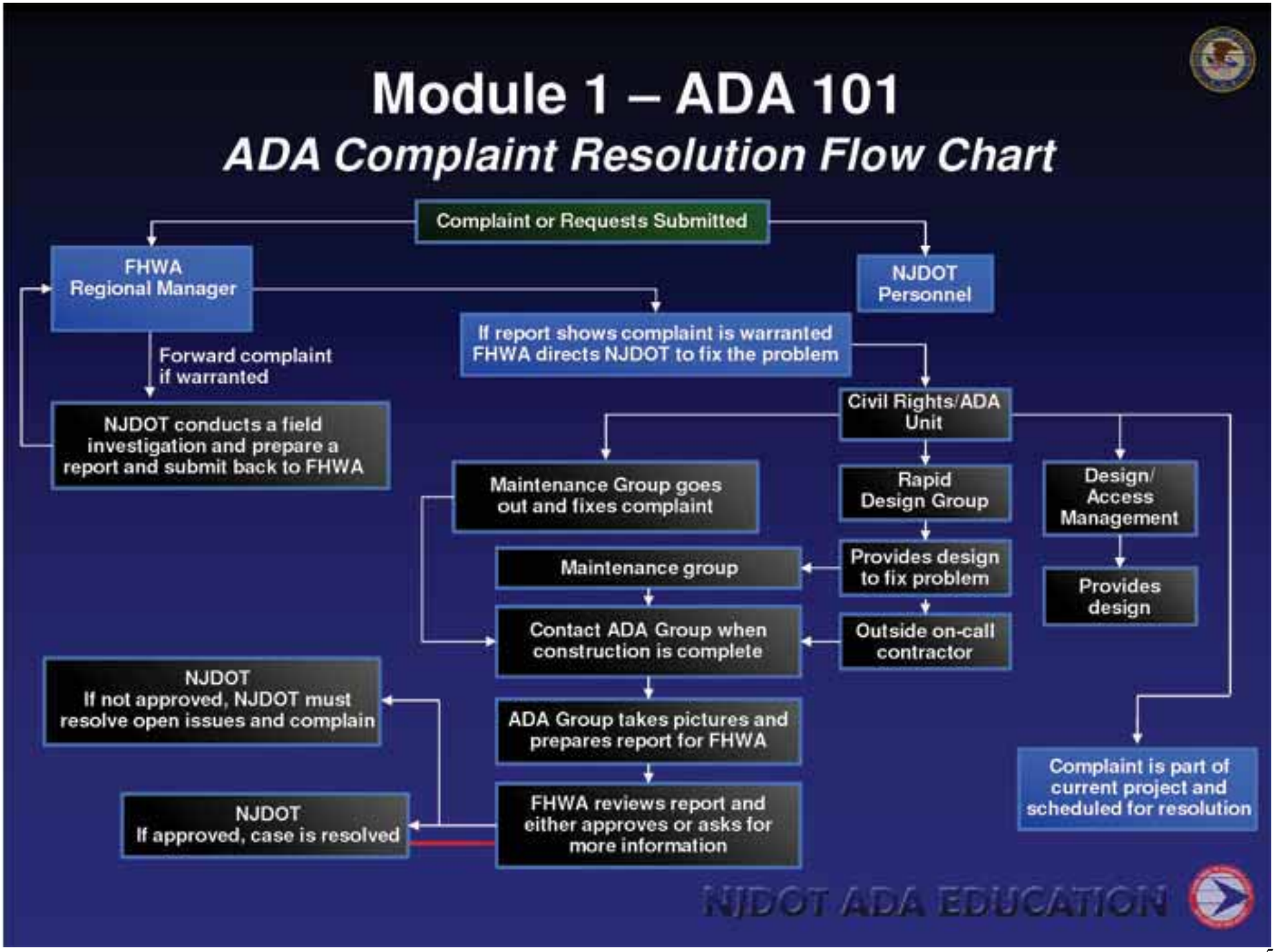
Responsible Agencies for Enforcement:

1. United States Justice Department: The Justice Department has the overall responsibility for ADA enforcement.

2. United States Access Board: The Access Board was given the responsibility of generating the Public Rights Of Way Accessibility Guidelines (PROWAG) to cover access to sidewalks and streets, including crosswalks, curb ramps, street furnishings, parking, and other components of public rights-of-way. The Access Board's aim in developing these guidelines was to ensure that access for persons with disabilities is provided wherever a pedestrian way is newly built or altered, and that the same degree of convenience, connection, and safety afforded the public generally is available to pedestrians with disabilities. The guidelines are being developed under the Americans with Disabilities Act (ADA), which covers access to a wide range of facilities in the public and private sectors, and the Architectural Barriers Act (ABA), which requires access to certain federally funded facilities.

Module 1 – ADA 101

ADA Complaint Resolution Flow Chart



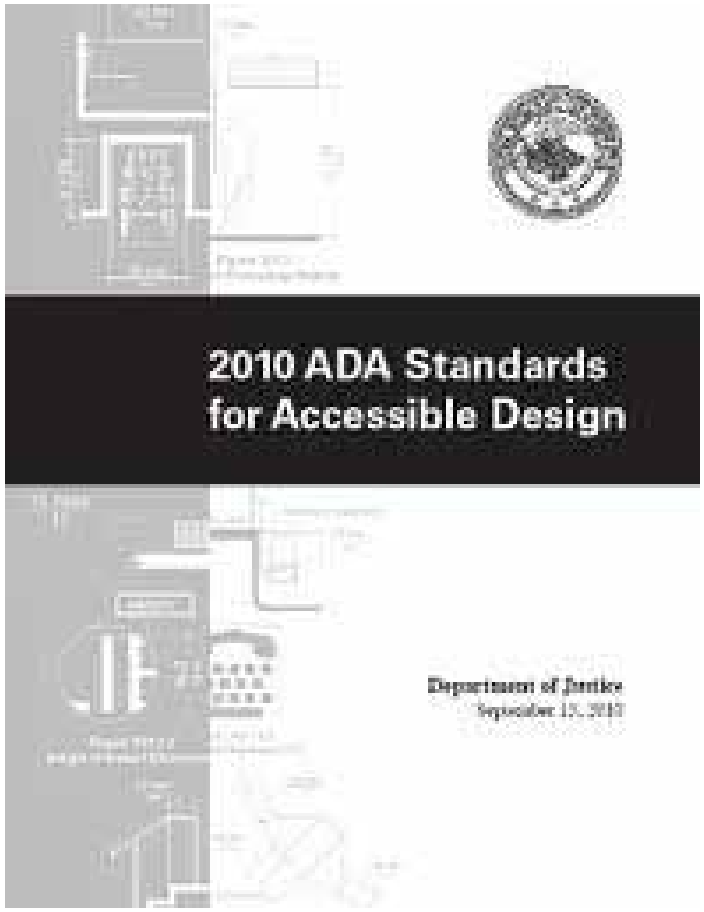
3. The Federal Highway Administration (FHWA): has the oversight of all the State Transportation agencies to ensure that persons with disabilities may access the public right of way without discrimination.

Photo by Ned Ahrens, King County Department of Transportation

4. State Departments of Transportation (DOT): The individual state agencies are responsibility for enforcement of the Access Board guidelines in DOT funded projects.

5. Cities and Municipalities: Individual Cities, Counties and Townships are required to follow the PROWAG guidelines and normally follow their individual State's adopted DOT ADA/PROWAG standards.

How PROWAG relates to previous ADA requirements



PROWAG guidelines use the same general requirements of the 2010 ADA Standards for Accessible Design required for buildings and sites for the right of way items such as sidewalks, curb ramps, road crossings and pedestrian signals.

In some instances PROWAG has stricter requirements such as requiring 4’-0” pedestrian access ways (sidewalks) when the ADA standards would require a 3’-0” wide accessible path.

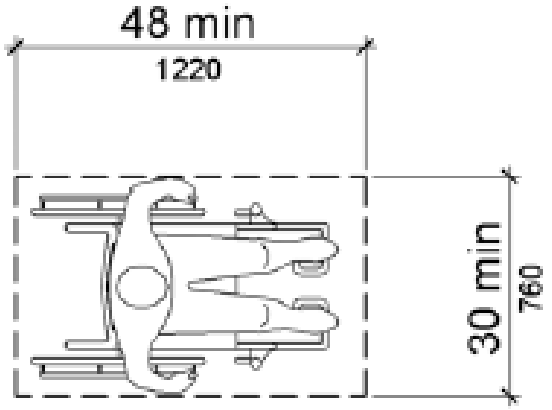
In other instances it has less restrictive requirements such as allowing the slope of sidewalks to match the slope of the adjacent road when the ADA standards would require a 1:12 maximum slope.

When is PROWAG required:

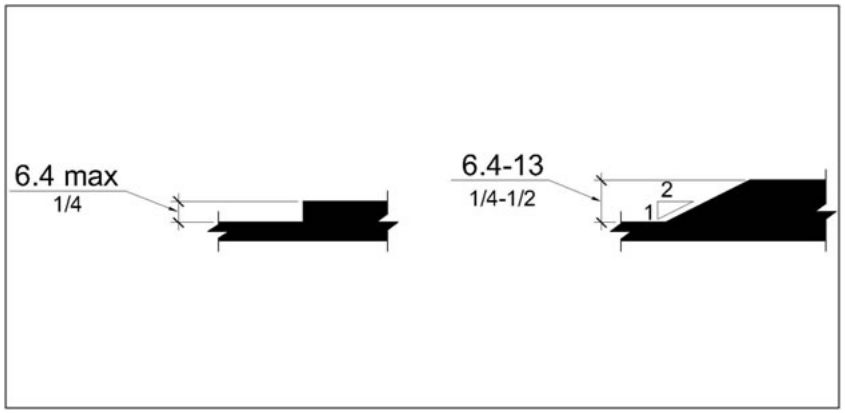
The Access Board's proposed guidelines address access to newly constructed and altered public streets and sidewalks covered by the American with Disabilities Act (ADA) and, in the case of those federally funded, the Architectural Barriers Act (ABA) or the Rehabilitation Act. In alterations, these requirements would apply within, not beyond, the planned scope of a project. The guidelines do not apply to existing public rights-of-ways except those portions that are altered.

In a recent Court Case (Kinney v. Yerusalem**)** the City of Philadelphia argued that a road-resurfacing project that had no planned improvements to the adjacent sidewalks did not require the adjacent curb cuts to be upgraded to ADA standards. The Courts ruled against the City and ruled that resurfacing of streets was an alteration to the adjacent curb cuts and therefore the adjacent curb ramps would have to be renovated to meet current ADA requirements.

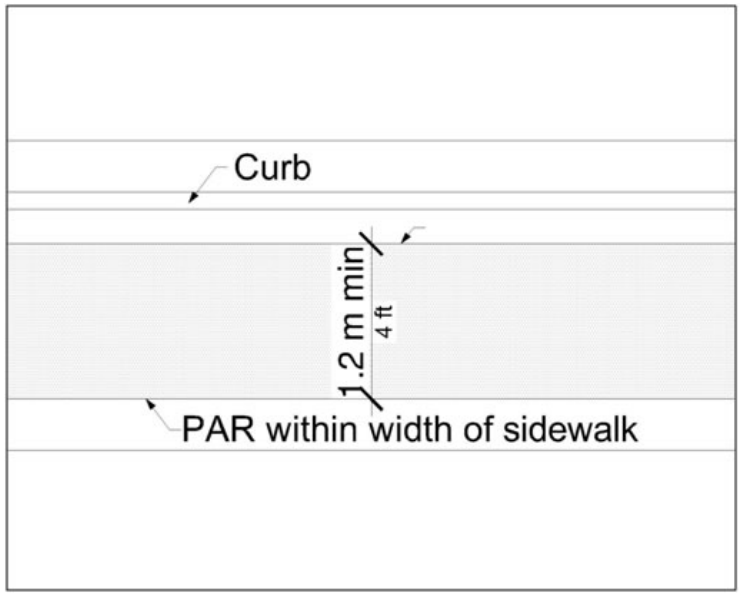
Basic PROWAG/ADA Design Requirements:



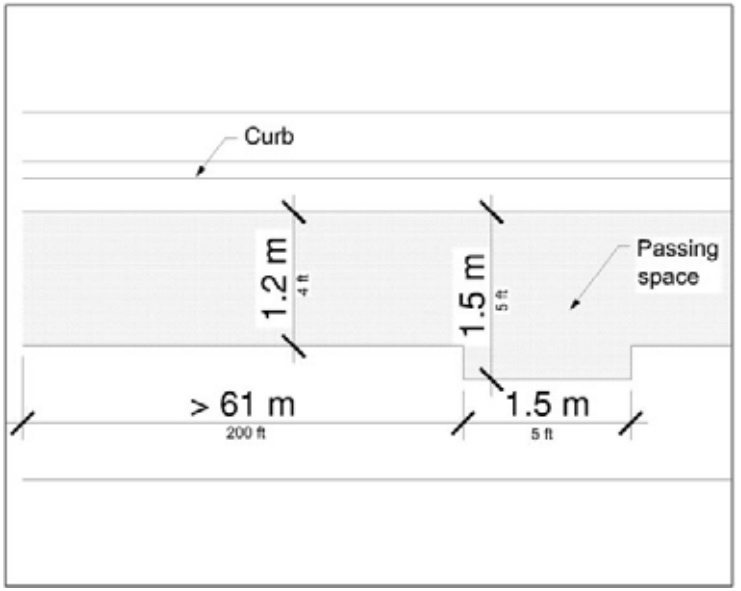
Design Wheel Chair Size



Allowable Changes in Vertical Surfaces



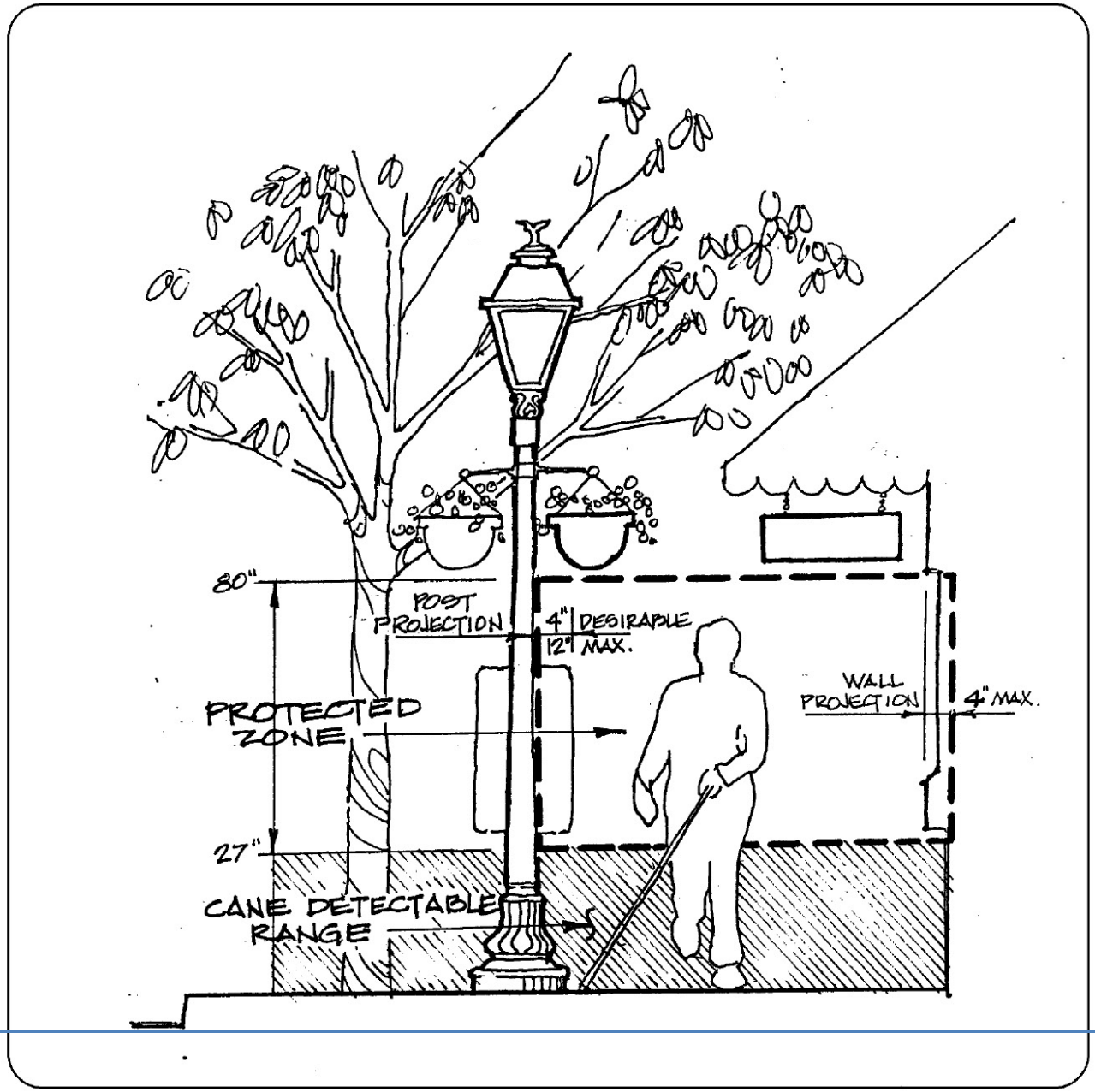
4’-0” Pedestrian Access Route (PAR)



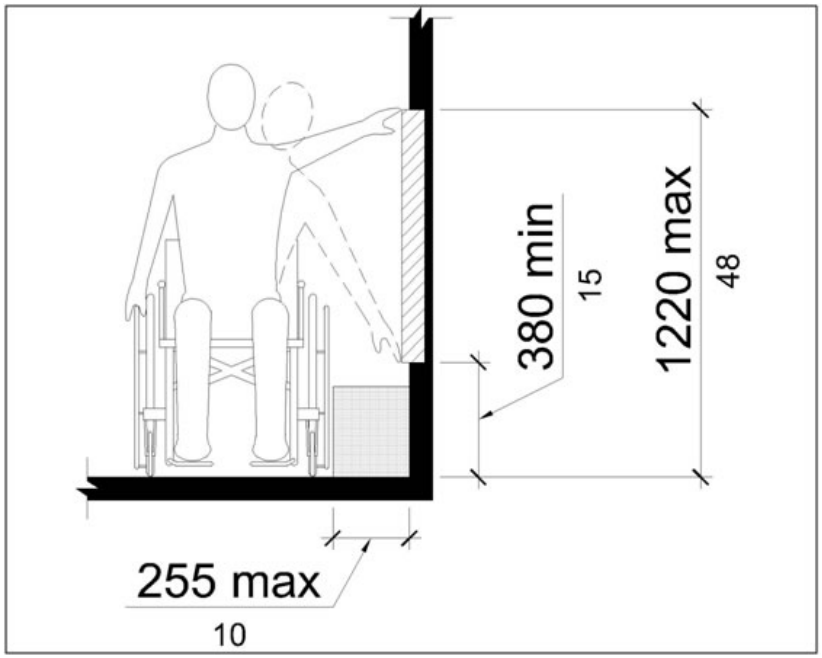
Passing space required every 200 feet

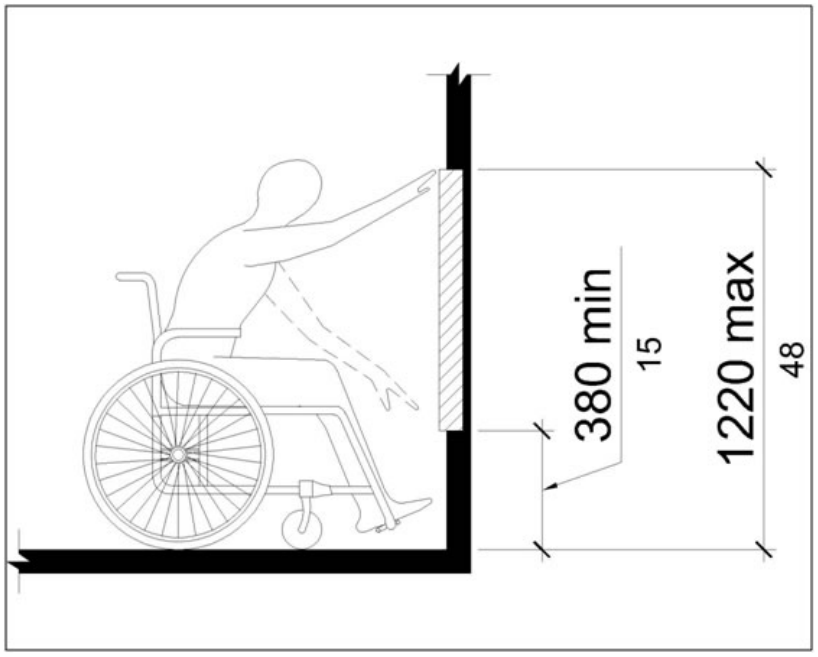
United States Access Board
A Federal Agency Committed to Accessible Design

PROWAG Protruding Objects Requirements:



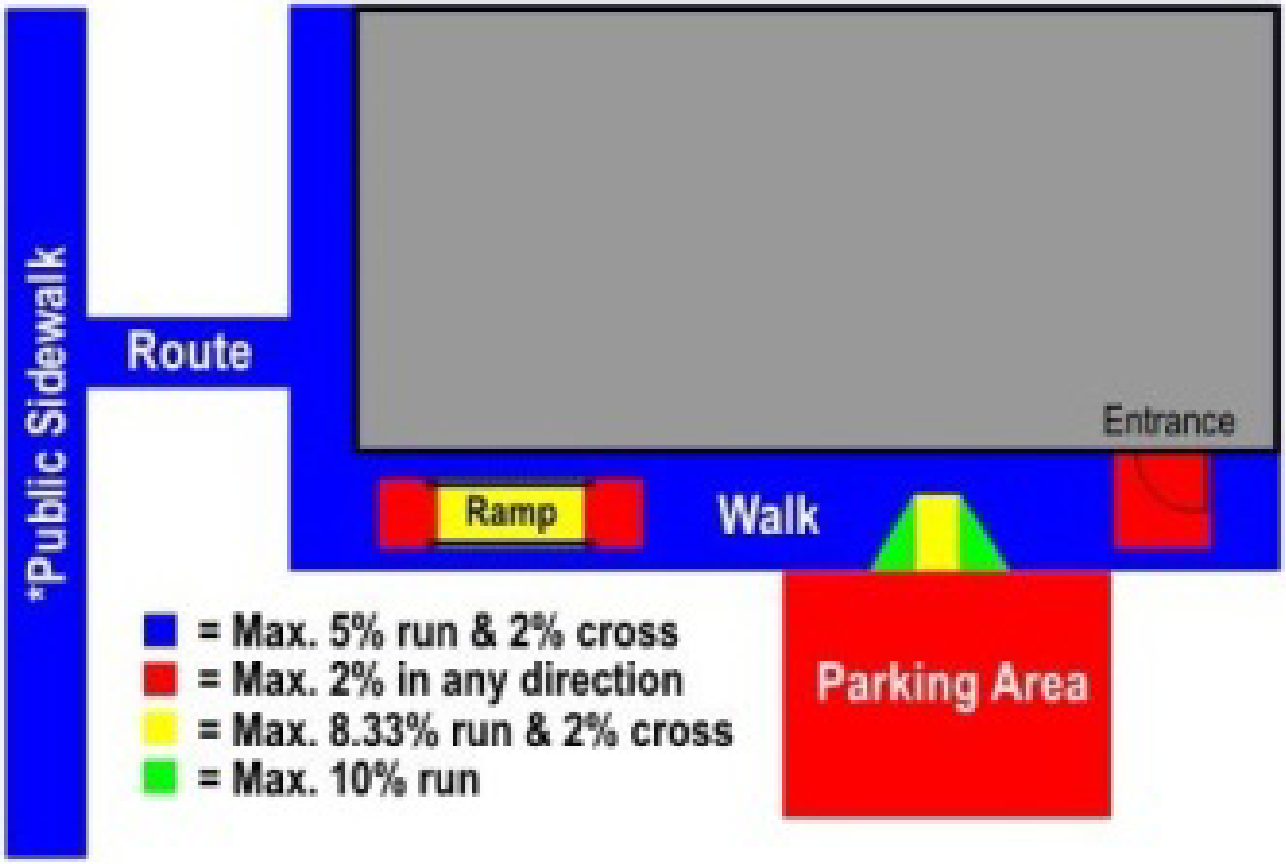
PROWAG Reach Requirements:





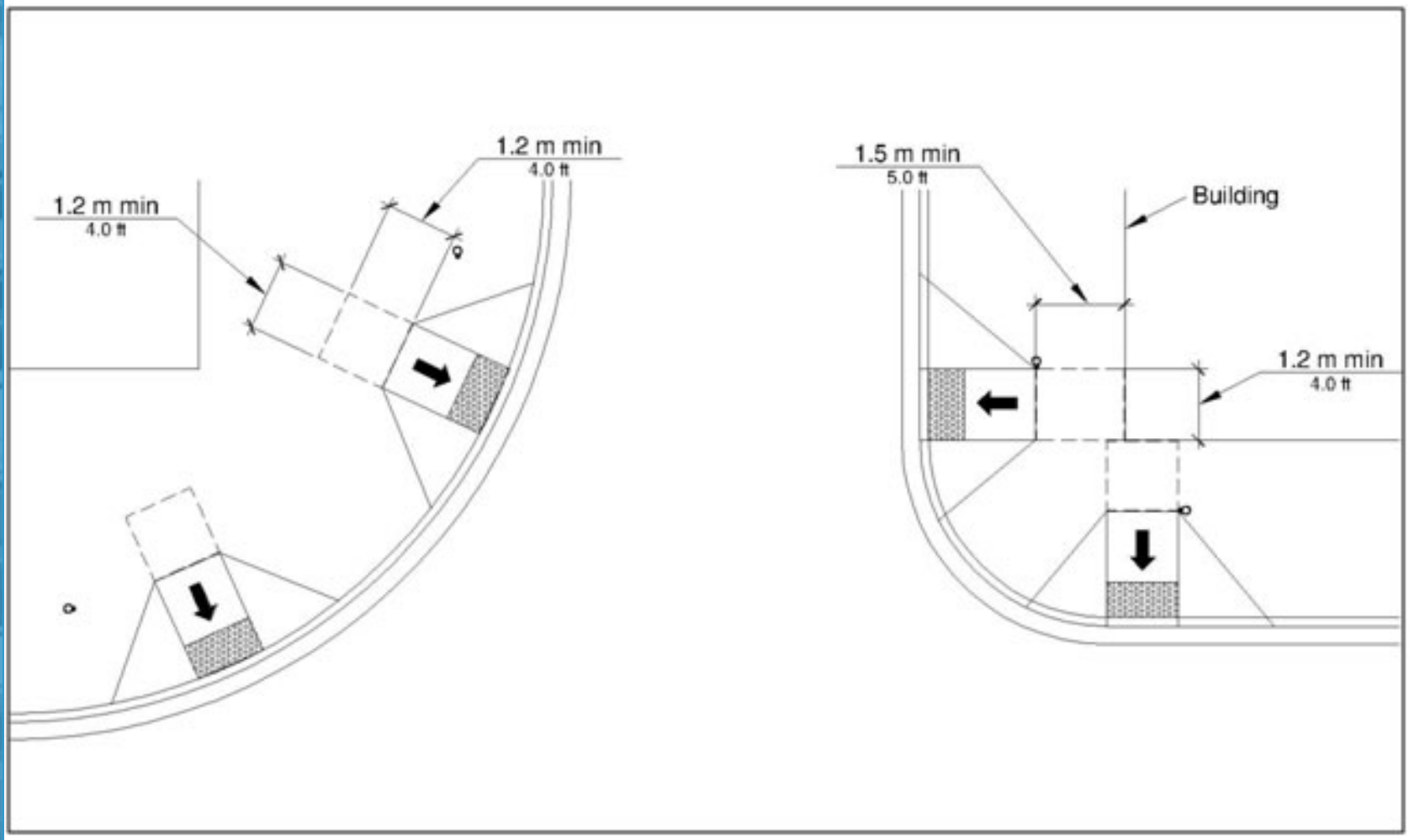
United States Access Board
A Federal Agency Committed to Accessible Design

PROWAG Slope Requirements:



PROWAG considers 5% or less in the direction of travel to be “flat”. Over 5% slope is considered a ramp. PROWAG Section 302.5 allows slopes to exceed 5% if it matches the adjacent existing road slope.

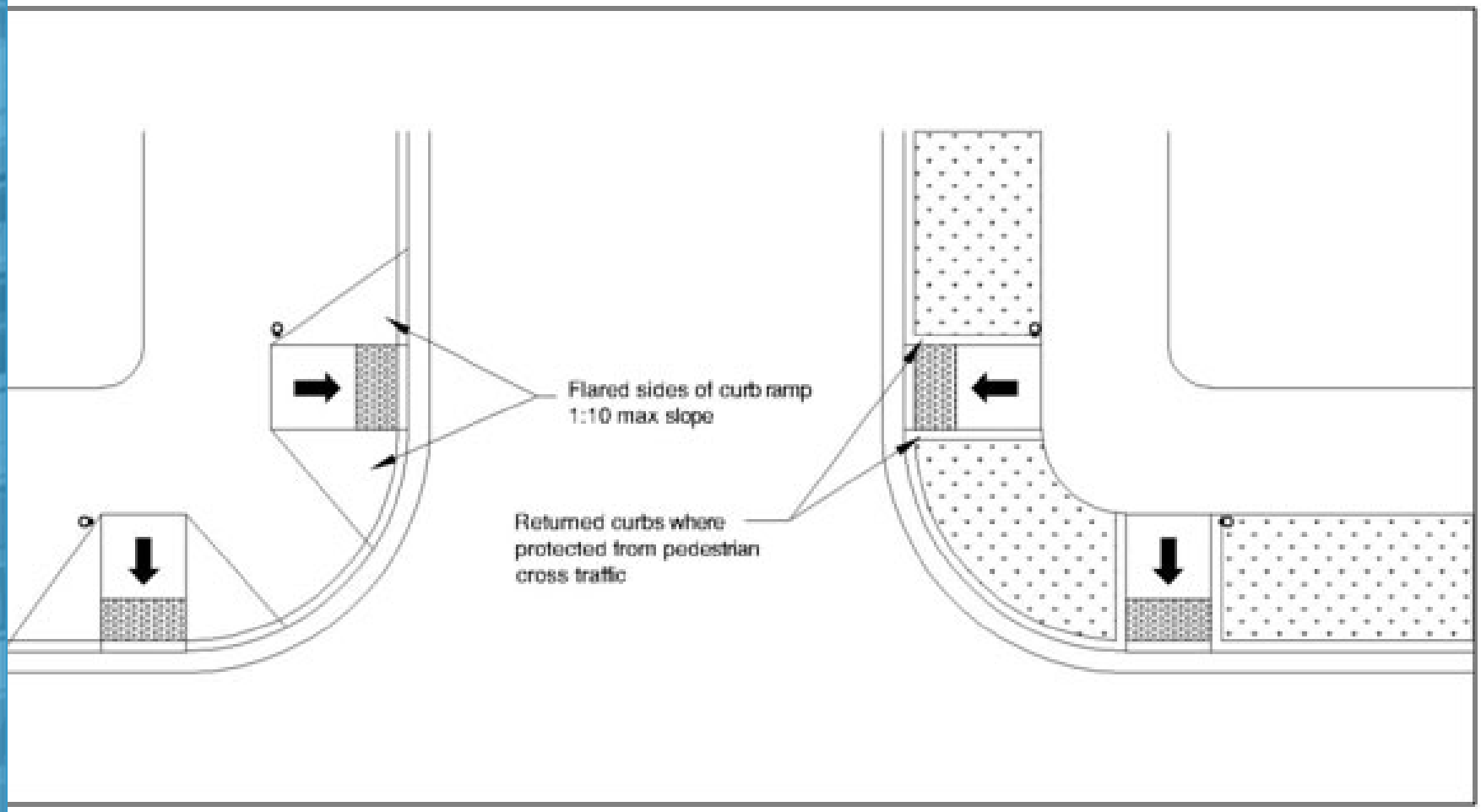
PROWAG Turning Space Perpendicular Curb Ramps:



PROWAG Section R304.2 requires a 4’-0” x 4’-0” turning space at the top of a curb ramp. If the top of the ramp does not have 5’-0” clear at the top of the ramp than a 5’-0” x 4’-0” clearance is required for turning.

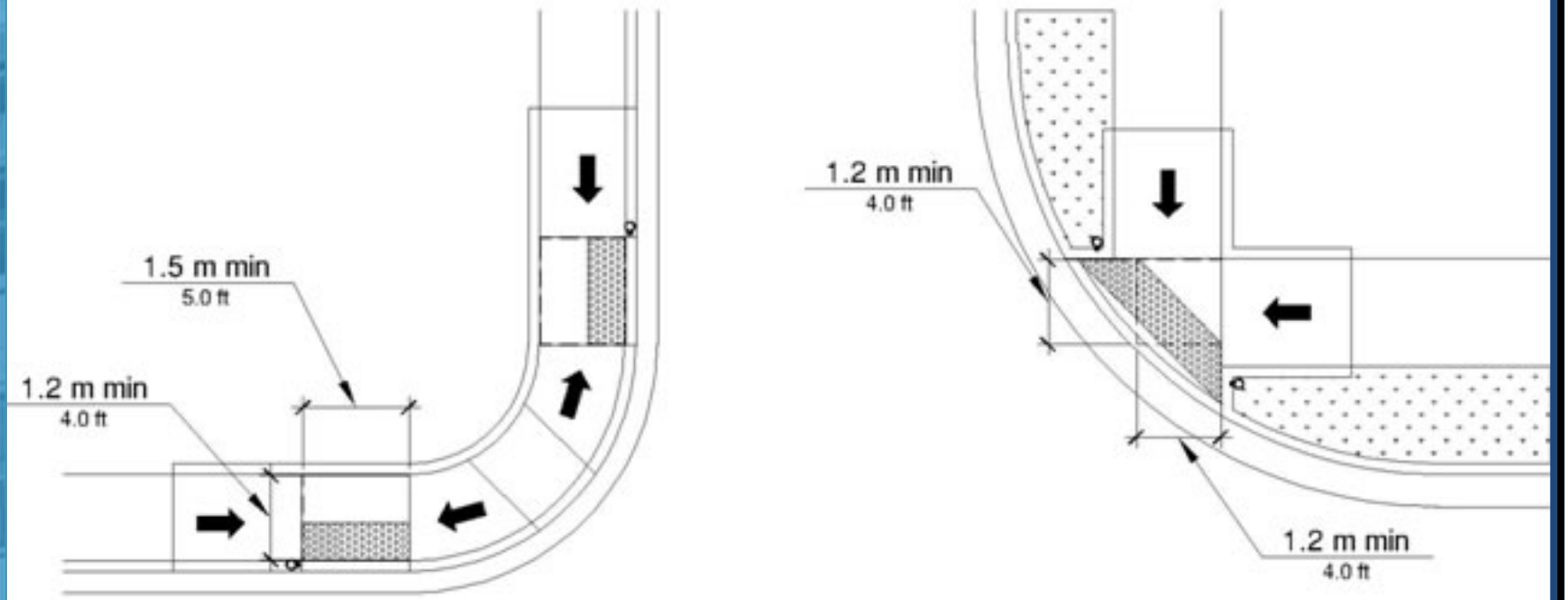
United States Access Board
A Federal Agency Committed to Accessible Design

PROWAG Flared Sides of Curb Ramp Requirements:



PROWAG Section R304.2.3 requires 1:10 max slopes on flared sides when they are part of the pedestrian path.

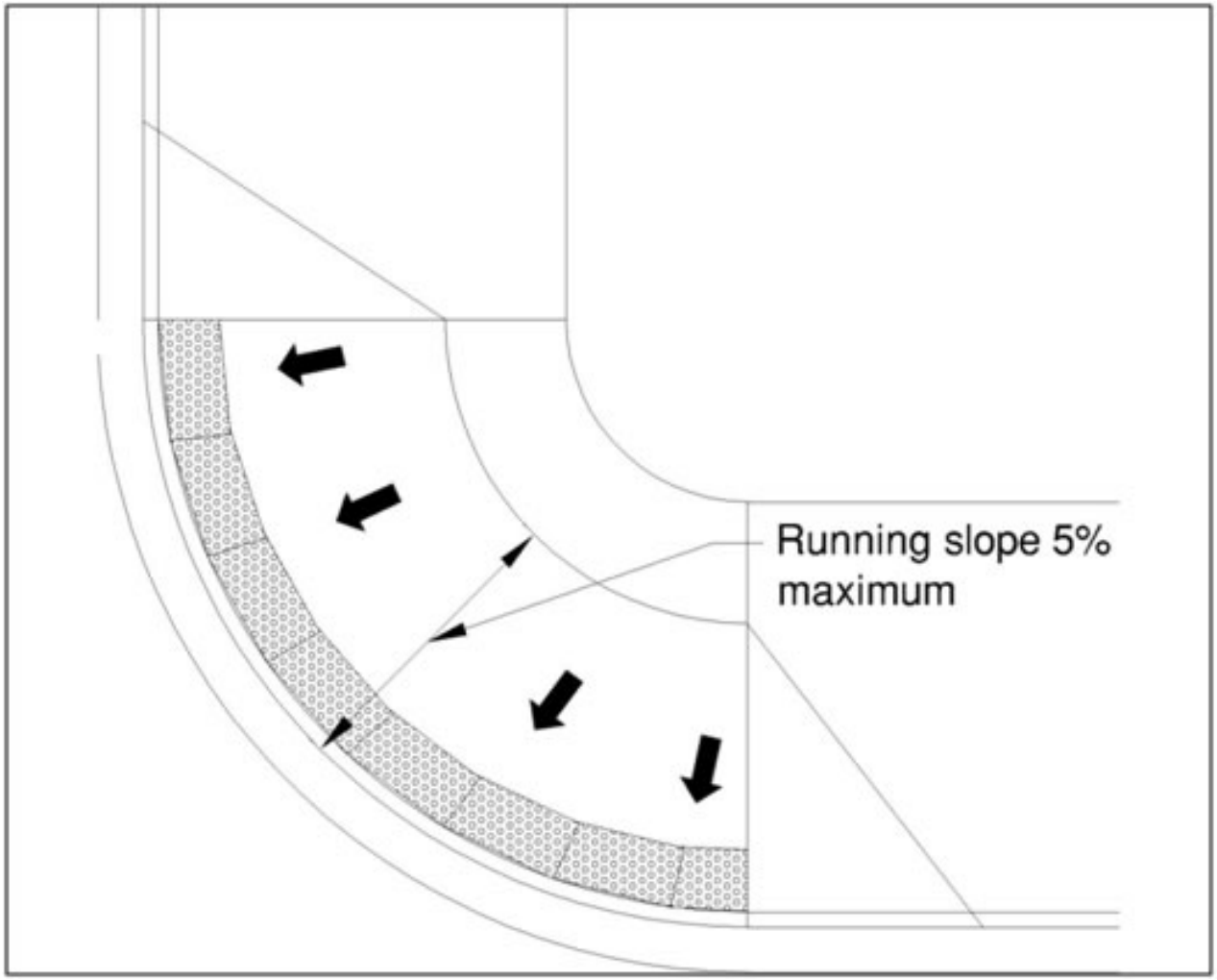
PROWAG Turning Space Parallel Curb Ramps:



PROWAG Section R304.3.1 requires a 4’-0” x 4’-0” turning space at the bottom of a curb ramp. If turning area is constrained on 2 or more sides than a 5’-0” x 4’-0” clearance is required for turning.

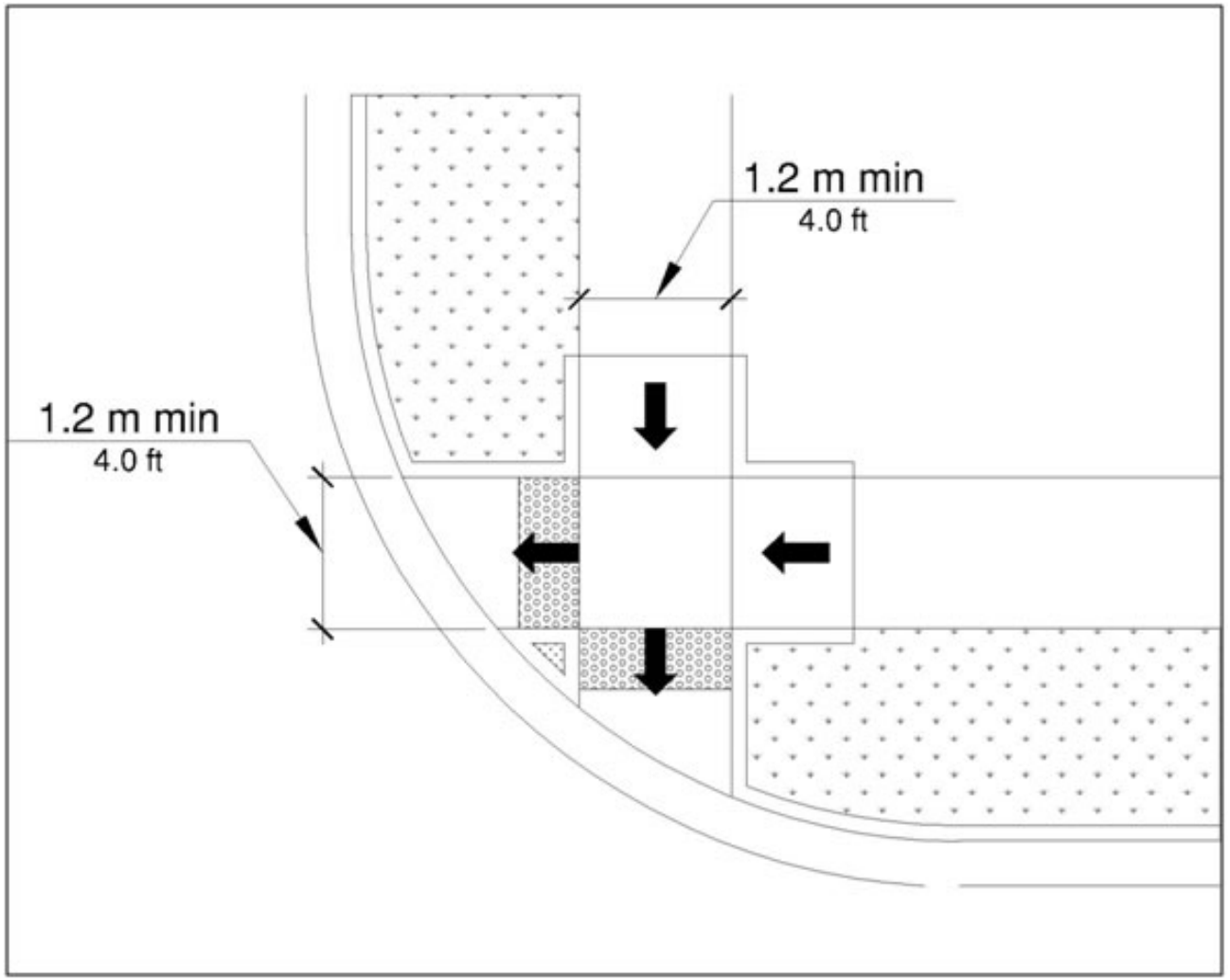
United States Access Board
A Federal Agency Committed to Accessible Design

PROWAG Blended Transition Running Slope:



PROWAG Section R304.4.1 requires 5% maximum running slope.

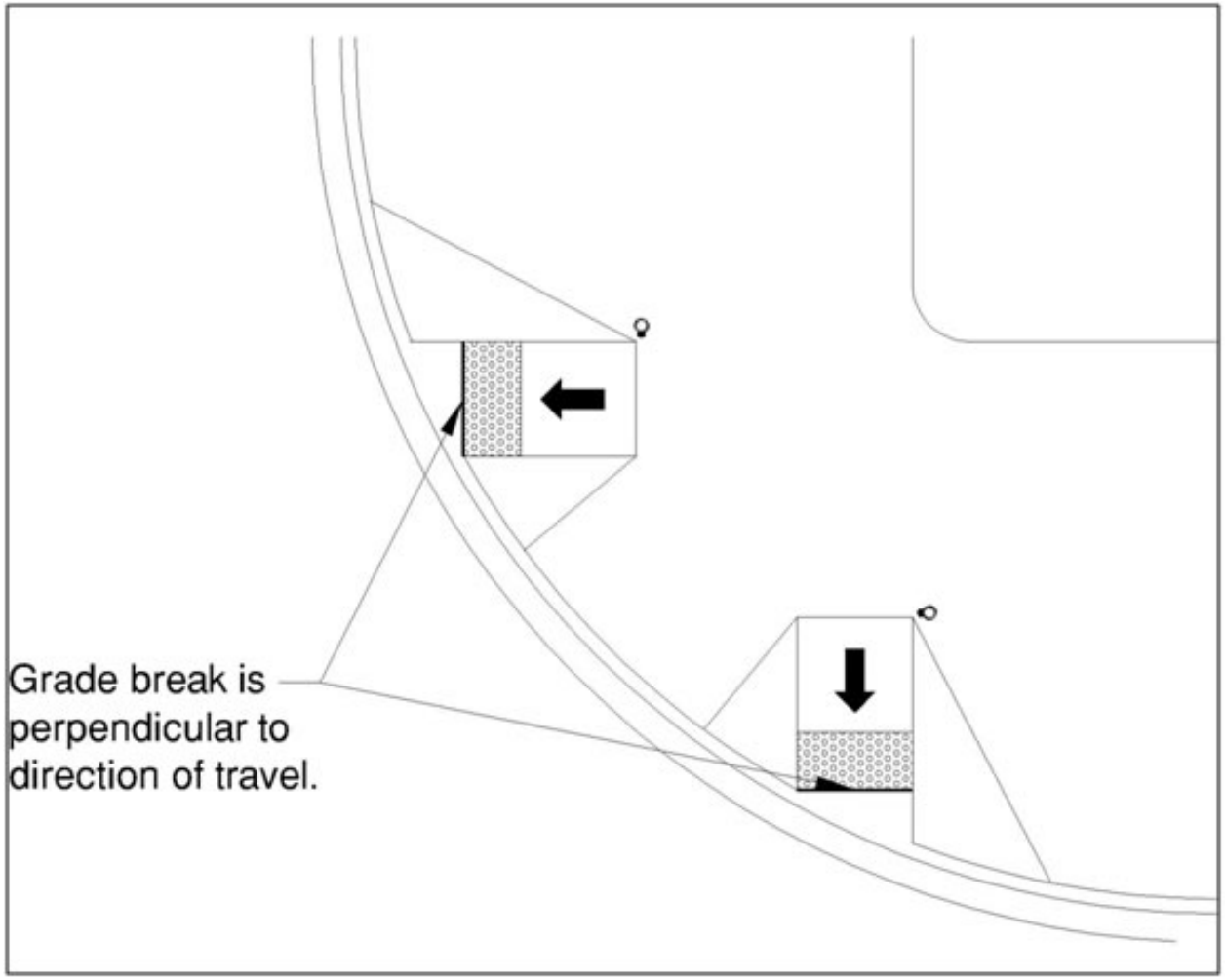
PROWAG Curb Ramp and Blended Transitions:



PROWAG Section R304.5.1 requires 4’-0” clear width for ramp runs, blended transitions and turning spaces.

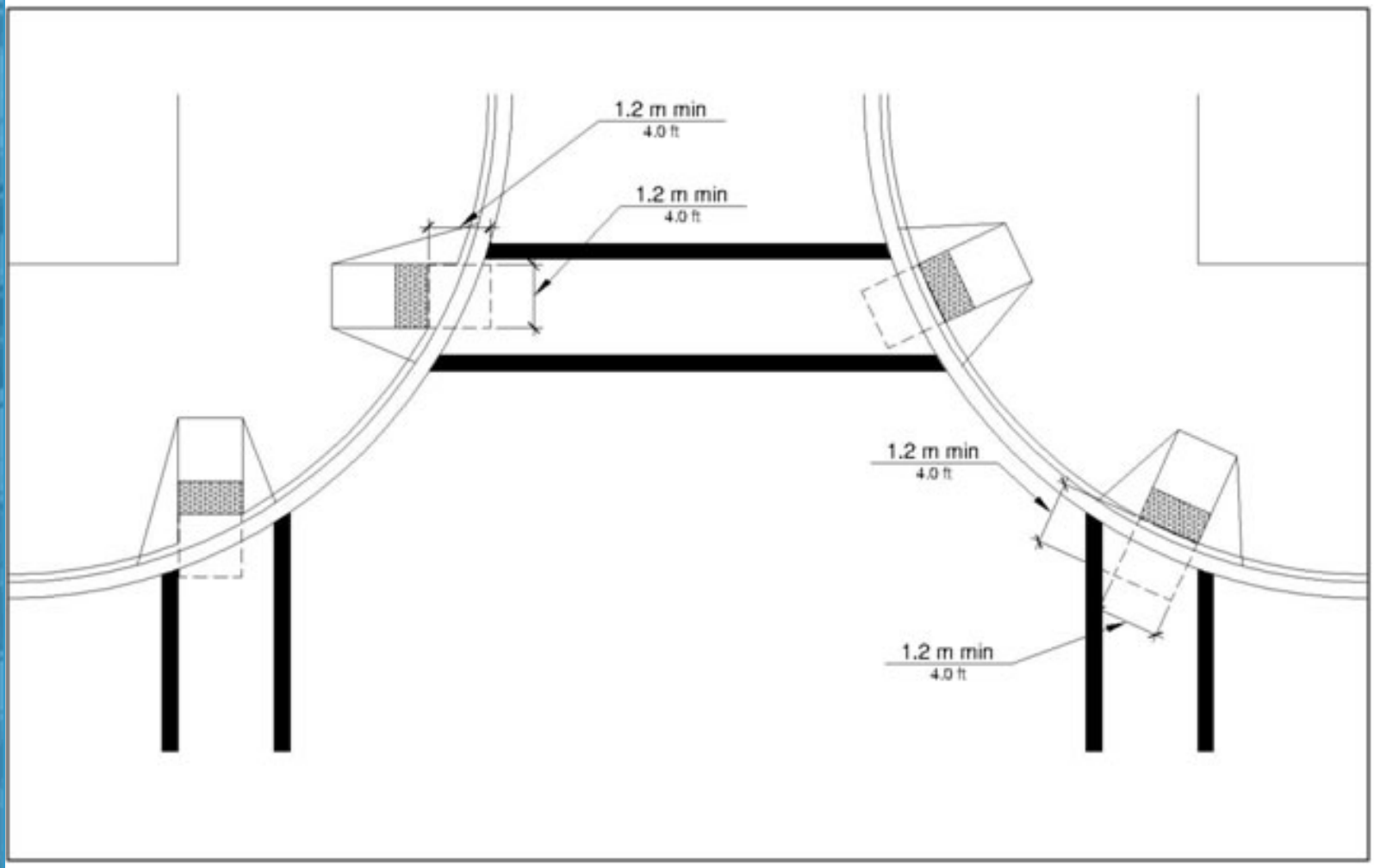
United States Access Board
A Federal Agency Committed to Accessible Design

PROWAG Curb Ramp Grade Breaks:



PROWAG Section R304.5.2 requires grade breaks to be perpendicular to the direction of the ramp run and surface slopes to be flush that meet at grade breaks.

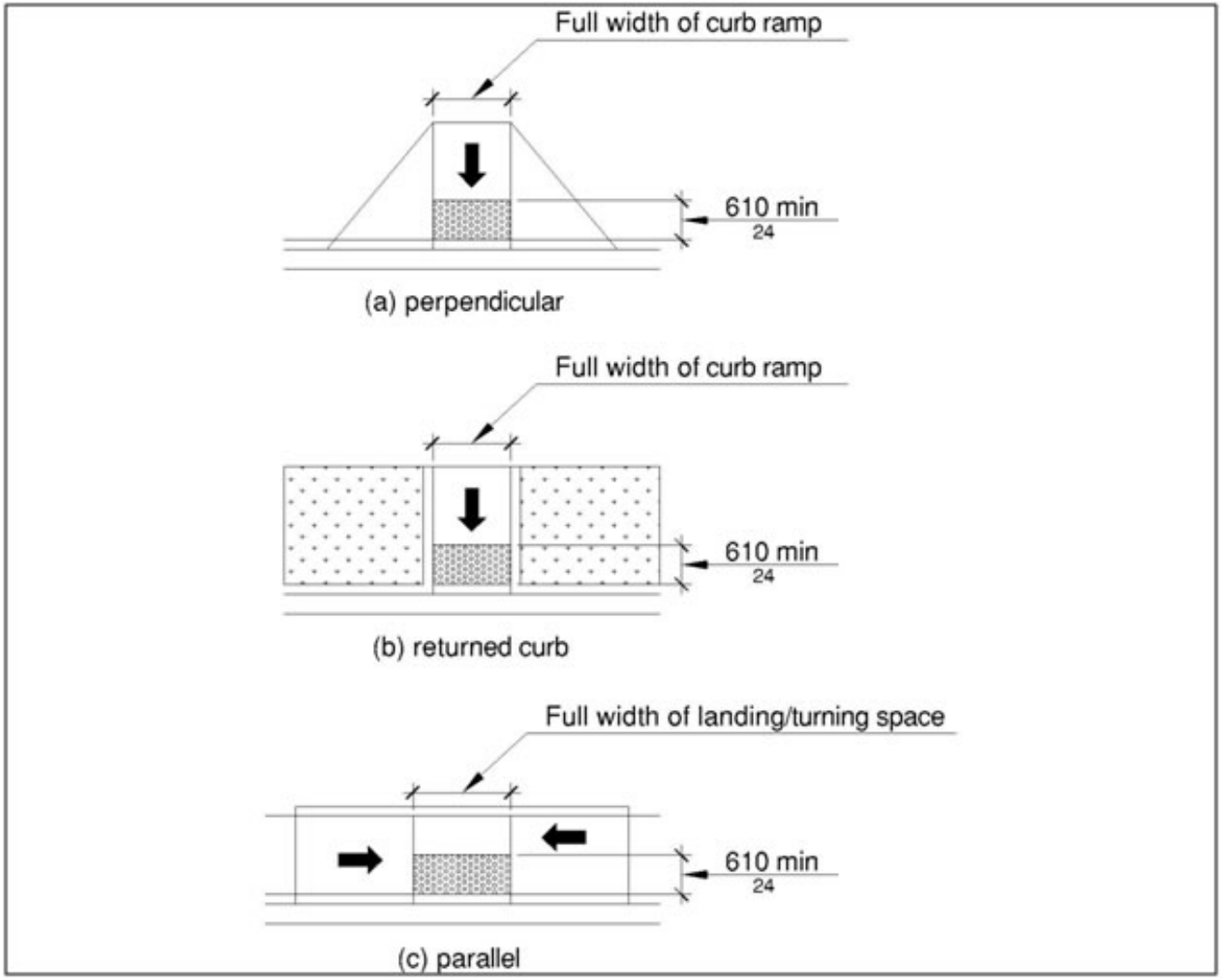
PROWAG Clear Spaces at Crossings:



PROWAG Section R304.5.5 requires a 4’-0” x 4’-0” clearance beyond the bottom grade break within the width of the crossing and wholly outside of the parallel vehicle travel lane.

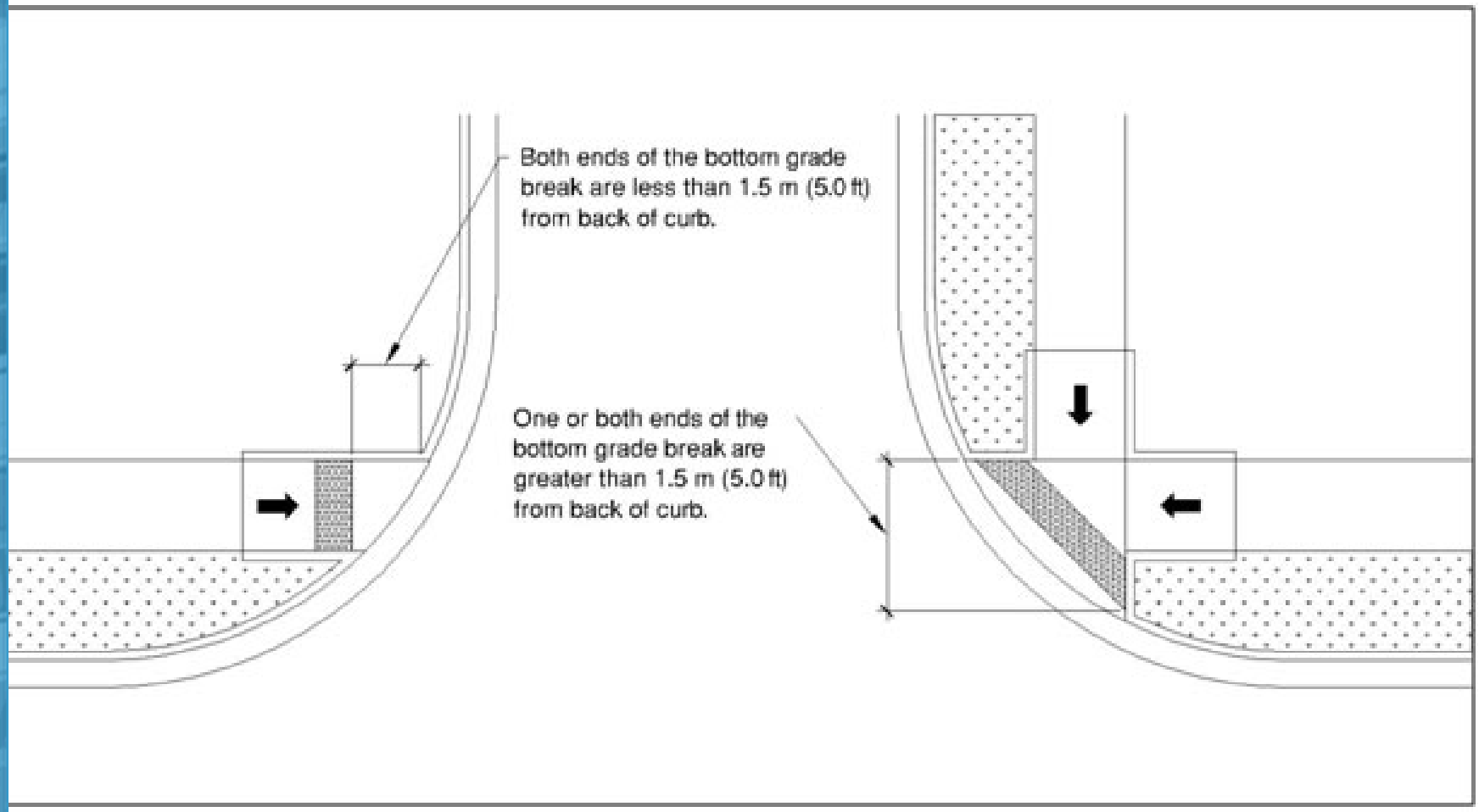
United States Access Board
A Federal Agency Committed to Accessible Design

PROWAG Detectable Warning Requirements:



PROWAG Section R305.1.4 requires 2’-0” width of detectable warnings in the direction of travel.

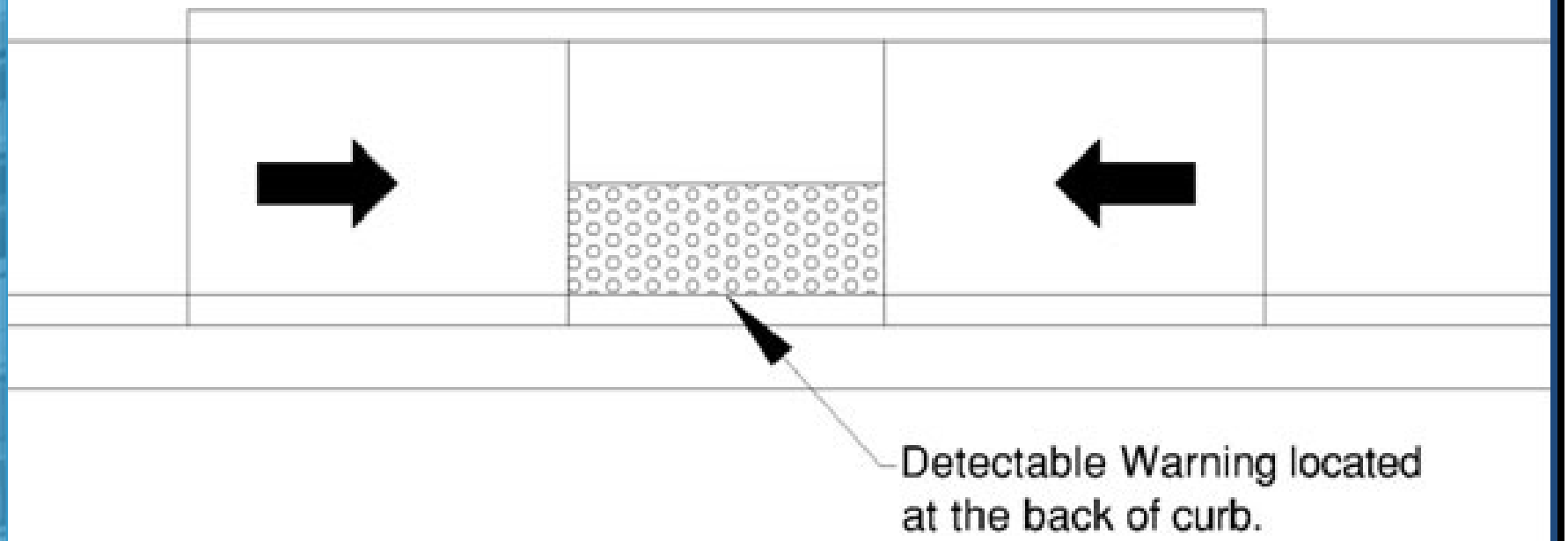
PROWAG Detectable Warnings Perpendicular Ramps:



PROWAG Section R305.2.1 requires detectable warnings to be placed on the back of the curb in the locations shown above depending on where the grade break is.

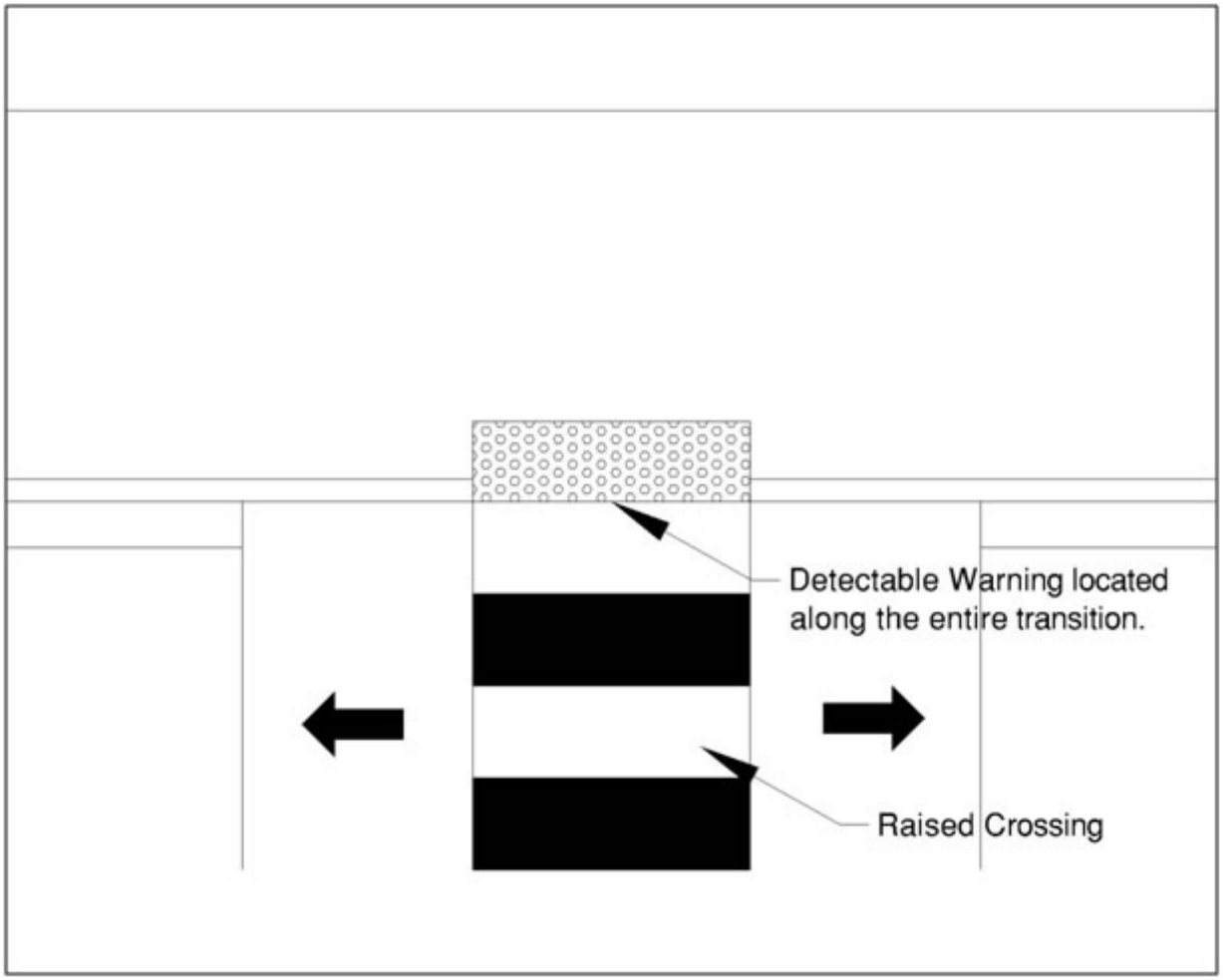
United States Access Board
A Federal Agency Committed to Accessible Design

PROWAG Detectable Warnings Parallel Curb Ramps:



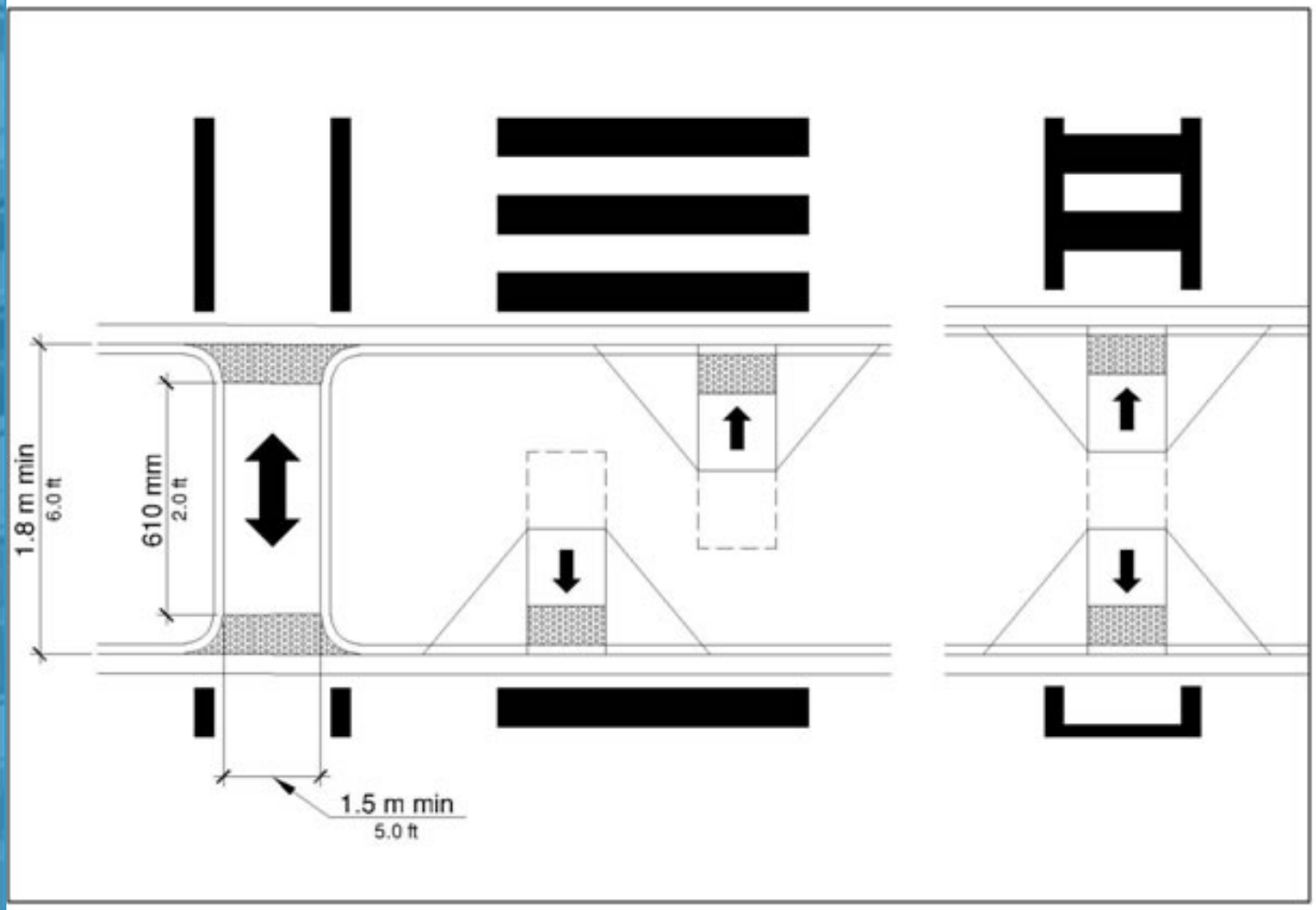
PROWAG Section R305.2.2 requires detectable warnings to be placed on the turning space at the flush transition between the street and sidewalk.

PROWAG Detectable Warnings Blended Transitions:



PROWAG Section R305.2.3 requires detectable warnings to be placed at flush transition between the street and the sidewalk for raised street crossings, depressed corners or other level street crossings.

PROWAG Detectable Warnings Refuge Islands:



PROWAG Section R305.2.4 requires a minimum 2’-0” separation between detectable warnings at pedestrian refuge islands.

United States Access Board
A Federal Agency Committed to Accessible Design

United States Access Board
A Federal Agency Committed to Accessible Design

NJDOT Examples of PROWAC Requirements:

Entire NJDOT presentation is available at:

http://www.state.nj.us/transportation/business/localaid/documents/LPADPFAADA-kps.pdf

ADA Law Requires

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

- Alterations to existing facilities, within the scope or limits of a project, must provide usability to the maximum extent feasible.

The reconstruction of the existing sidewalk must meet the latest standards

ADA Law Requires

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

- Overlays and resurfacing = alteration.

Curb ramps must meet the latest standards. As per Federal court case (Kinney vs. Yerusallim, 813 F. Supp. 547 F.D. PA 1993)

Resurfacing improved/altered the crosswalk

28 C.F.R. § 35.151(b) Alterations have to be made readily accessible, within the impacting project, to the maximum extent feasible. Kinney v. Yerusalim - Court held that the ***resurfacing constituted an alteration***

ADA Law Requires

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

- Existing facilities that have not been altered, shall not deny access to persons with disabilities.

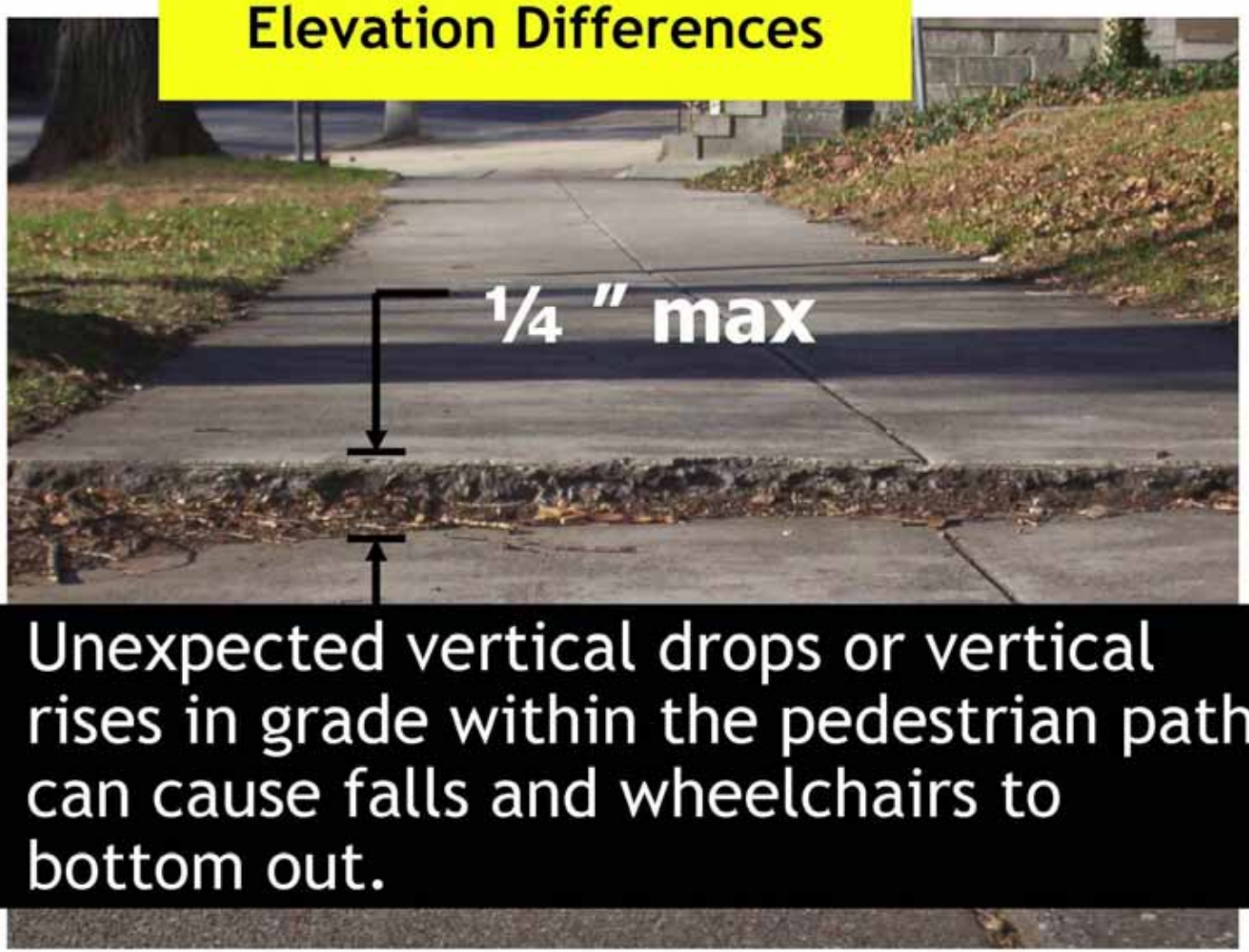
The absence of a curb ramp denies access to the existing sidewalk.

New Jersey Division

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

Elevation Differences



Unexpected vertical drops or vertical rises in grade within the pedestrian path can cause falls and wheelchairs to bottom out.

New Jersey Division

Grate Openings and Horizontal Gaps

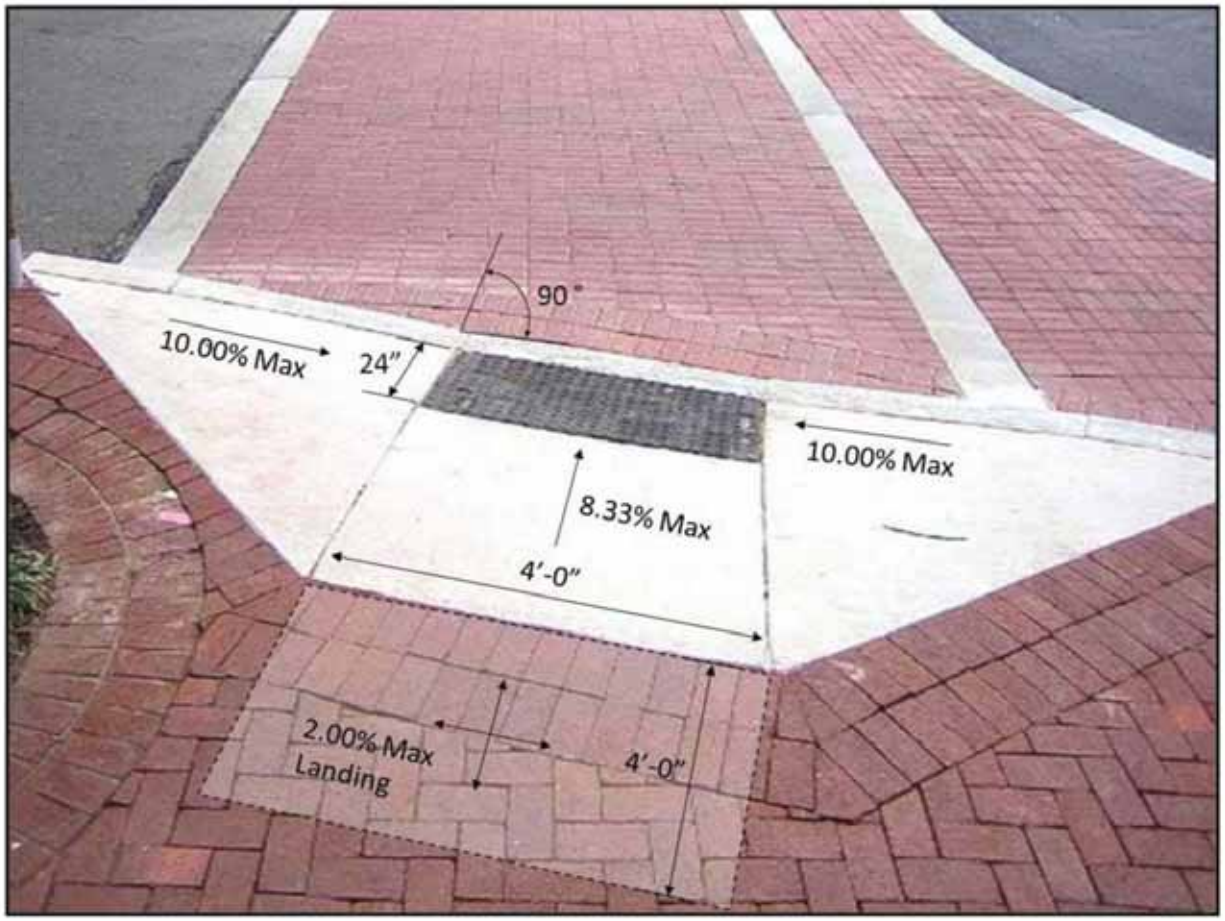
* Grate orientation must be so that the wide opening is perpendicular to the pedestrian.

Basic ADA Requirements

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

- Curb Ramps & Median Openings



New Jersey Division

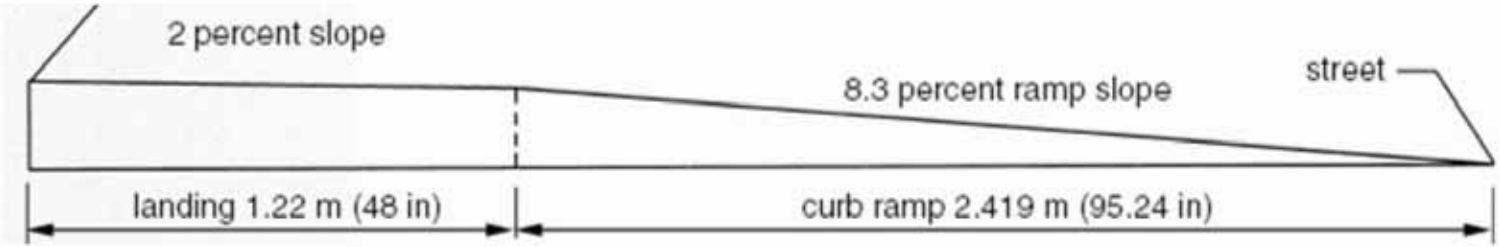
Ramp Length

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

$$\text{Ramp Length} = \frac{\text{curb height } 6''}{(\text{ramp slope})_{8.3\% \text{ max}} - (\text{sidewalk cross slope})_{2\% \text{ max}}}$$

- Sample ramp length calculation
  - 6”/(8.3%-2%) = 7’ 11”
- Higher curb or flatter ramp grade = longer ramp

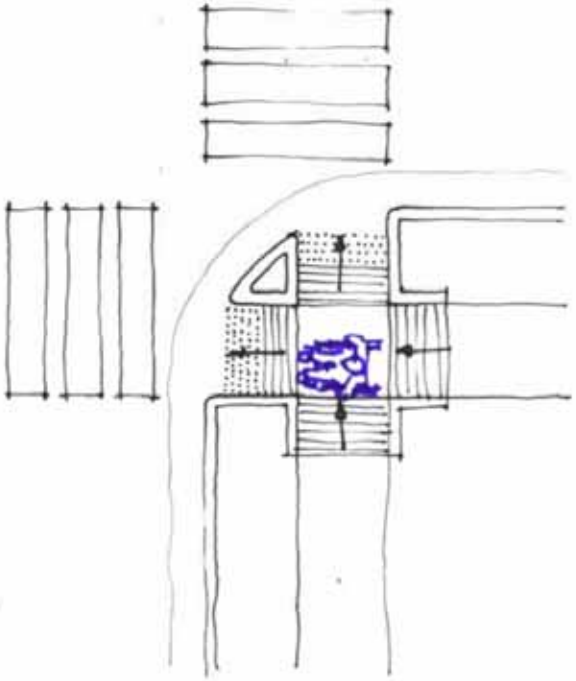


Ramp Alignment

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

- Ramps must aligned with crosswalks help wheelchair users orient themselves to cross the street



Ramp Cross Slope

ADA Compliance Training

- Ramp cross slope shall not exceed 2.0 percent (1:48) – Zero is best
- Combined running slope and cross slope makes climbing ramps more difficult
- Since ramp running slope is significant, cross-slope should be minimized

New Jersey Division

Gutter Counter Slope
(Slope opposite the ramp grade)

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

- Becomes a running grade for pedestrians
- Slope should not exceed 5% (1:20) at the curb ramp
- 2% maximum for diagonal ramps

New Jersey Division

Ramp Width

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

- PROWAG min: 4’
- Wider ramps are better: full crosswalk or sidewalk width

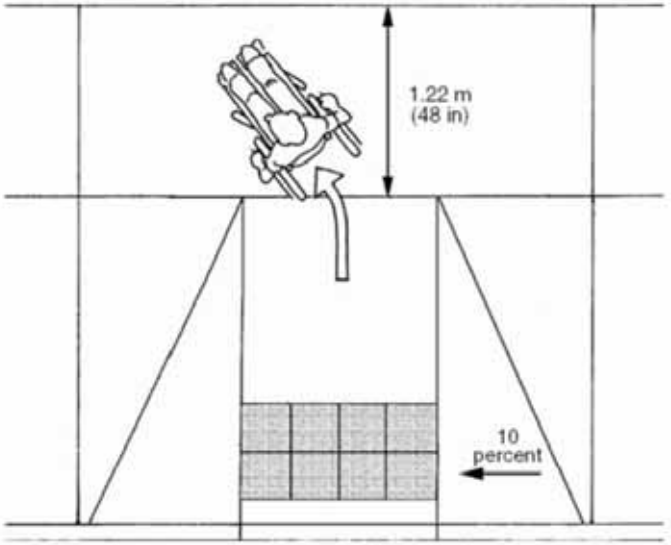
New Jersey Division

Flares

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

- Not part of the accessible route
- Flares should be used on all curbside sidewalks
- Flare slope: 10% (1:10) max.



Surfaces

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

Gratings, access covers, and other appurtenances shall not be located on curb ramps, landings, blended transitions & gutters within the pedestrian access route

New Jersey Division

Drainage at Curb Ramps

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

- Drainage can be difficult because gutter grade should not exceed 2%
- To prevent standing water at the base of ramps:
  - Place inlets upstream of ramps
  - Widen the gutter pan and flatten at the ramp
  - The gutter pan counter slope must be flatter than the running slope of the ramp; a steeper gutter cross slope can resume outside the ramp

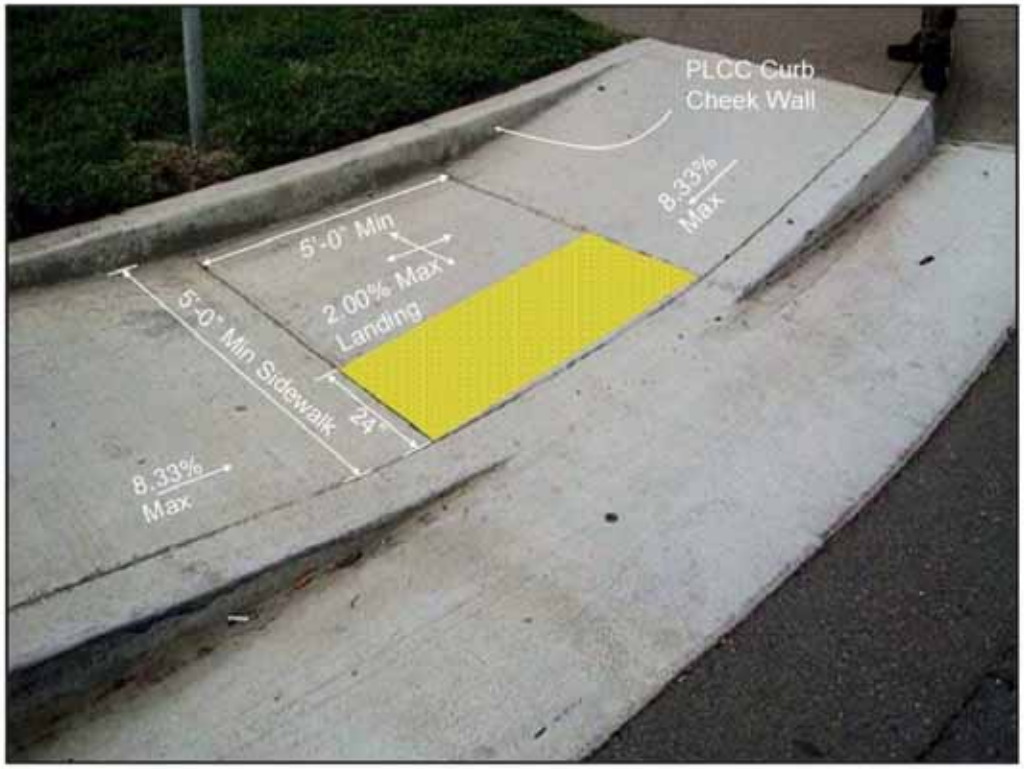
New Jersey Division

Perpendicular Curb Ramps

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

- Perpendicular curb ramps shall have a running slope that cuts through or is built up to the curb at right angles or meets the gutter grade break at right angles.



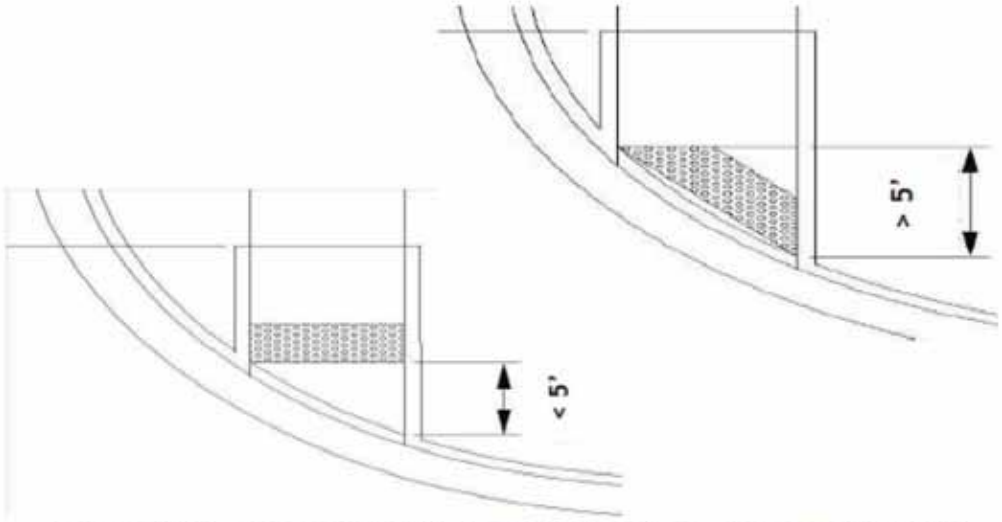
New Jersey Division

Parallel Curb Ramps

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

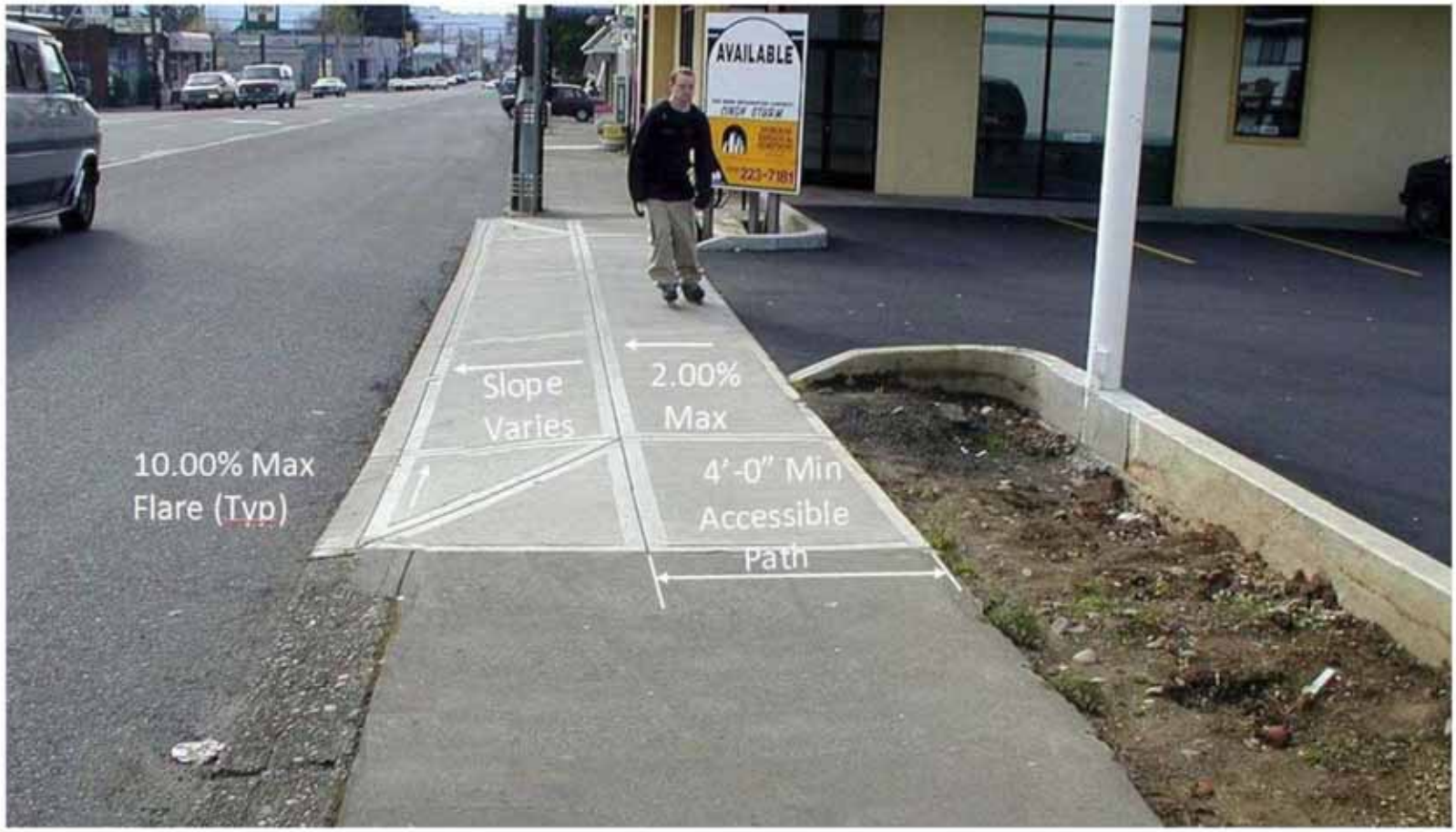
- Parallel curb ramps shall have a running slope that is in-line with the direction of sidewalk travel.



New Jersey Division

Driveway Details

ADA Compliance Training



U.S. Department of Transportation
Federal Highway Administration

New Jersey Division

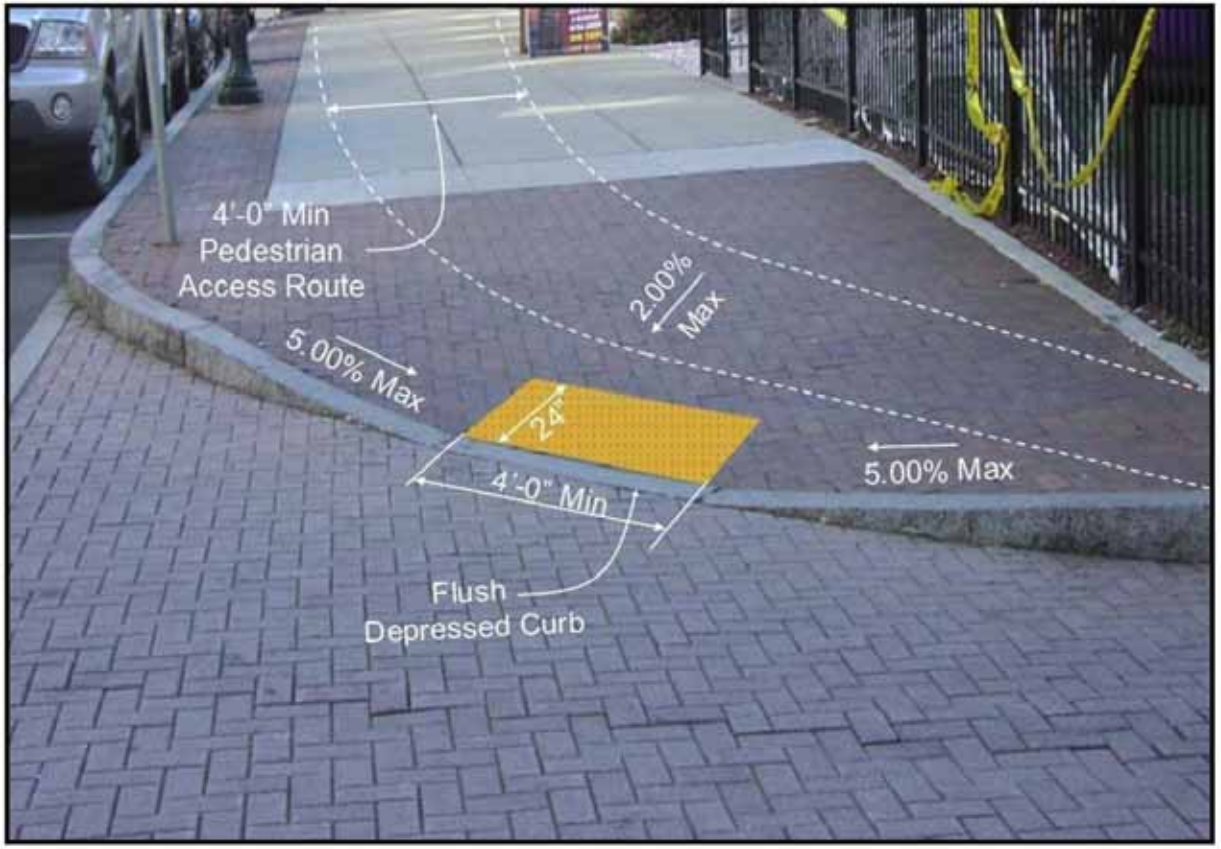
Designing Pedestrian Facilities for Accessibility

Blended Transitions

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

- Blended transitions shall have a running slope of no more than 5 percent maximum and cross slope shall be 2 percent maximum.



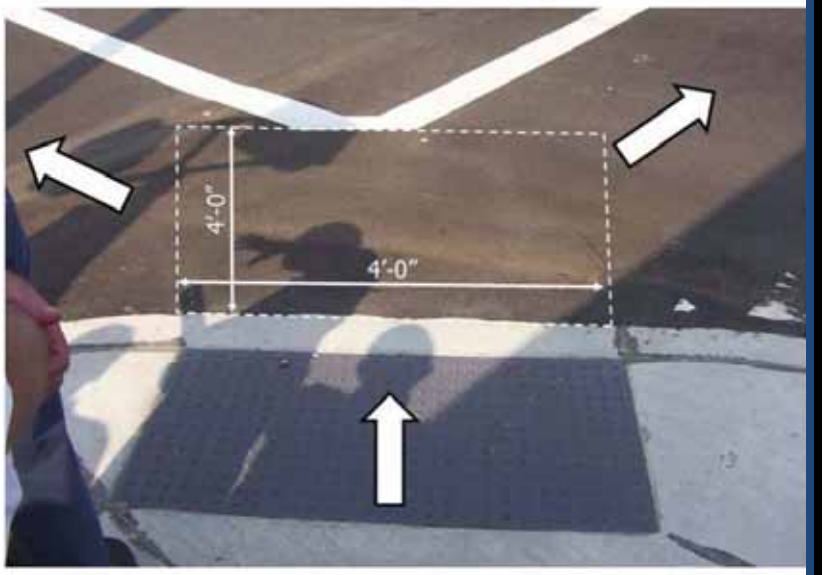
New Jersey Division

Diagonal (single) Curb Ramp

ADA Compliance Training

U.S. Department of Transportation Federal Highway Administration

- Diagonal ramp is a single ramp (usually perpendicular) located at the apex of the corner
- Should be avoided in new construction
- Maybe OK for alterations:
  - Utility barriers
  - Non signalized intersections
  - Low traffic volume residential



Median Openings

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

NJDOT Pedestrian Compatible Planning and Design Guidelines state if a street is wider than 60 feet than a pedestrian refuge should be provided so that people can find openings in traffic from only one direction, and have a place to wait for an opening in the other direction.

MUTCD requires a walking speed of 3.5 ft./sec

Driveway Details

ADA
Compliance
Training

U.S. Department of Transportation
Federal Highway Administration

New Jersey Division

Designing Pedestrian Facilities for Accessibility

Example #1

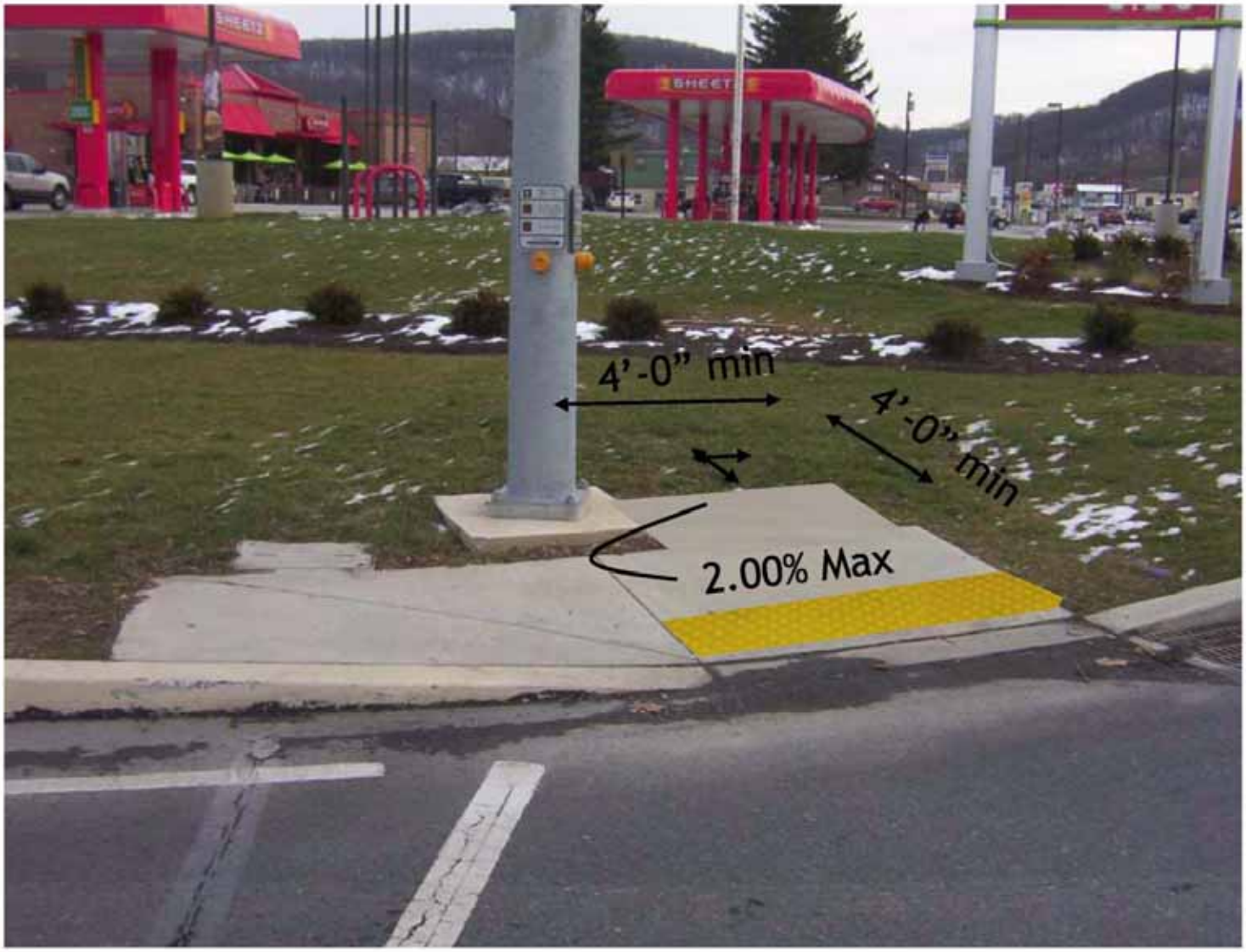
ADA
Compliance
Training

U.S. Department of Transportation
Federal Highway Administration

New Jersey Division

Example #1

ADA Compliance Training



New Jersey Division

Designing Pedestrian Facilities for Accessibility

Example #2

ADA
Compliance
Training

U.S. Department of Transportation
Federal Highway Administration

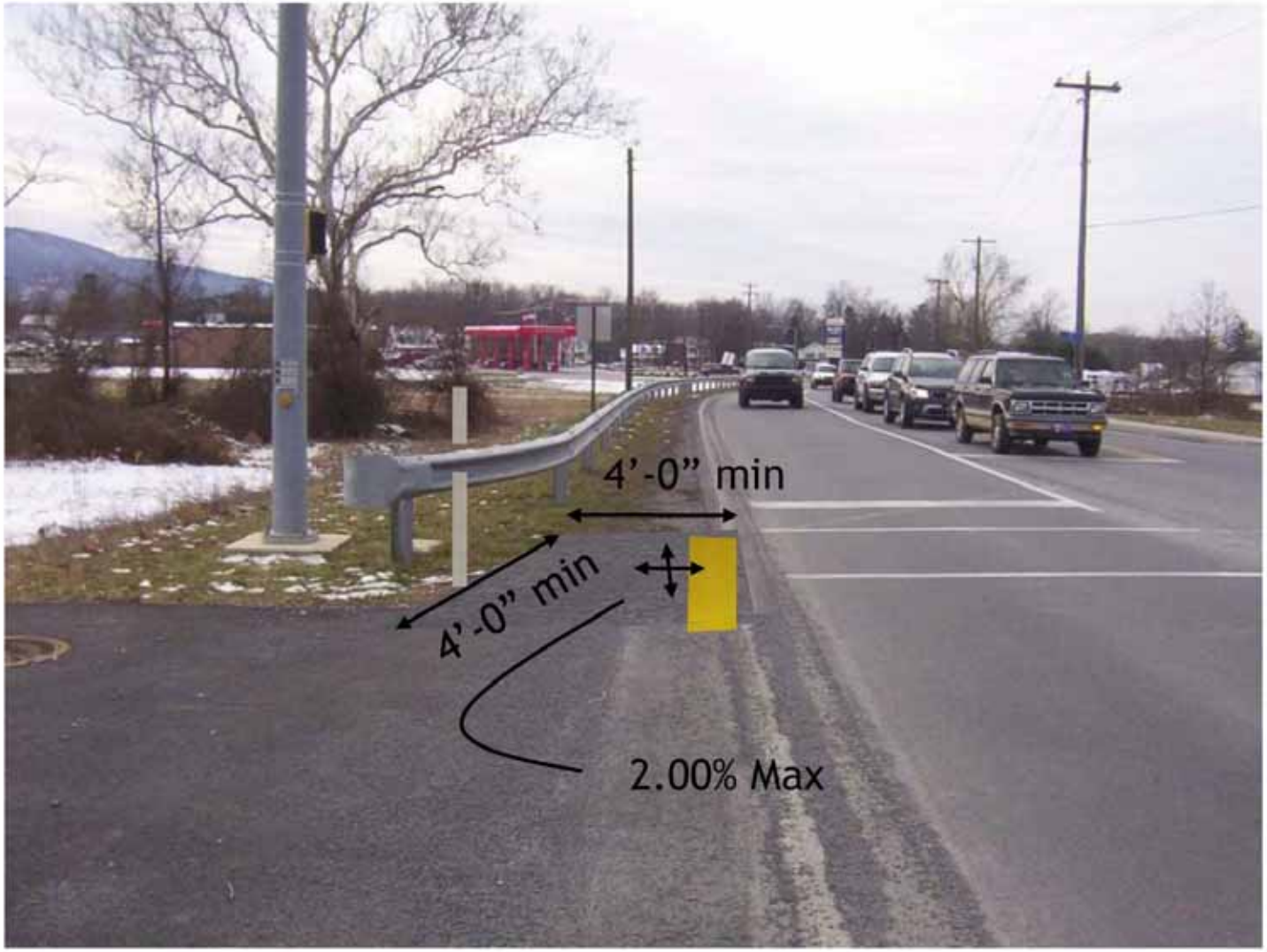
New Jersey Division

Designing Pedestrian Facilities for Accessibility

Example #2

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration



New Jersey Division

Example #3

ADA
Compliance
Training

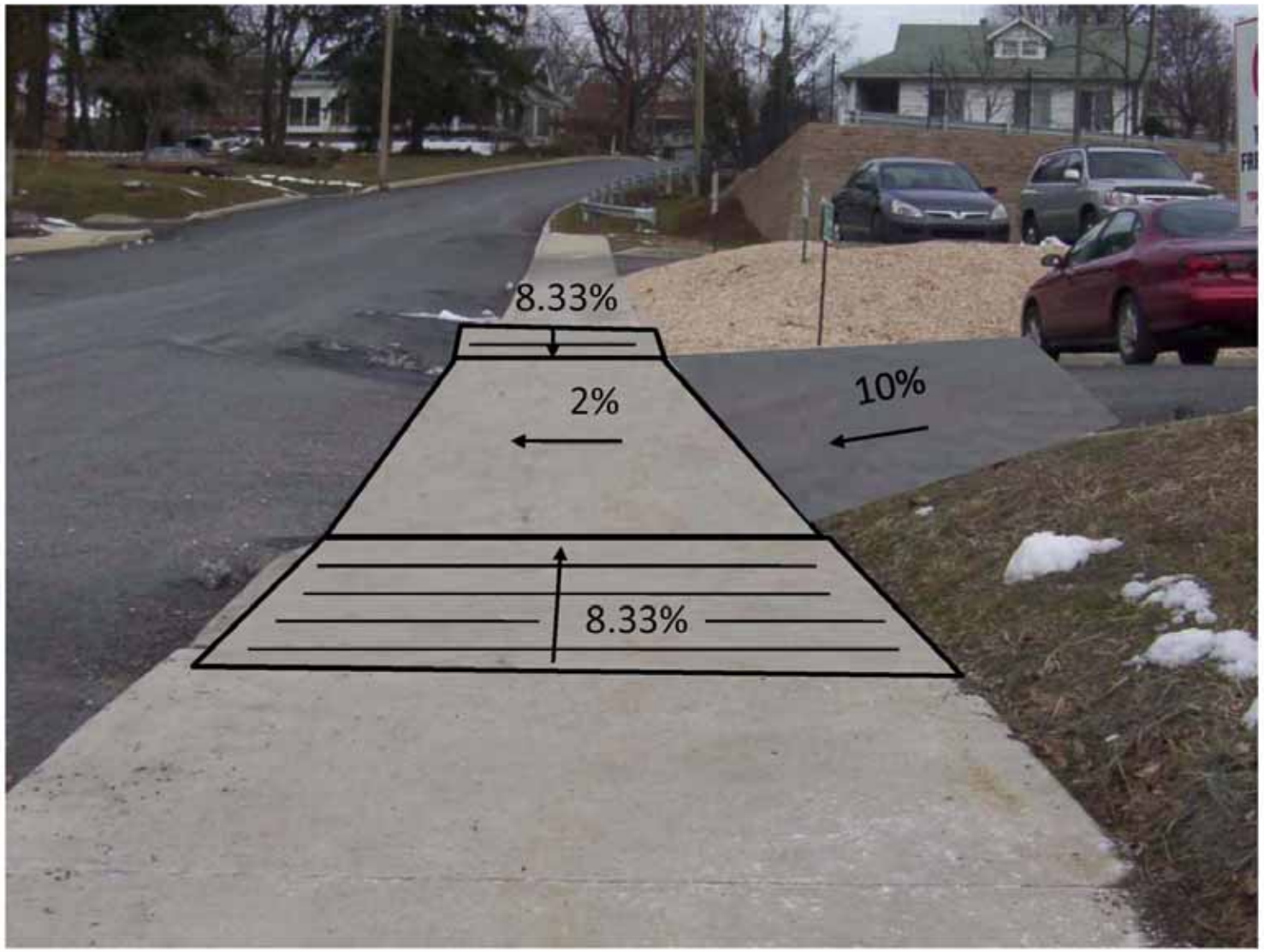
U.S. Department of Transportation
Federal Highway Administration

New Jersey Division

Example #3

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration



New Jersey Division

Example #4

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

New Jersey Division

Example #4

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

New Jersey Division

Designing Pedestrian Facilities for Accessibility

Example #5

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

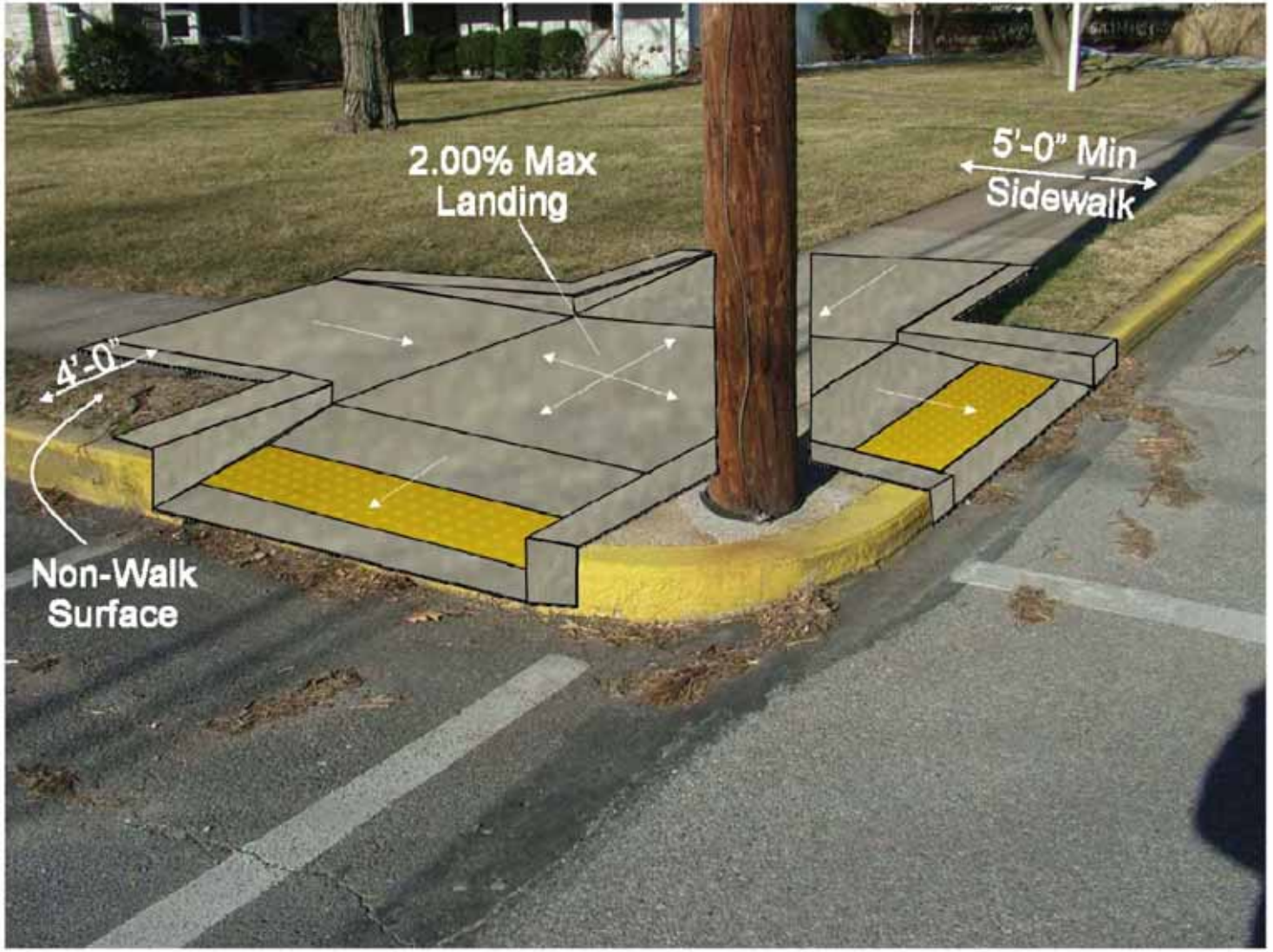
New Jersey Division

Designing Pedestrian Facilities for Accessibility

Example #5

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration



New Jersey Division

Designing Pedestrian Facilities for Accessibility

Example #6

ADA Compliance Training

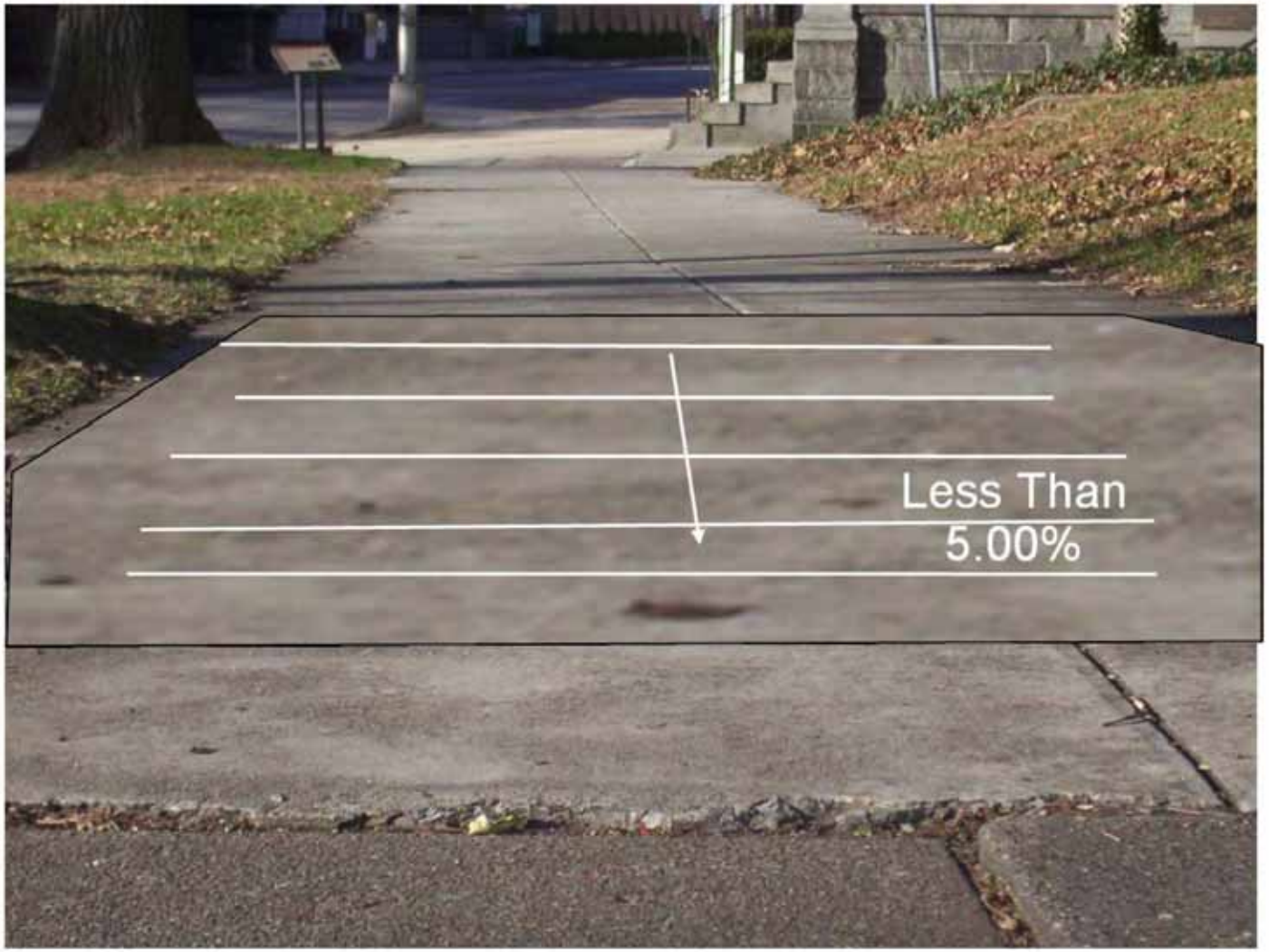
U.S. Department of Transportation
Federal Highway Administration

New Jersey Division

Example #6

ADA Compliance Training

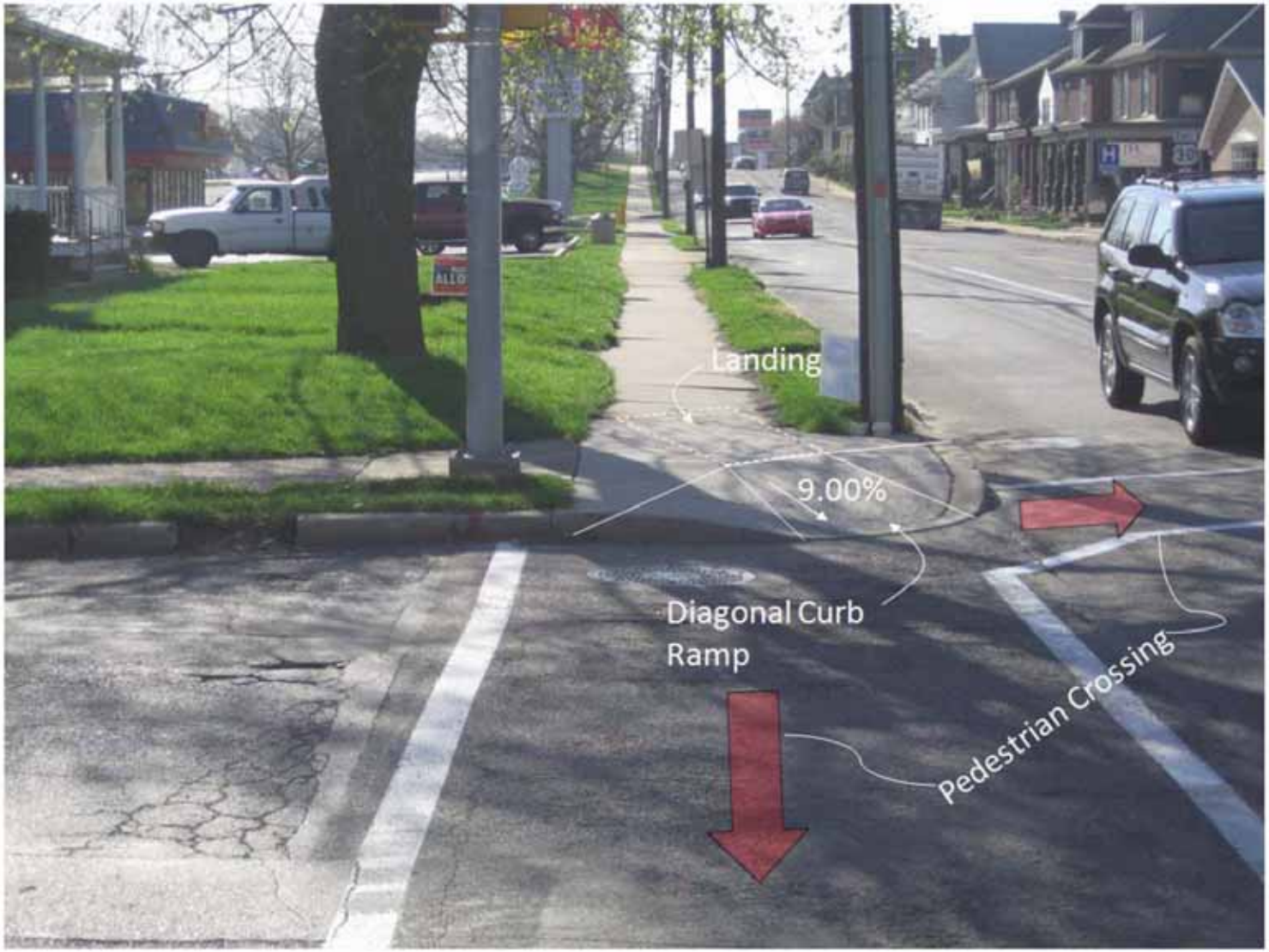
U.S. Department of Transportation
Federal Highway Administration



New Jersey Division

Example #7

ADA Compliance Training

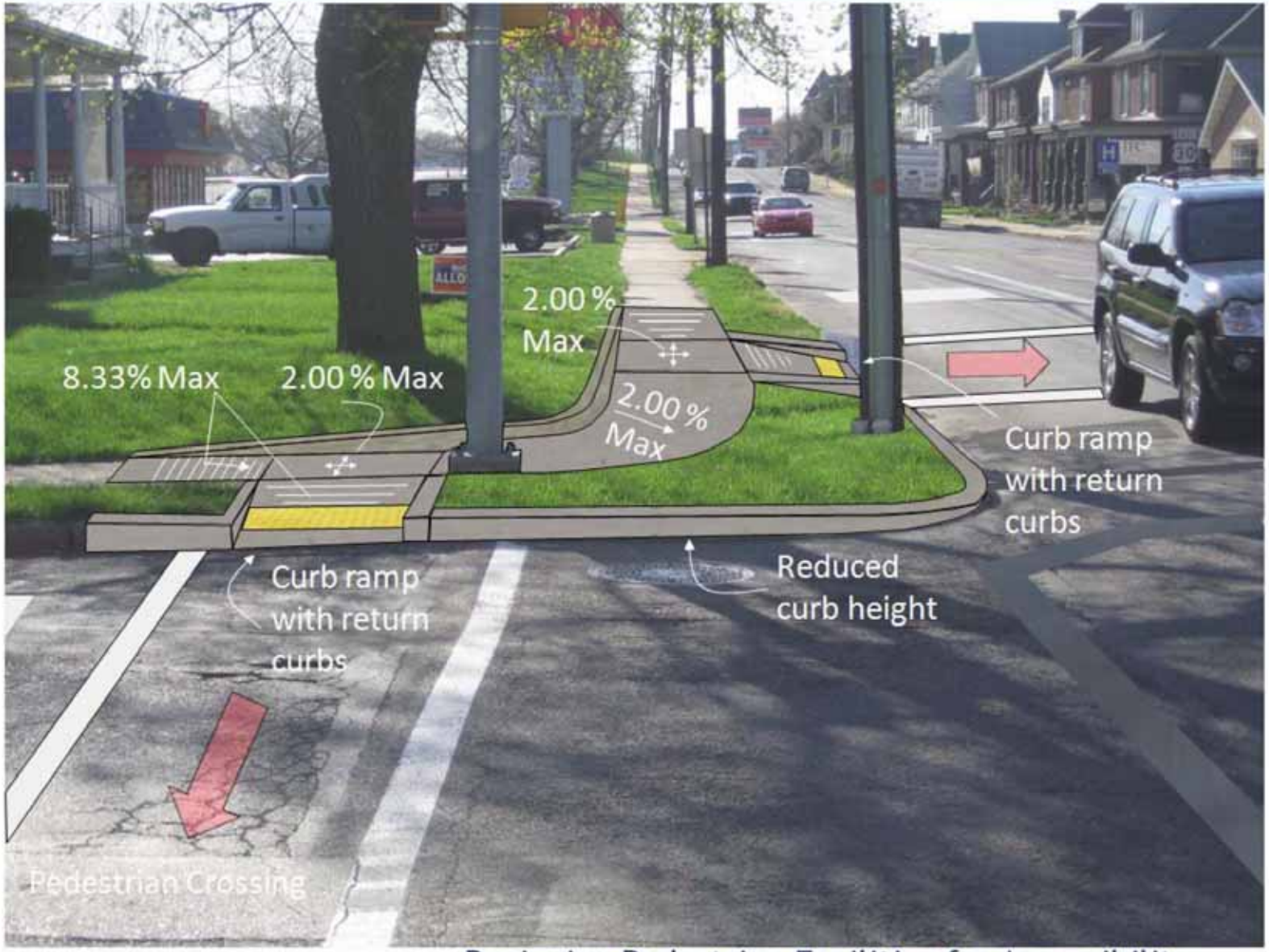


New Jersey Division

Designing Pedestrian Facilities for Accessibility

Example #7

ADA Compliance Training



Example #7

ADA Compliance Training

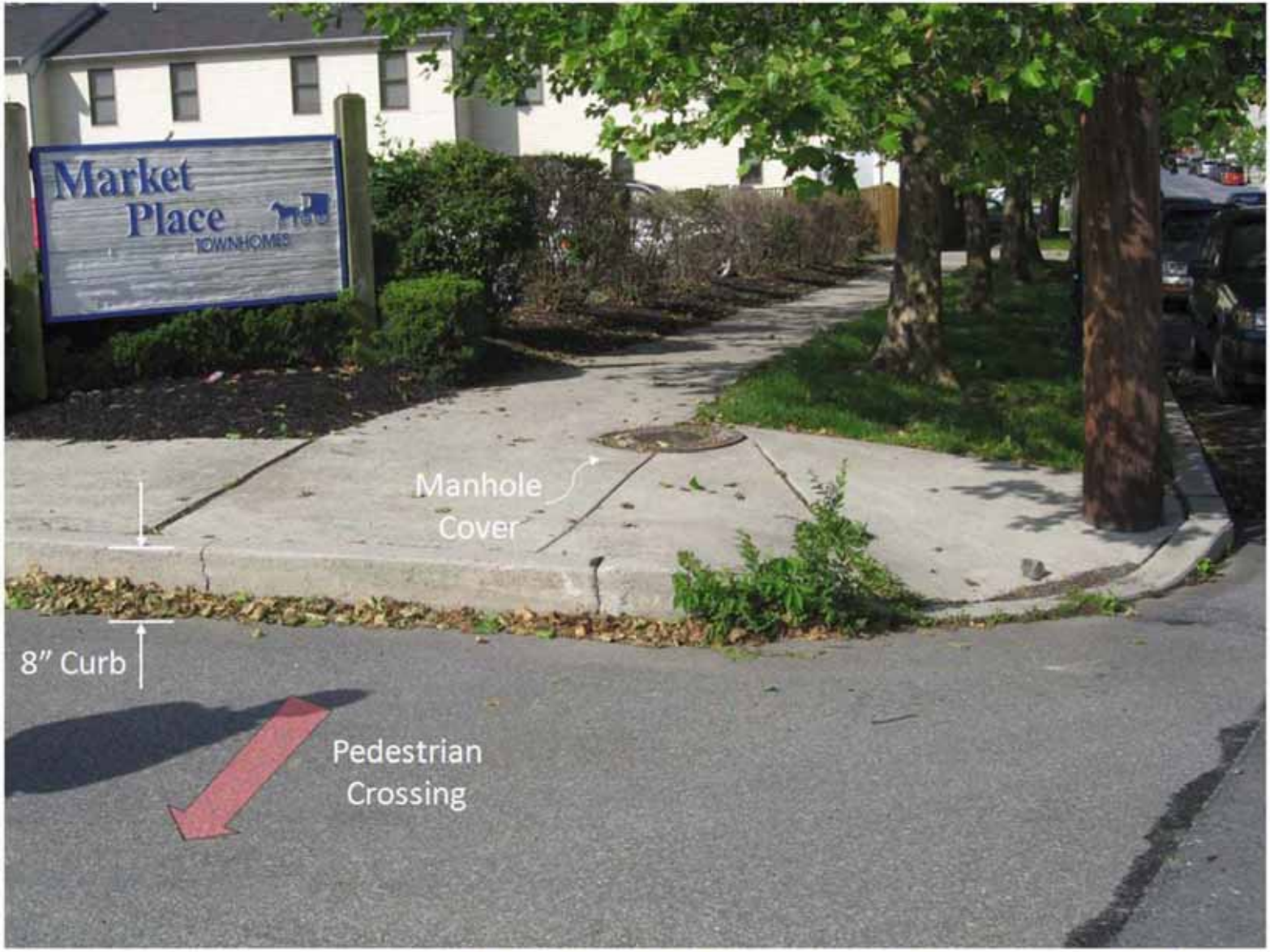
U.S. Department of Transportation
Federal Highway Administration

New Jersey Division

Designing Pedestrian Facilities for Accessibility

Example #8

ADA Compliance Training



New Jersey Division

Example #8

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration

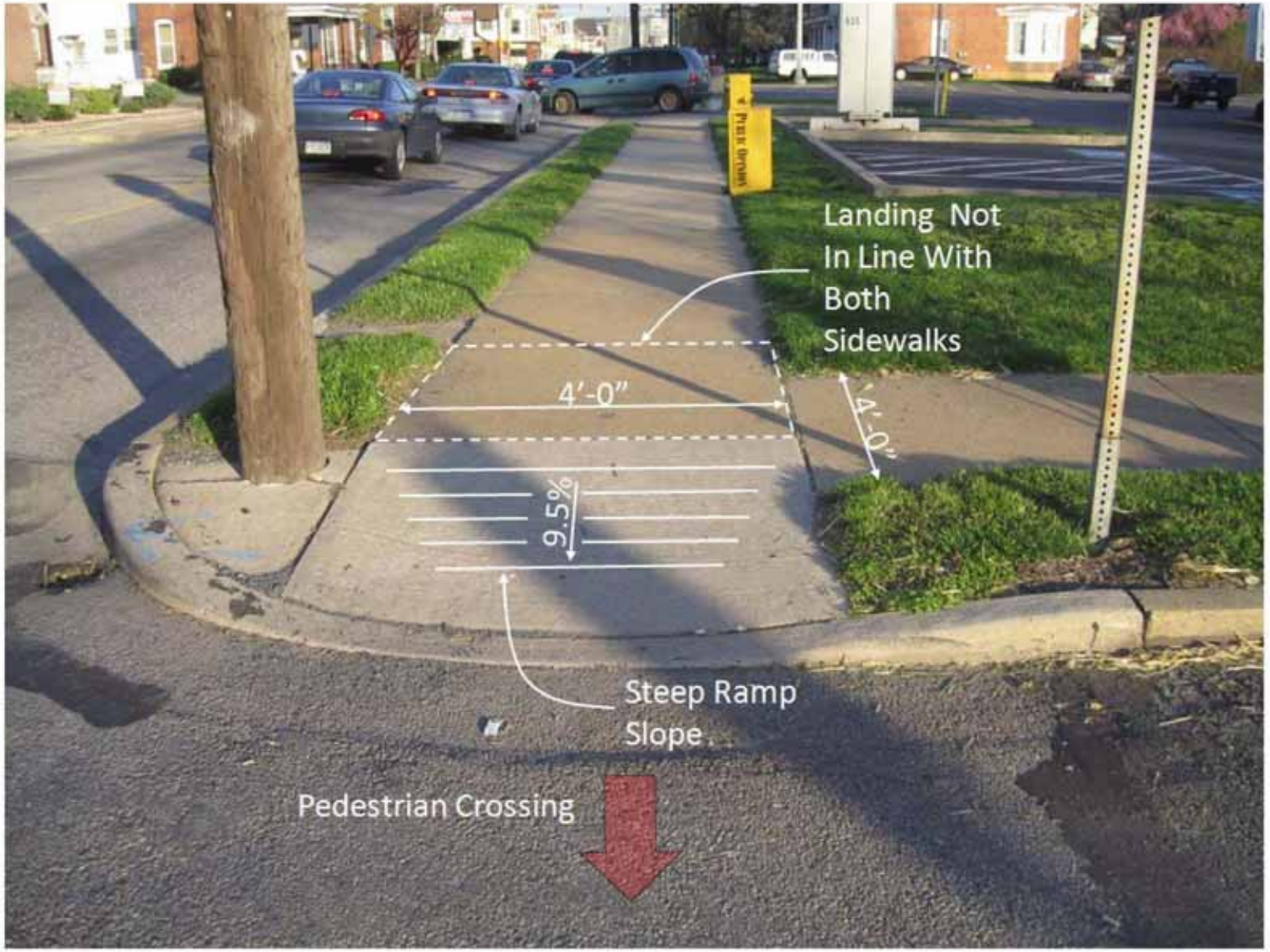
New Jersey Division

Designing Pedestrian Facilities for Accessibility

Example #9

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration



New Jersey Division

Designing Pedestrian Facilities for Accessibility

Example #9

ADA Compliance Training

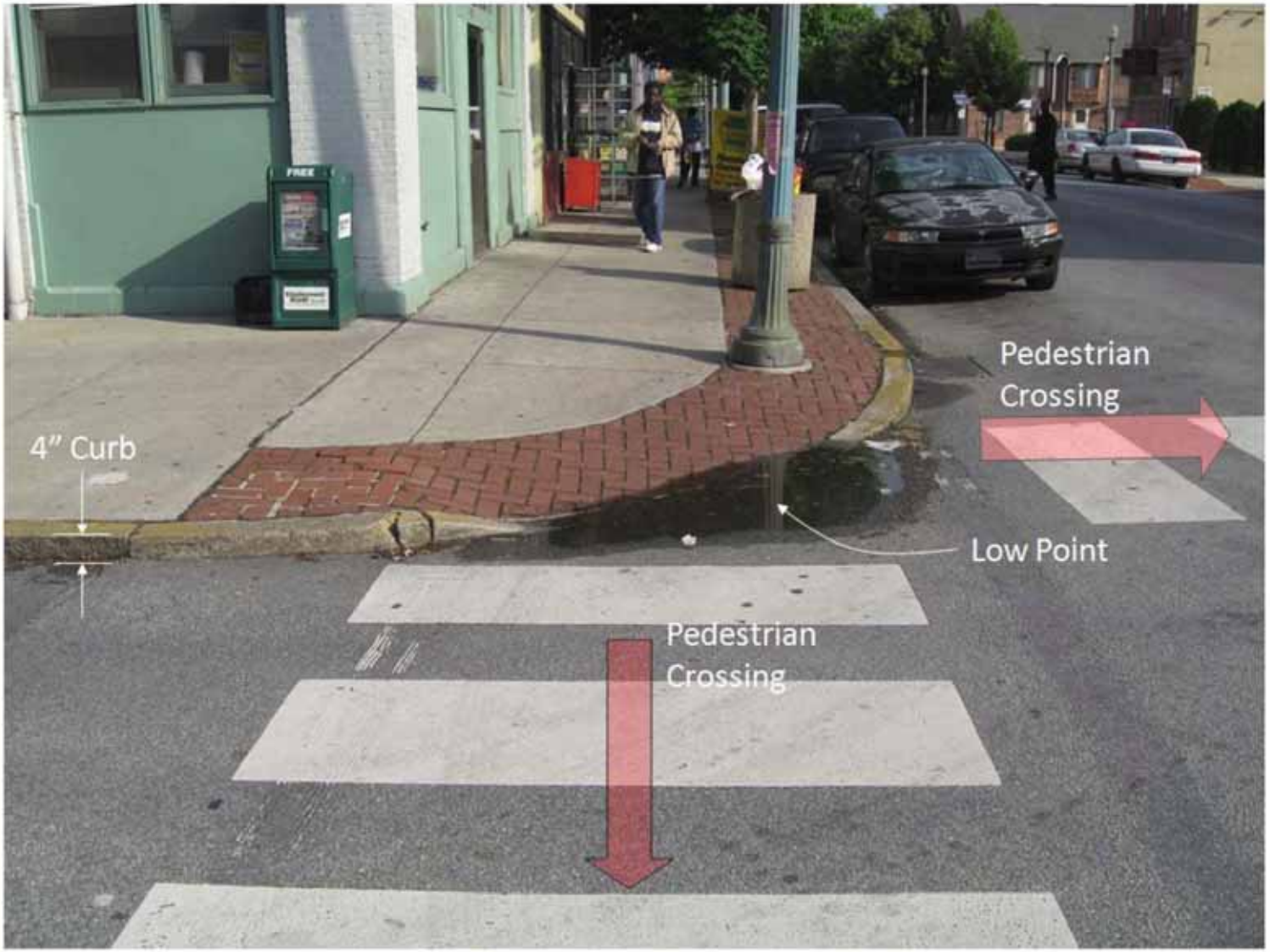
U.S. Department of Transportation
Federal Highway Administration

New Jersey Division

Example #10

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration



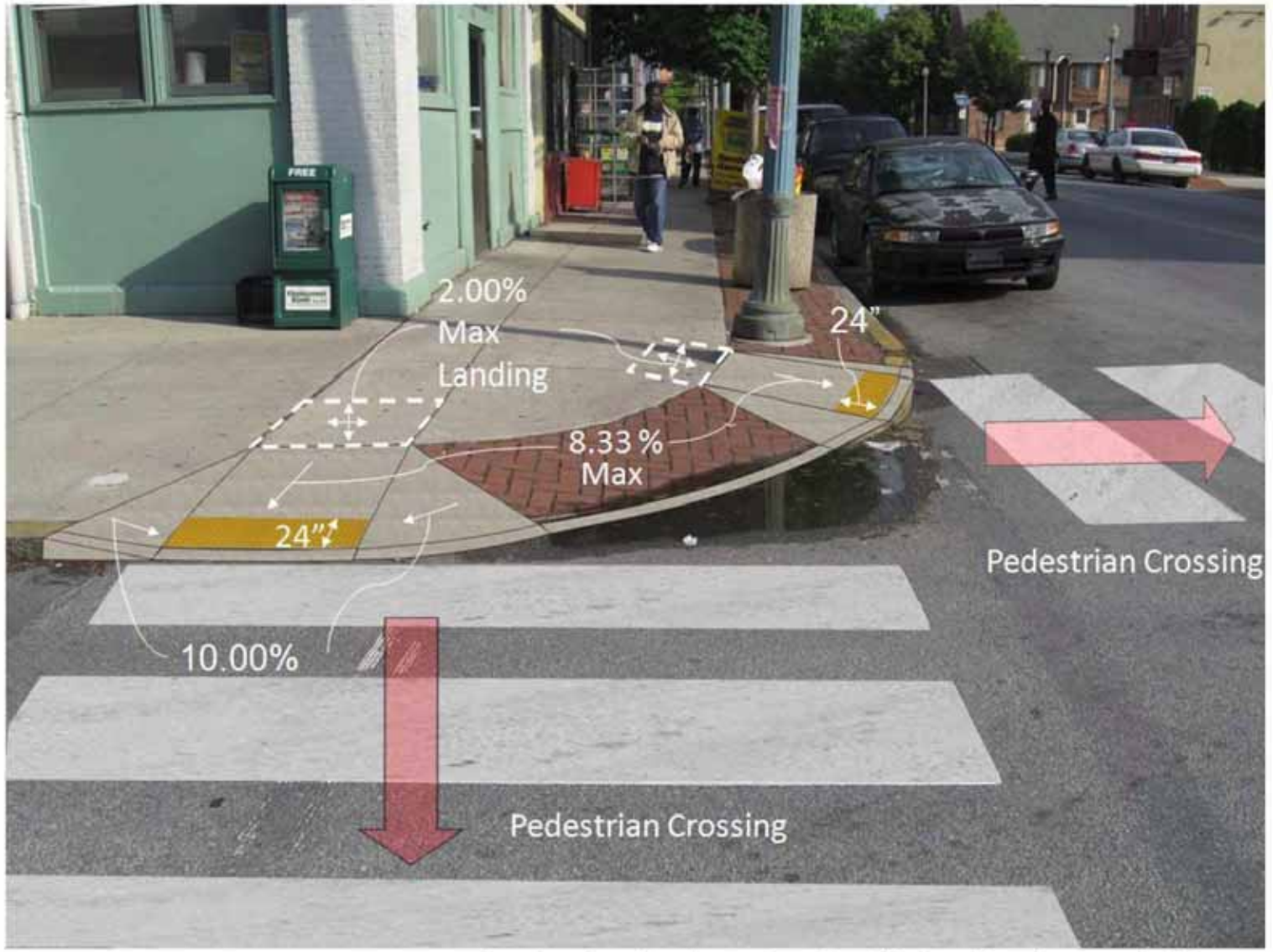
New Jersey Division

Designing Pedestrian Facilities for Accessibility

Example #10

ADA Compliance Training

U.S. Department of Transportation
Federal Highway Administration



New Jersey Division

Designing Pedestrian Facilities for Accessibility

ADA Links

ADA Compliance Training

United States Access Board - Sidewalk Videos
http://www.access-board.gov/news/sidewalk-videos.htm

ADA Accessibility Guidelines for Buildings and Facilities (ADAAG)
http://www.access-board.gov/adaag/html/adaag.htm

DOJ's 2010 ADA Standards (effective March 15, 2012, but can be used now instead of the 1991 standards)
http://www.access-board.gov/ada-aba/ada-standards-doj.cfm

Public Rights-of-Way (PROW) Draft Guidelines
http://www.access-board.gov/prowac/draft.htm

Special Report: Accessible Public Rights-of-Way Planning and Design for Alterations
http://www.access-board.gov/prowac/alterations/guide.htm

Federal Highway Administration (FHWA)
Designing Sidewalks and Trails for Access (Chapter 7 curb ramps)
http://www.fhwa.dot.gov/environment/sidewalk2/index.htm

Common Problems Arising in the Installation of Accessible Pedestrian Signals
http://www.access-board.gov/research/pedestrian-signals/bulletin.htm

FHWA Accessibility Resource Library
http://www.fhwa.dot.gov/accessibility/index.cfm

Information for this course was obtained from the following websites:

1. United States Access Board: http://www.access-board.gov/prowac/index.htm
2. New Jersey Department of Transportation: http://www.state.nj.us/transportation/business/localaid/documents/LPADPFAADA-kps.pdf
3. Federal Highway Administration: http://www.fhwa.dot.gov/accessibity/

The full text of PROWAG may be obtained from the following website: http://www.access-board.gov/prowac/nprm.htm