KITTELSON & ASSOCIATES

The New Finalized Public Rights of Way Accessibility Guidelines (PROWAG):
How Does This Affect Our Design and Implementation

Source: Lee Rodegerdts

Lee Rodegerdts and Fred Wismer

NWPMA Conference, Portland, Oregon

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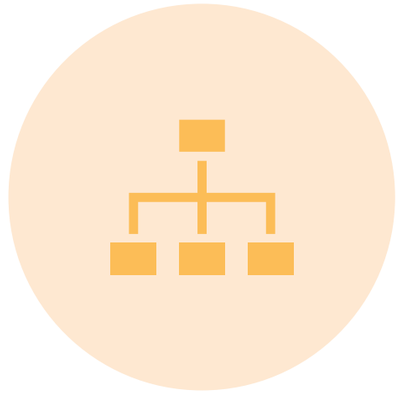
Today's Discussion

HOW DID WE GET HERE?

WHAT'S IN THE FINAL PROWAG?



WHAT DOES IT MEAN?

How Did We Get Here?

How Did We Get Here?

1990 Americans with Disabilities Act (ADA) signed into law (July 26)

1999 Public Rights-of-Way Accessibility Advisory Committee (PROWAAC) convened (October 20)

2001 PROWAAC submits final report to U.S. Access Board (January 10)

2002 Draft guidelines released for public comment (June 17)

2005 Revised draft guidelines released for gathering info for cost analysis (November 23)

2011 Proposed Rule on Shared Use Path Accessibility Guidelines (December 5)

2011 Reopened Proposed Rule for public comment (March 28)

2013 Proposed PROWAG Rule released; Supplemental Notice for Shared-Use Paths released for public comment (February 13)

2023 Final Rule on PROWAG Published (August 8)

What's in the Final PROWAG?

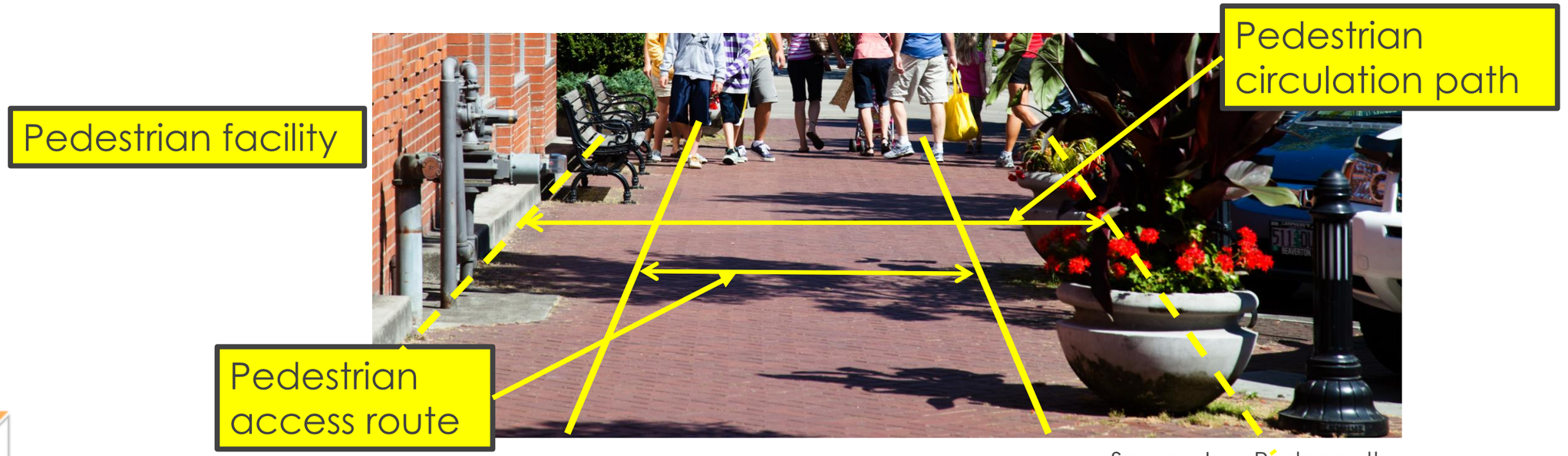
What's in the Final PROWAG?

- Pedestrian Access Routes
- Alternate Pedestrian Access Routes
- Accessible Pedestrian Signals
- Crosswalks
- Transit Stops
- On-Street Parking

- Presentation does not cover all provisions – just some of the key ones

Definitions

- Pedestrian facility: A structure, route, or space for pedestrian circulation or use located in the public right-of-way
- Pedestrian circulation path. A prepared exterior or interior surface provided for pedestrian use in the public right-of-way
- Pedestrian access route: An accessible, continuous, and unobstructed path of travel for use by pedestrians with disabilities within a pedestrian circulation path



Source: Lee Rodegerdts

New vs Altered Pedestrian Facilities

- New pedestrian facilities must be compliant with PROWAG
- Altered pedestrian facilities must be compliant with PROWAG to the maximum extent feasible
- Existing pedestrian facilities are not required to meet PROWAG unless the facility is altered at the discretion of the covered entity (R101.4)

What Constitutes an Alteration?

1. Any portion of a pedestrian facility that is altered must be altered to comply with PROWAG, regardless of intended scope of alteration
2. Facilities and portions of facilities that are added to an existing public right-of-way are considered "alterations" rather than being "new"
   - » Allows compliance to "maximum extent feasible" rather than requiring full compliance as a new facility
3. Altered facilities must be connected to an existing pedestrian circulation path by a pedestrian access route

What Constitutes an Alteration? (cont.)

- PROWAG is silent on specific triggers that define an alteration
- Commentary (not part of PROWAG):
  - Does the change to the facility substantially change the pedestrian experience? If so, recommend upgrading pedestrian facilities to PROWAG specifications
  - Possible examples:
    - *Crossing closed*
    - *Leading pedestrian intervals implemented*
    - *Push buttons moved*
    - *Direction of vehicular conflicts changes (e.g., one-way to two-way conversions)*
    - *Separated bicycle facilities added*

Pedestrian Access Routes: Clear Width

- Continuous clear width shall be 48 inches minimum, exclusive of width of curb (R302.2)
- Within medians and pedestrian refuge islands (R302.2.1):
  - Continuous clear width shall be 60 inches minimum, exclusive of width of curb (R302.2.1)
- Shared-use path
  - Clear width shall be full width of path provided for pedestrian circulation. Obstructions (e.g., bollards) cannot reduce width below 48 inches.
- Passing spaces
  - Where clear width less than 60 inches, 60-in x 60-in passing spaces shall be provided at intervals of 200 feet maximum

Pedestrian Access Routes: Grades

- Measured in direction of pedestrian travel
- Within highway ROW (R302.4.1):
  - 1:20 (5.0% maximum)
  - When street grade exceeds 1:20 (5%), may match but not exceed adjacent street grade
- Not within highway ROW (R302.4.2)
  - 1:20 (5.0% maximum)
- Within crosswalk (R302.4.3):
  - 1:20 (5.0% maximum)
  - May match but not exceed adjacent street grade
  - May match superelevation if it exceeds 5.0%

Pedestrian Access Routes: Other Provisions

- Grade breaks shall be flush (R302.6.1)
- Changes in level
  - Up to ¼ inch: can be vertical
  - ¼ to ½ inch: 1:2 bevel required
  - ½ to 6 inches: 1:12 (8.3%) maximum slope
  - More than 6 inches: Design as ramp per R407
- Horizontal openings (e.g., gratings, joints):
  - Cannot pass sphere greater than ½ inch in diameter
- At-grade rail crossings:
  - PAR shall be flush with top of rail
  - Flangeway gaps: 3 inches maximum for crossings subject to FRA Safety Regulations (49 CFR part 213); 2 ½ inches max otherwise

Pedestrian Access Routes: Cross Slopes

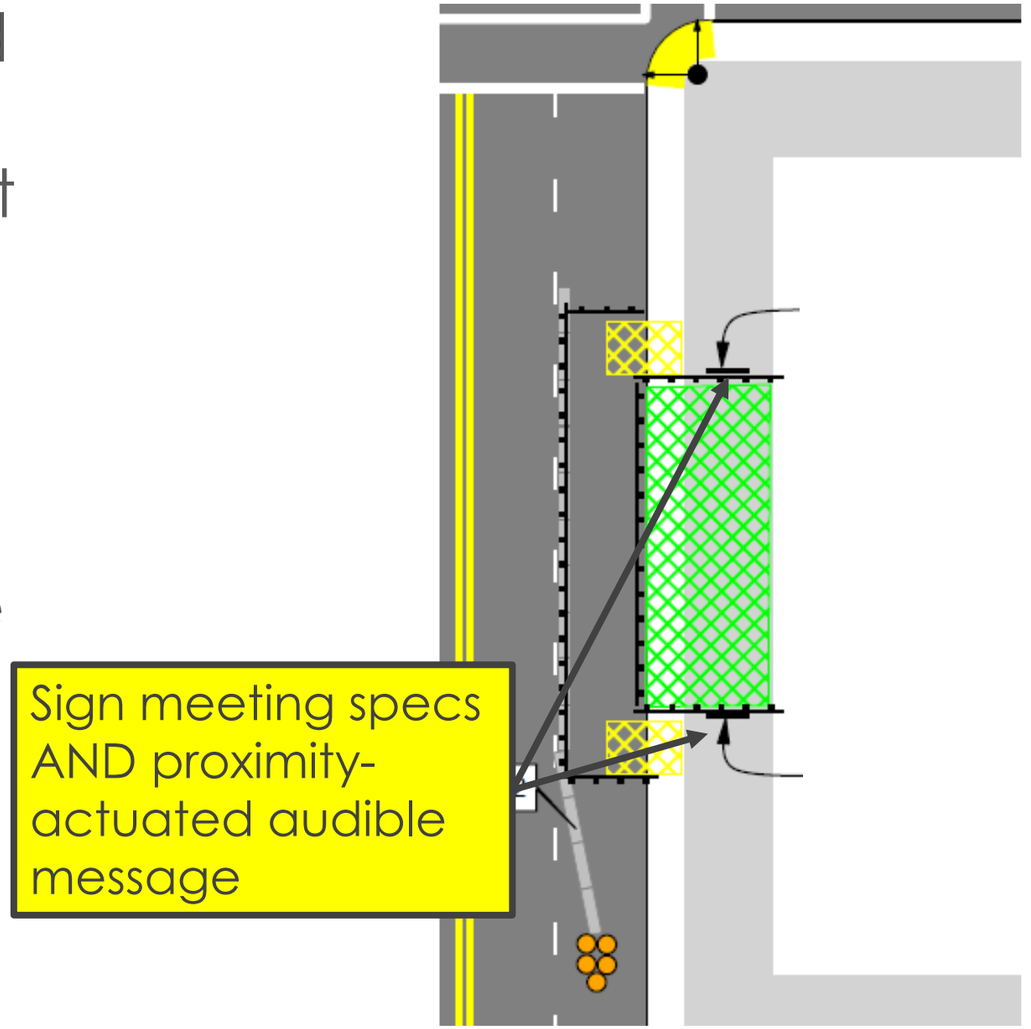
- Measured perpendicular to pedestrian travel
- Outside crossings (R302.5.1):
  - 1:48 (2.1%) maximum
- Within crossings (R302.5.2):
  - STOP- and YIELD-controlled: 1:48 (2.1%) maximum
  - Uncontrolled: 1:20 (5.0%) maximum
  - Signalized or PHB: 1:20 (5.0%) maximum
  - Midblock and crossings at roundabouts: May match but not exceed street grade

REVISED

Photo: Lee Rodegerdts

Alternate Pedestrian Access Routes (PAR)

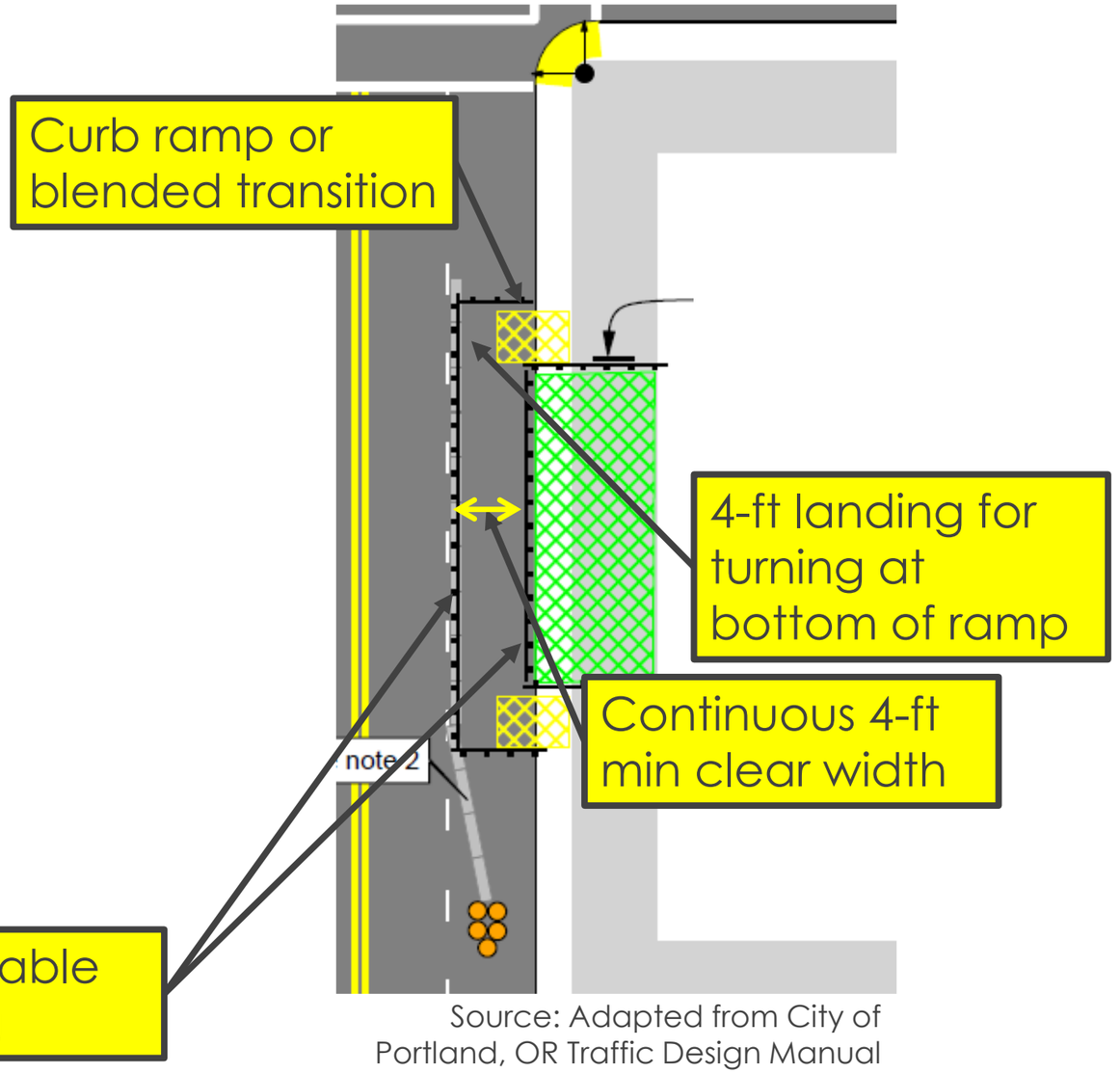
- Accessible PAR must be maintained during construction (R303)
- Signs identifying alternate PARs must comply with specifications regarding color, lettering, etc. for readability by people with limited vision (R303.2)
- Proximity actuated audible signs or other non-visual means shall also be provided (R303.2)
  - Devices that communicate the alternate route verbally when a pedestrian is detected in close proximity



Source: Adapted from City of Portland, OR Traffic Design Manual

Alternate Pedestrian Access Routes (PAR) (cont.)

- Continuous clear width shall be 48 inches minimum exclusive of width of curb (R303.4)
- Where alternate PARs cross a curb, a curb ramp or blended transition shall be provided (R303.5)
- When channelizing device is used, continuous detectable edging shall be provided except where pedestrians or vehicles turn or cross (R303.6)
- Temporary pedestrian signal heads that are part of alternate PAR shall be APS (R303.7)



Source: Adapted from City of Portland, OR Traffic Design Manual

Crosswalks at All Intersections

- Curb ramps or blended transition required for **each** pedestrian crossing (R304)
- Detectable Warning Surfaces (DWS) required (R305)
- Exception:
  - In alterations, where existing physical constraints make compliance with R203.6.1.1 technically infeasible, a single curb ramp complying with R304 shall be permitted at the apex of the intersection corner.

Photo: Lee Rodegerdts

Ramp Clear Areas and Landings

- Clear areas intended to allow wheelchair to bypass ramp
- Landings intended to allow wheelchair to turn without tipping over
  - Located at top of perpendicular ramps
  - Located at bottom of parallel ramps

Non-Compliant Perpendicular Ramp

Photo: Lee Rodegerdts

Ramp Clear Areas and Landings (cont.)

- Dimensions:
  - Shall be minimum of 48 inches wide by 48 inches long (R304.3.4)
  - Cross slope: 1:48 (2.1%) maximum perpendicular to direction of pedestrian travel (R304.3.4)

Ramp Widths

- Width of curb ramp (excluding flared sides) and blended transitions
  - Non-Shared-Use Paths: 48 inches minimum (R304.5.1.2)
  - Shared-Use Paths: Equal to the width of the shared-use path (R304.5.1.2)
- Commentary:
  - If a pedestrian crossing at a roundabout is intended for shared use by both pedestrians and bicyclists, the width of the ramp excluding the flares must match the width of the path (e.g., 10 feet).

Crosswalks: All Intersections

NEW!

- Where pedestrian crossing not intended or prohibited (e.g., closed leg of intersection, or between crossings at roundabout):
  - Either by landscaping or other nonprepared surface 24 inches width min (R306.4.1.1); or REVISED
  - By a vertical edge treatment with a bottom edge no higher than 15 inches above pedestrian circulation path (R306.4.1.2) REVISED

Photo: Lee Rodegerdts

Photo: Lee Rodegerdts

Crosswalks: All Intersections (cont.)

- Comments:
  - Expansion to all intersections is new
  - Signs that close crossing are not sufficient by themselves
  - "Nonprepared surface" is undefined
  - Previously had specified fencing rather than a vertical dimension

Photos: Fred Wismer

Multilane Roundabout Crossings and Multilane Channelized Turn Lanes

- Each multilane segment with a crossing shall have one or more of the following treatments:
  - Traffic control signal with pedestrian signal head
  - Pedestrian hybrid beacon (PHB) NEW!
  - Pedestrian-actuated rectangular rapid flashing beacon (RRFB) NEW!
  - Raised crossing NEW!

Photos: Lee Rodegerdts

Multilane Roundabout Crossings and Multilane Channelized Turn Lanes (cont.)

- Comments:
  - Reflects NCHRP Reports 674 and 834 research
  - Previously had specified traffic control signal only
  - Only applies to the multilane crossings; silent on single-lane crossings

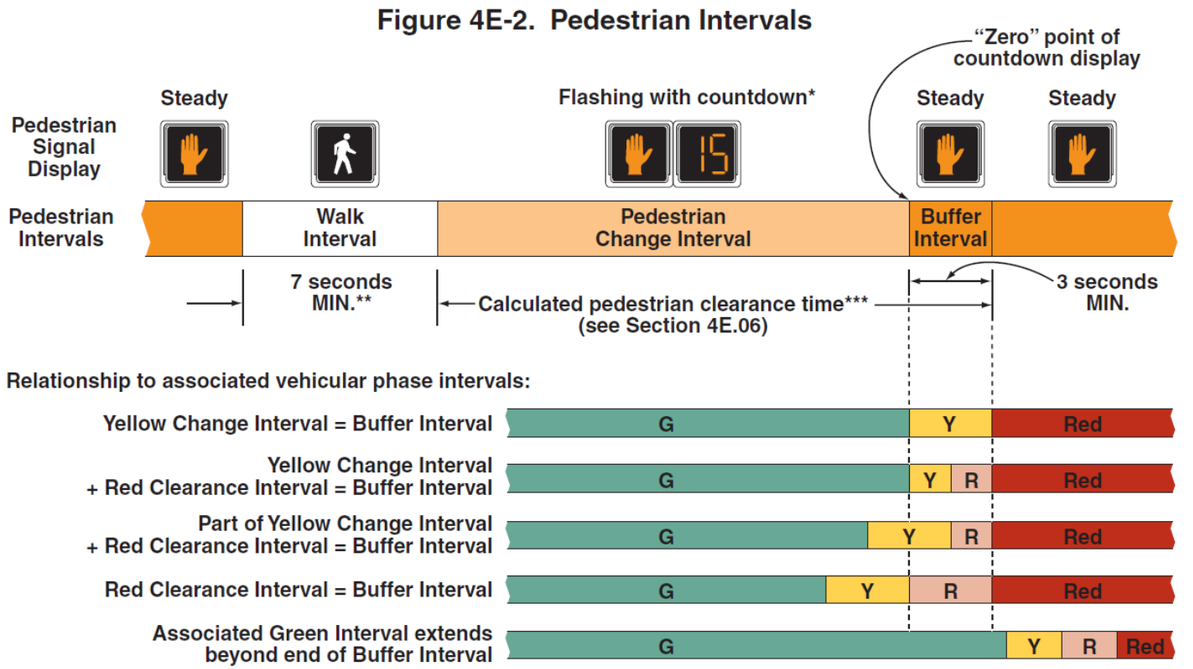
Crosswalks: Pedestrian Signals

- All new and altered pedestrian signal heads must include Accessible Pedestrian Signals (APS) with audible and vibrotactile indications
- Additional pedestrian push button required on pedestrian refuge island if pedestrian clearance interval is timed to the island (R306.2)

Photo: Lee Rodegerdts

Crosswalks: Pedestrian Signal Timing

- Pedestrian clearance time using walking speed of 3.5 ft/s or less (R306.2) unless passive pedestrian detection used to adjust clearance time based on actual clearance of crossing
- Walk interval shall be 7 s minimum (R306.2)



Source: 2009 MUTCD

On-Street Parking

- Accessible parking spaces required where on-street parking is provided and is metered or designated by signs or pavement markings (R211.1)
  - Exception: On-street parking in exclusively residential areas

Table R211: On-Street Parking Spaces

Total number of metered or designated parking spaces	Minimum required number of accessible parking spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 and over	4% of total

On-Street Parking (cont.)

- Requirements apply when on-street parking spaces are altered
- Only applies to the affected parking spaces until the minimum number of accessible spaces are provided
- Commentary:
  - The removal of parking to provide curb extension at an intersection or midblock crossing triggers PROWAG for the on-street parking in the vicinity to achieve the minimum number of accessible spaces
- If individual spaces are not marked, each 20 feet of street is counted as one parking space

Equivalent Facilitation

- Alternative designs, products, or technologies are allowed "that result in substantially equivalent or greater accessibility and usability than the requirements" in PROWAG (R102.1)
- Commentary
  - "Substantially equivalent or greater" suggests a performance metric, but no metric is defined, specified, or provided numerical thresholds in PROWAG
  - Possibilities: NCHRP Research Report 834 provides performance metrics such as crossing risk and pedestrian delay
  - When not defined by regulation, interpretation is up to courts

What Does It Mean for Design and Implementation?

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- Applies to the following in the public right-of-way:
  - All newly constructed pedestrian facilities
  - All altered portions of existing pedestrian facilities
- Does not apply to pedestrian facilities within vaults, tunnels, and other spaces used only by service personnel
- What triggers an "alteration" that requires a facility to be brought up to PROWAG minimum standards? PROWAG is silent
  - DOT/DOJ adoption may or may not clarify some of these items
  - Agencies adopting PROWAG into their standards and guidelines may establish their own thresholds

Construction Tolerances

- Maximum slopes and grades are challenging to build in the field if designed to the allowed limit
- Good practice to design with slopes less than the maximum to allow for field variations

Example: Alterations that Trigger Installation of Accessible Pedestrian Signals (APS)

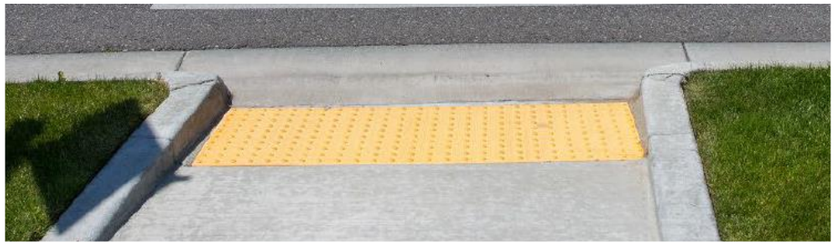
- Proposed rule indicated that alteration of signal controller and software, or replacement of signal head, would trigger APS
- Final rule declined to list specific actions that trigger APS
- Entity making alteration will access, according to requirements in the guidelines as adopted by DOT and DOJ, whether APS is required
- Interpretation: If any part of the pedestrian route or its equipment (e.g., ramps, pedestrian signal heads, push button locations) are being altered, likely need to bring intersection into compliance with PROWAG to the maximum extent feasible

What About the MUTCD?

- MUTCD is not incorporated in PROWAG by reference
- All technical provisions related to MUTCD are included directly in PROWAG
- MUTCD 11th Edition Final Rule still pending
  - Unknown whether FHWA will make changes as part of Final Rule to match PROWAG

Tactile Warning Surface Indicators

- Detectable Warning Surfaces (DWS) (truncated domes)
  - Indicates hazard
  - PROWAG provides standard dimensions
- Tactile Directional Indicators (TDI) (raised bars)
  - Helps locate crossings and aligning to cross
  - PROWAG is silent on TDI
- Tactile Warning Delineators (TWD) (raised trapezoid)
  - Separates bicyclists and pedestrians at same elevation
  - PROWAG is silent on TWD



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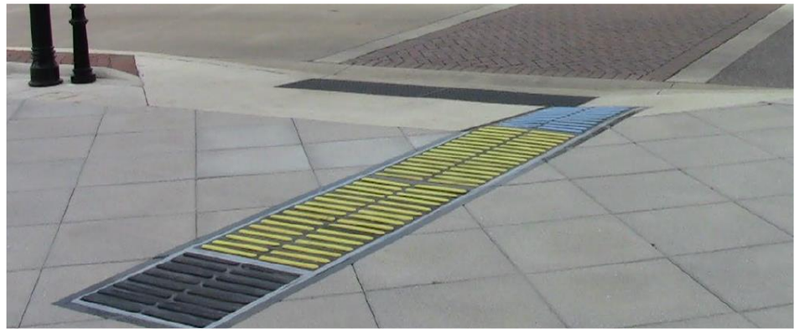
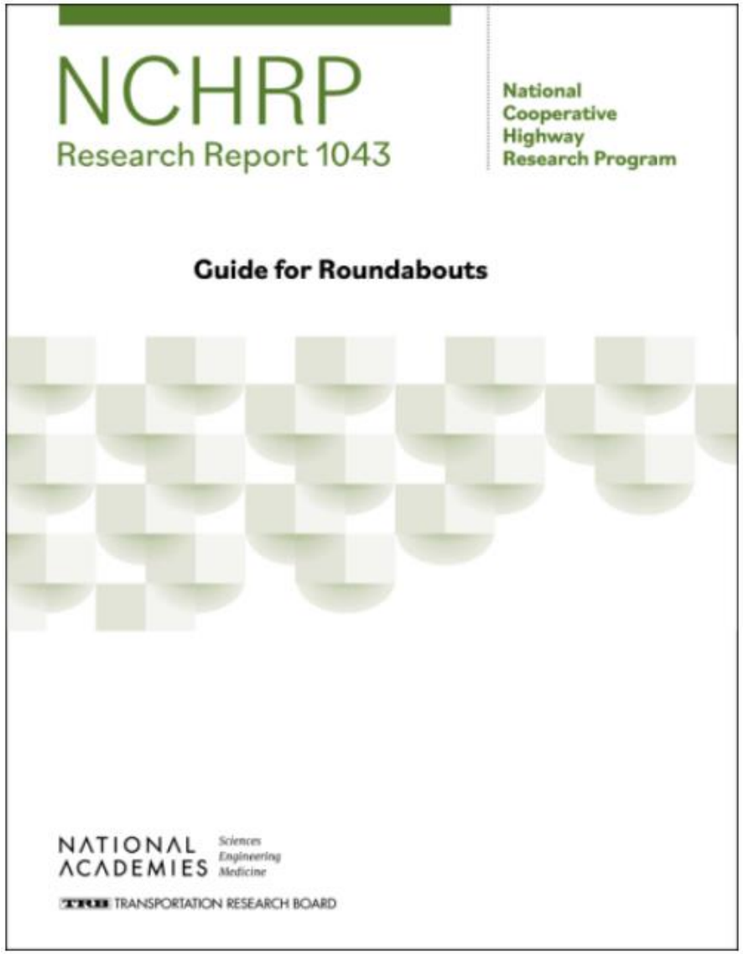


Source: Lee Rodegerdts

Source: Beezy Bentzen

Where to Get Other Guidance?

- Tactile walking surface indicators other than DWS
  - Forthcoming TCRP report on Tactile Wayfinding
- Performance thresholds for selecting crossing treatments at roundabouts and channelized turn lanes
  - NCHRP Research Report 834, Crossing Solutions for Roundabouts and Channelized Turn Lanes for Pedestrians with Vision Disabilities
  - NCHRP Research Report 1043, Guide for Roundabouts



Thank You!

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