

An Overview of the Finalized Public Rights of Way Accessibility Guidelines (PROWAG)

Lee Rodegerdts

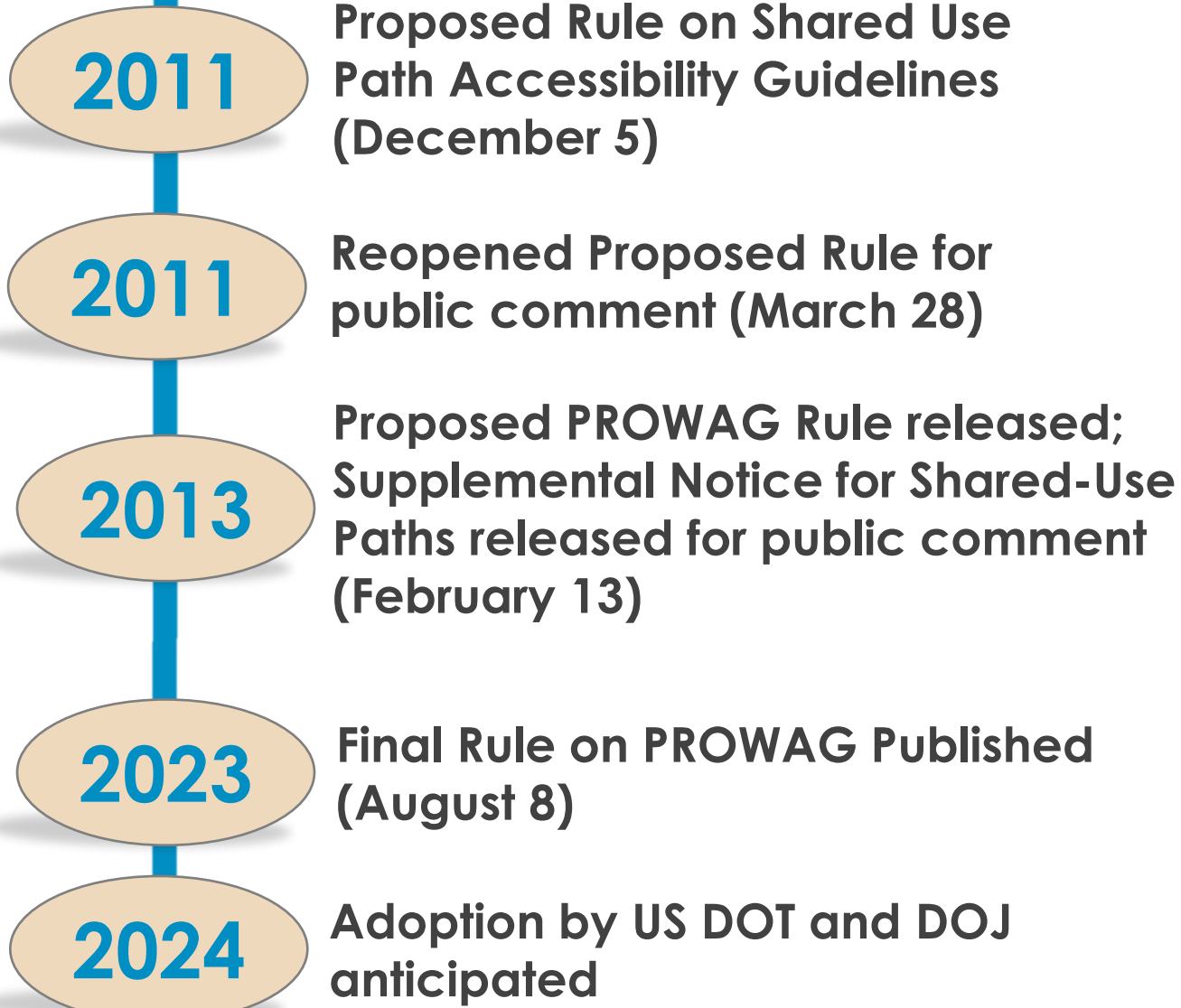
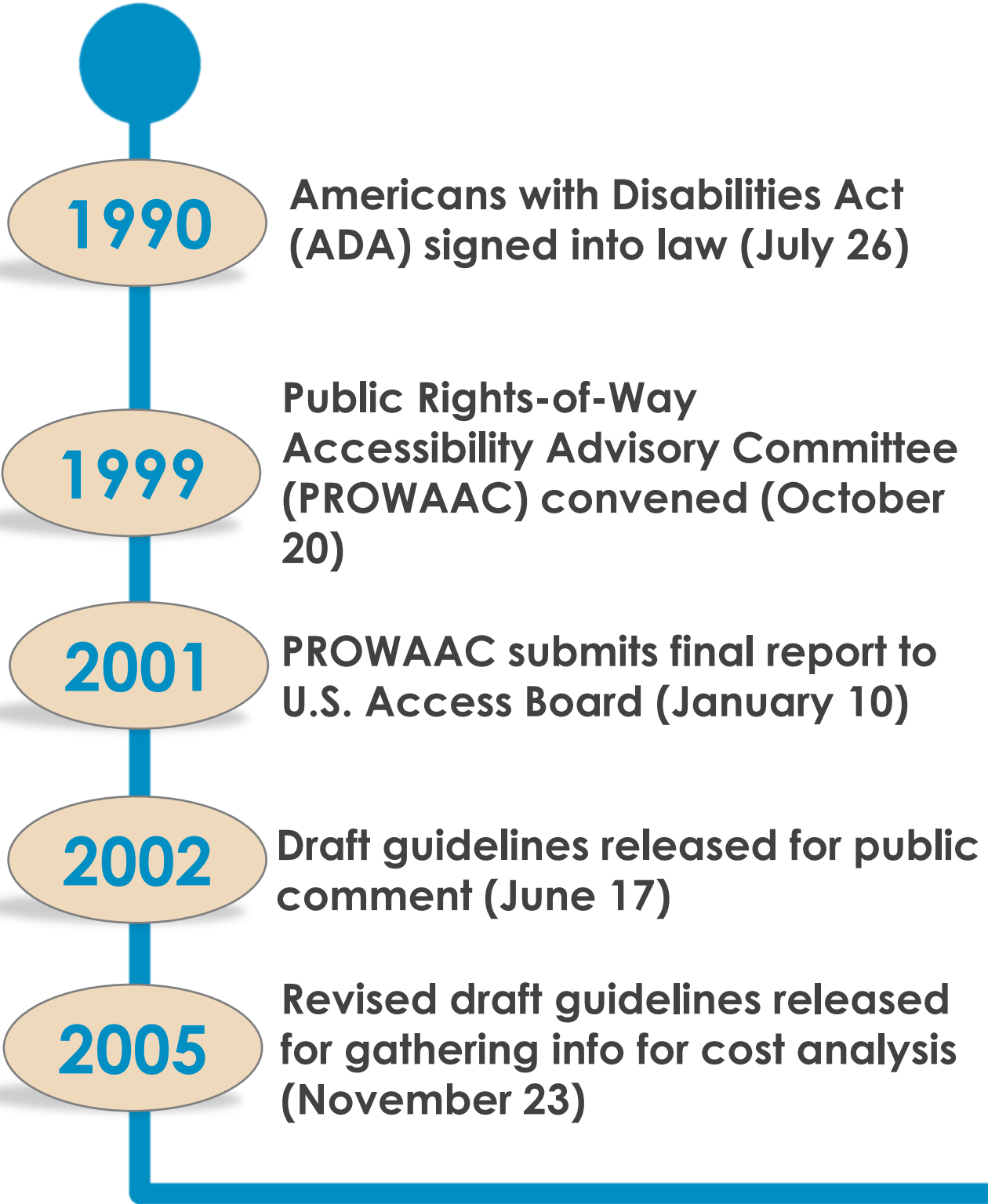
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Source: Lee Rodegerdts

How Did We Get Here?



What's in the Final PROWAG?

- » Pedestrian Access Routes
 - » Alternate Pedestrian Access Routes
 - » Crosswalks
 - » Accessible Pedestrian Signals
 - » Transit Stops
 - » On-Street Parking
- » Presentation does not cover all provisions – just some of the key ones



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)
- » Altered facilities must be connected to an existing pedestrian circulation path by a pedestrian access route
- » Does not apply to pedestrian facilities within vaults, tunnels, and other spaces used only by service personnel



What Does It Mean for Design and Implementation?

- » Applies to the following in the public right-of-way:
 - » All newly constructed pedestrian facilities
 - » All altered portions of existing pedestrian facilities
- » 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



What Constitutes an Alteration? (cont.)

» 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: 60 inches minimum (R302.2.1)
- » For shared-use path: full width of path
 - » 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 and Cross Slopes

- » Grades:
 - » Typically 1:20 (5.0% max) in direction of pedestrian travel
 - » Some allowed exceptions to match but not exceed adjacent street grade
- » Cross slopes outside crossings: 1:48 (2.1%) max (R302.5.1)
- » Cross slopes within crossings (R302.5.2):
 - » STOP-, YIELD-controlled: 1:48 (2.1%) max
 - » Uncontrolled, signalized, PHB: 1:20 (5.0%) max
 - » Midblock, roundabout: May match but not exceed street grade
- » Commentary: Good practice to design with slopes less than the maximum to allow for field variations

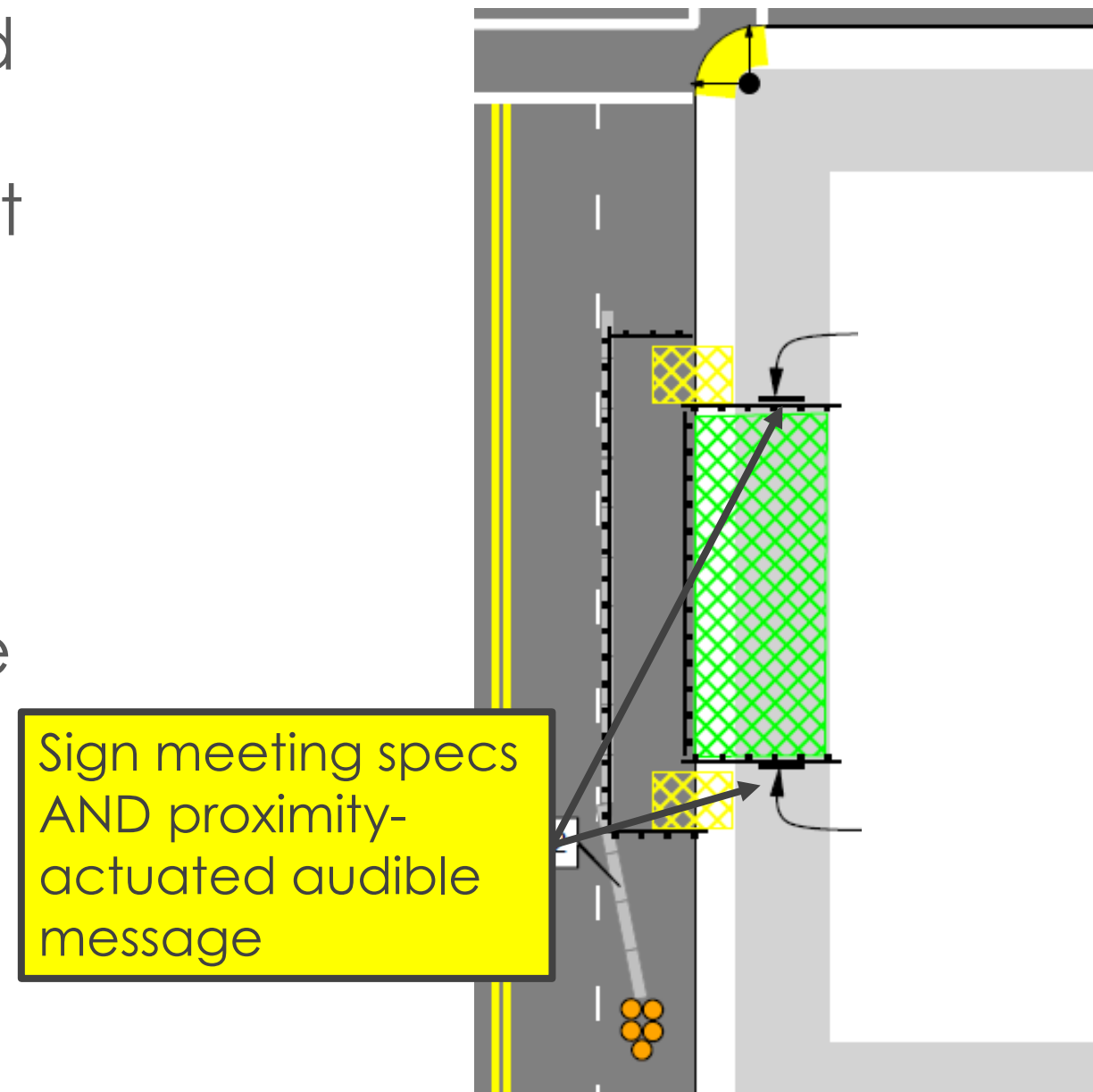


Photo: Lee Rodegerdts



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

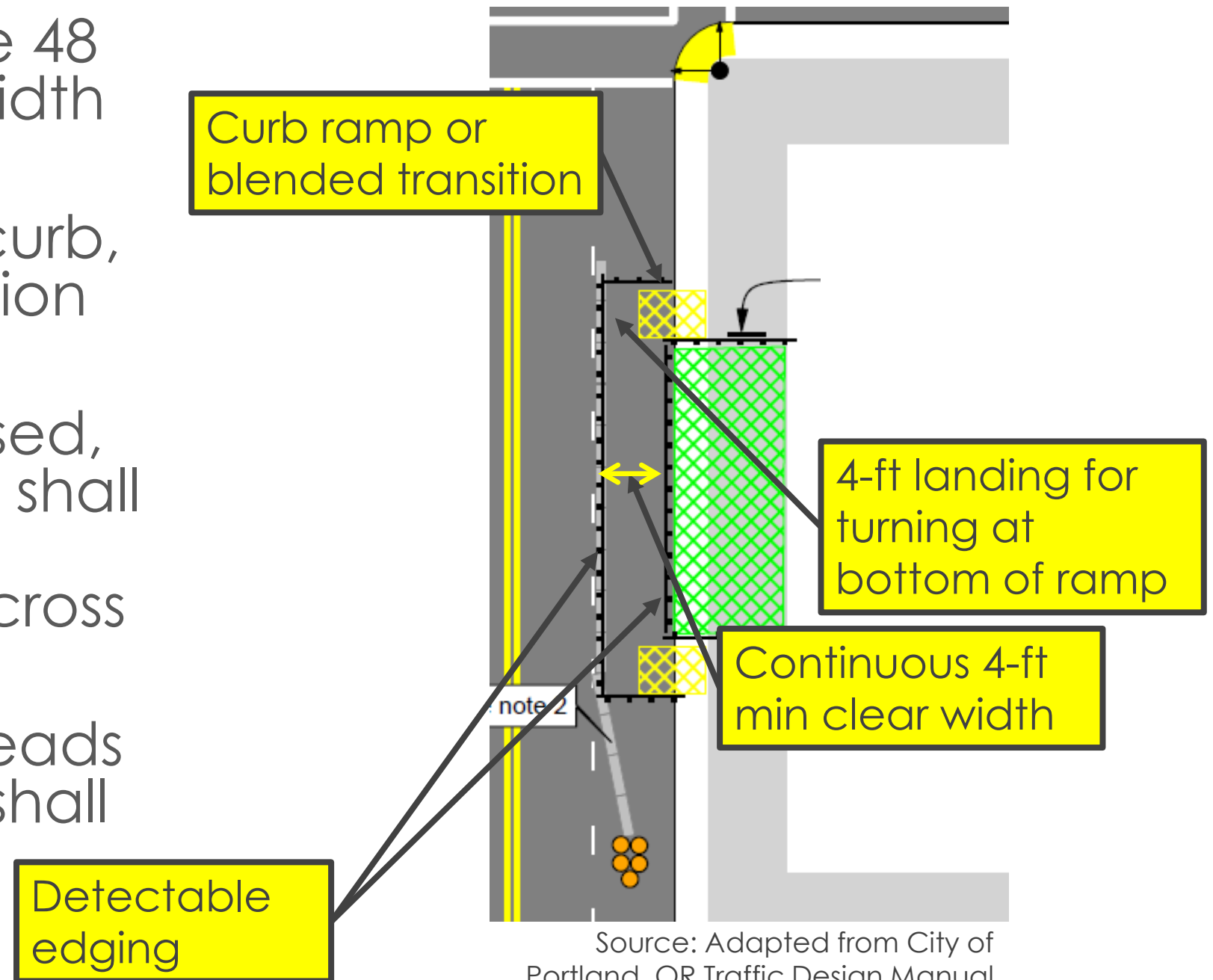


Source: Adapted from City of Portland, OR Traffic Design Manual



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)



Curb Ramps at All Intersections

- » Curb ramps or blended transition required for **each** pedestrian crossing (R304)
 - » In alterations, where existing physical constraints make compliance technically infeasible, a single curb ramp is permitted at the corner.
- » Detectable Warning Surfaces (DWS) required (R305)



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
 - » Top of perpendicular ramps
 - » Bottom of parallel ramps
- » Width: 48 inches min (R304.5.1.2)
 - » Shared-use paths: Equal to width of shared-use path (R304.5.1.2)

Non-Compliant Perpendicular Ramp

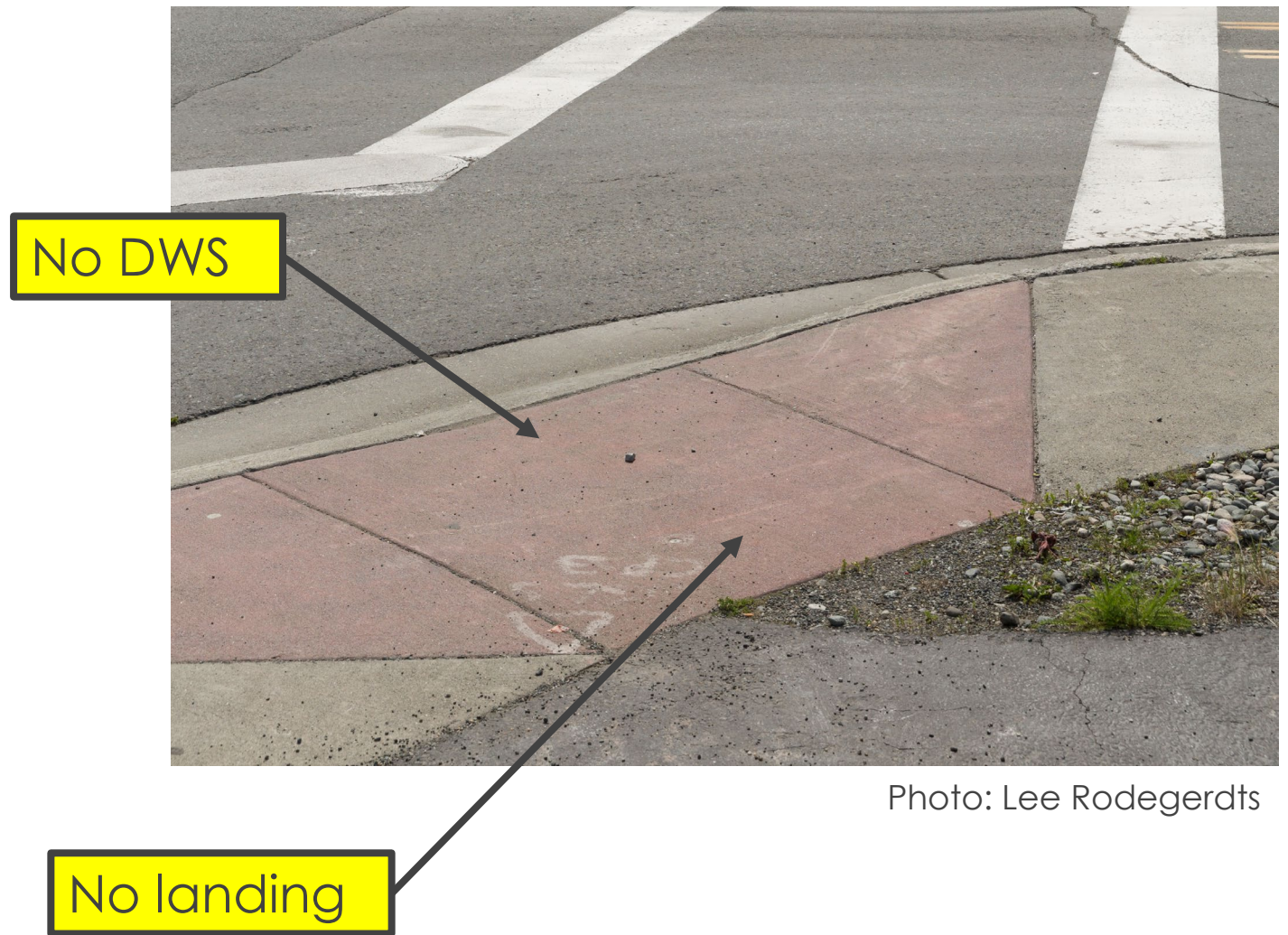


Photo: Lee Rodegerdts



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



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)



» Pedestrian-actuated rectangular rapid flashing beacon (RRFB)



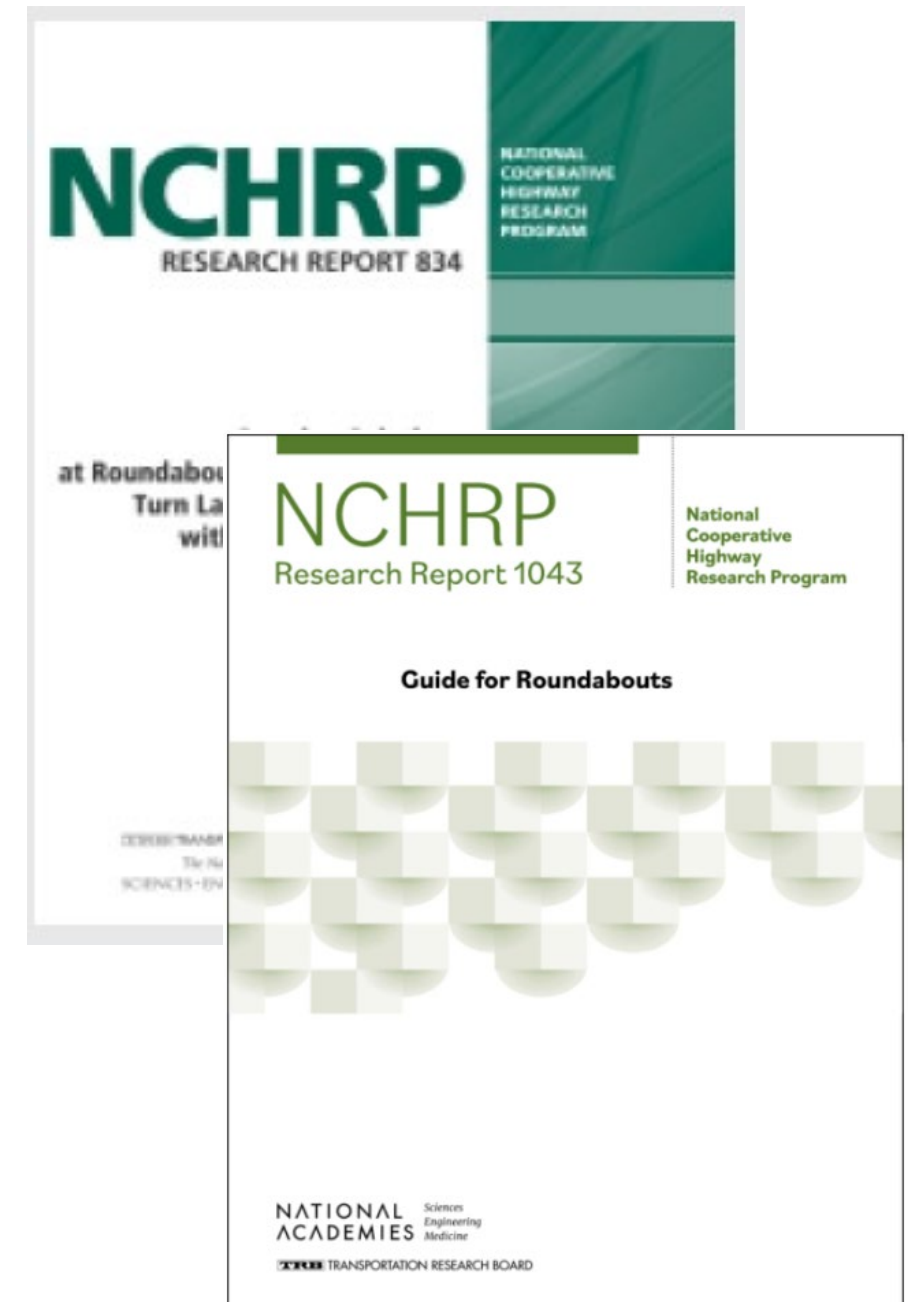
» Raised crossing



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

» Comments:

- » Reflects NCHRP Reports 674 and 834 research
 - » Silent on single-lane crossings
 - » No guidance provided in PROWAG on making selection
- ## » Performance-based evaluation possible
- » NCHRP Research Report 834, Crossing Solutions for Roundabouts and Channelized Turn Lanes for Pedestrians with Vision Disabilities
 - » NCHRP Research Report 1043, Guide for Roundabouts



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 Signals during Flashing Operation

» When signal is operating in flashing mode:



» Locator tone shall remain active

» Push button activates speech message that communicates operating mode of signal

» Comments on potential conflict with MUTCD and practice:

» 2009 MUTCD requires pedestrian signal indications not be displayed during flashing operation (MUTCD 4E.06, paragraph 01)

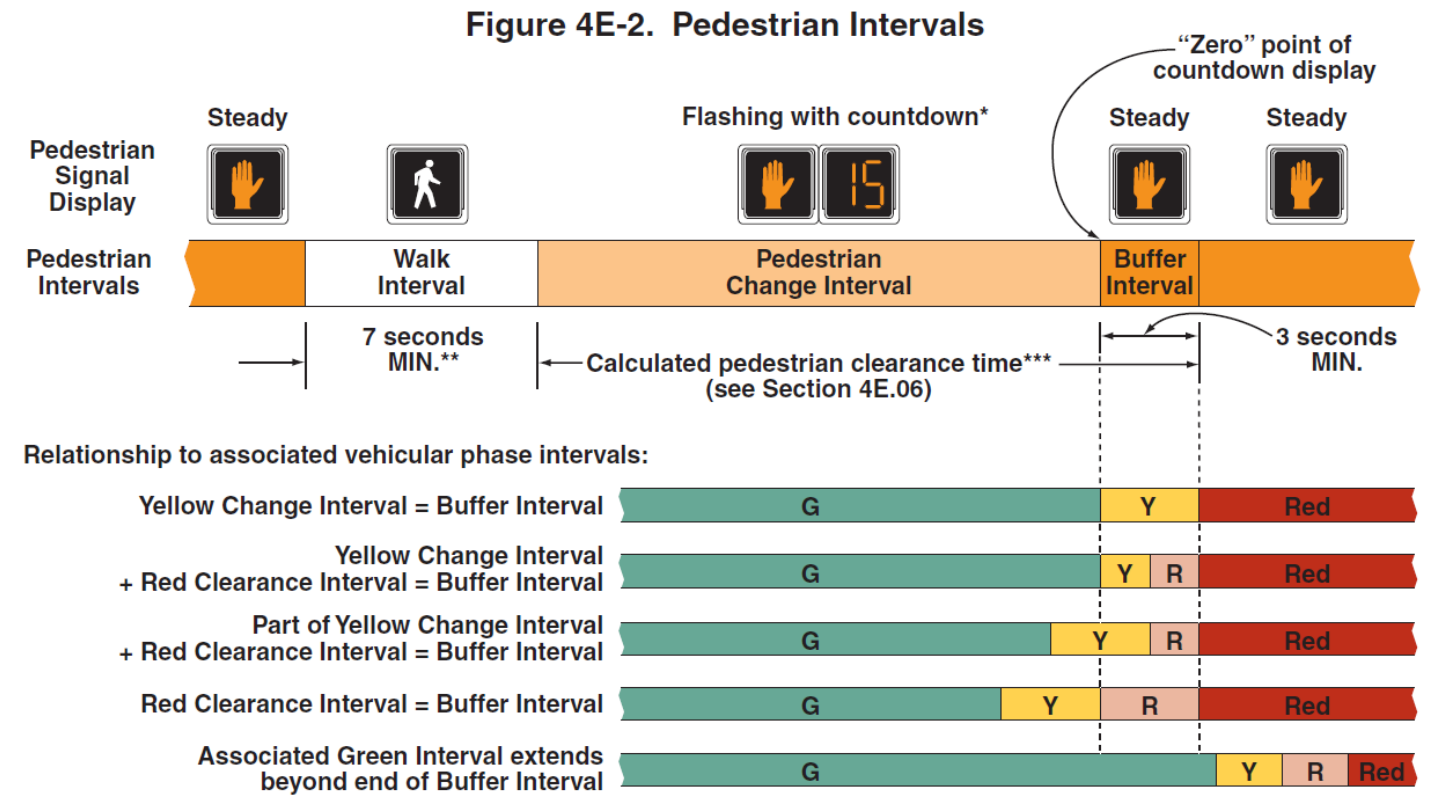
» May require new type of hardware and communications to use APS during flashing operation



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



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 About the MUTCD?

- » All technical provisions related to MUTCD are included directly in PROWAG
- » Some provisions appear to be in conflict between PROWAG and 2009 MUTCD
 - » E.g., APS operation during flashing operation
- » MUTCD 11th Edition Final Rule still pending
 - » Unlikely that FHWA will make changes as part of Final Rule to match PROWAG unless it was already part of draft rulemaking
 - » Likely to be first revision after 11th Edition is finalized



What about Tactile Warning Surface Indicators?

Device	Purpose	Image	In PROWAG?
<p>Detectable Warning Surfaces (DWS) - <u>truncated domes</u></p>	<p>Provides warning of hazard</p>	 <p>Source: Lee Rodegerdts</p>	<p>Yes</p>
<p>Tactile Directional Indicators (TDI) – <u>raised bars</u></p>	<p>Helps following paths, locating crossings, locating boarding doors</p>	 <p>Source: Lee Rodegerdts</p>	<p>No; forthcoming TCRP Project B-46 guide and report</p>
<p>Tactile Warning Delineator (TWD) – <u>raised trapezoid</u></p>	<p>Separates bicyclists and pedestrians at same elevation</p>	 <p>Source: Beezy Bentzen</p>	<p>No; forthcoming TCRP Project B-46 guide and report</p>

Thank You!

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