


Accessible Pedestrian Signals

A Brief Summary of
Federal Requirements
and
**New England State
Practices/Policies**

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2010  Annual Meeting



PROWAAC

PROWAG

APS

ADA

**U.S. Access
Board**



ADAAG



Selected History of Federal Accessibility Regulations

- 1968 Architectural Barriers Act (ABA) –**Federal Facilities**
- 1973 Rehabilitation Act (Section 504) –**Federal Funds**
 - U.S. Access Board created
- 1990 Americans w/ Disabilities Act (ADA) –**All Public Facilities**
 - Title II – All new public facilities (and altered facilities, to the maximum extent feasible) must be designed and constructed to be accessible to and useable by people with disabilities
 - 1991 Access Board publishes ADA Accessibility Guidelines (ADAAG)
- 1992 ADAAG adopted by U.S. DOJ & DOT as final rule
 - **Does NOT explicitly provide details for APS (Public Rights-of-Way)**

APS Guidelines History

- 1999 Public Rights-of-Way Access Advisory Committee (PROWAAC) formed by Access Board
- 2000 *MUTCD Issued*
- 2002 **Draft** Public Rights-of-Way Accessibility Guidelines (Draft PROWAG) published by Access Board
- 2003 *MUTCD Issued*
- 2005 **Revised Draft** PROWAG published by Access Board
- 2006 FHWA recommends 2005 PROWAG as “best practice”
 - 1/23/2006 Memo for distribution to States
- 2009 *MUTCD Issued*
-  **Today** PROWAG *not yet adopted* by U.S. DOJ & DOT as final rule 

When will PROWAG be Adopted?

- Access Board expected to approve PROWAG at its next meeting (**January 2011**)
 - Regulatory Analysis, Rule Language, Details
- With OMB approval, NPRM to be published in Federal Register
 - Anticipated **March 2011**
 - **This will be “final” chance to comment on PROWAG**
- Access Board will evaluate comments and issue final PROWAG
- Anticipated U.S. DOJ & DOT adoption as standards shortly thereafter

SOURCE: 12/03/10 phone conversation w/ Scott Windley, US Access Board

Why aren't APS standardized yet?

“As with other areas of professional practice, education, inquiry, consultation and research can lead to trials and pilot installations that will further progress toward standardization.”

– Edward Stollof, AICP, ITE Journal April 2005

Senior Director - ITE Safety Program

ACB vs. NFB

Why aren't APS standardized yet?

RESEARCH


DRAFT 2005 PROWAG

Public Rights-of-Way

[Guidelines and Standards](#) | [Home](#)

ABOUT THIS RULEMAKING

Sidewalks, street crossings, and other elements of the public rights-of-ways present unique challenges to accessibility for which specific guidance is considered essential. The Board is developing new guidelines for public rights-of-way that will address various issues, including access for blind pedestrians at street crossings, wheelchair access to on-street parking, and various constraints posed by space limitations, roadway design practices, slope, and terrain. The new guidelines will cover pedestrian access to sidewalks and streets, including crosswalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way. The Board had developed a draft set of guidelines based on recommendations from an [advisory committee](#) it had chartered. The Public Rights-of-Way Access Advisory Committee was comprised of representatives from disability organizations, public works departments, transportation and traffic engineering groups, the design and civil engineering professions, government agencies, and standards-setting bodies. The draft guidelines are being revised based on the input received from the public and will be available for public comment once published.

 [Sign up](#) to receive updates on this rulemaking.

RELATED INFORMATION

- [Revised Draft Guidelines](#) (2005) [PDF Version](#)
- [Notice of Availability of Revised Draft Guidelines](#) [About this Notice](#)
- [Draft Guidelines](#) (2002)
- [Public Comments to the Draft Guidelines](#) (2002)
- [Background](#)
- [How the Board Develops Guidelines](#)

GUIDANCE MATERIAL

The Board has developed information to provide a source of guidance on various aspects of accessible public rights-of-way until its guidelines are completed. This information includes:

DRAFT 2005 PROWAG

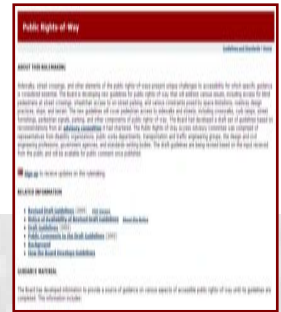


R306 Accessible Pedestrian Signals (APS)

R306.2 Pedestrian Signals. Each crosswalk with pedestrian signal indication shall have an accessible pedestrian signal which includes audible and vibrotactile indications of the WALK interval. Where a pedestrian pushbutton is provided, it shall be integrated into the accessible pedestrian signal and shall comply with R306.2.



DRAFT 2005 PROWAG



R306.2.1 Location. Accessible pedestrian signals shall be located so that the vibrotactile feature can be contacted from the level landing serving a curb ramp, if provided, or from a clear floor or ground space that is in line with the crosswalk line adjacent to the vehicle stop line.

R306.2.1.1 Crossings. **Accessible pedestrian signal devices shall be 3.0 m (10.0 ft) minimum from other accessible pedestrian signals at a crossing.** The control face of the accessible pedestrian signal shall be installed to face the intersection and be parallel to the direction of the crosswalk it serves.

R306.2.1.2 Medians and Islands. **Accessible pedestrian signals located in medians and islands shall be 1.5 m (5.0 ft) minimum from other accessible pedestrian signals.**

DRAFT 2005 PROWAG



R306.2.2 Reach and Clear Floor or Ground Space.

Accessible pedestrian pushbuttons shall be located within a reach range complying with R404. A clear floor or ground space complying with R402 shall be provided at the pushbutton and shall connect to or overlap the pedestrian access route.

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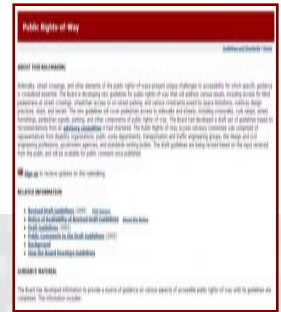


R306.2.3 Audible Walk Indication. The audible indication of the WALK interval shall be by tone or speech message.

R306.2.3.1 Tones. Tones shall consist of multiple frequencies with a dominant component at 880 Hz. The duration of the tone shall be 0.15 s and shall repeat at intervals of 0.15 s.

R306.2.3.2 Volume. Tone or voice volume measured at 92 cm (3.0 ft) from the pedestrian signal device shall be 2 dB minimum and 5 dB maximum above ambient noise level in standard operation and shall be responsive to ambient noise level changes.

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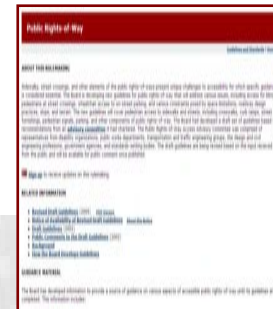
R306.3 Pedestrian Pushbuttons.

R306.3.2 Pushbutton Locator Tone. Pedestrian pushbuttons shall incorporate a locator tone at the pushbutton. Pushbutton locator tone volume measured at 92 cm (3.0 ft) from the pushbutton shall be 2 dB minimum and 5 dB maximum above ambient noise level and shall be responsive to ambient noise level changes. The duration of the locator tone shall be 0.15 s maximum and shall repeat at intervals of one second. The locator tone shall operate during the DON'T WALK and flashing DON'T WALK intervals only and shall be deactivated when the pedestrian signal is not operative.

R306.3.3 Size and Contrast. Pedestrian pushbuttons shall be a minimum of 0.5 cm (2 in) across in one dimension and shall contrast visually with their housing or mounting.

R306.3.4 Optional Features. An extended button press shall be permitted to activate additional features. Buttons that provide additional features shall be marked with three braille dots forming an equilateral triangle in the center of the pushbutton.

DRAFT 2005 PROWAG



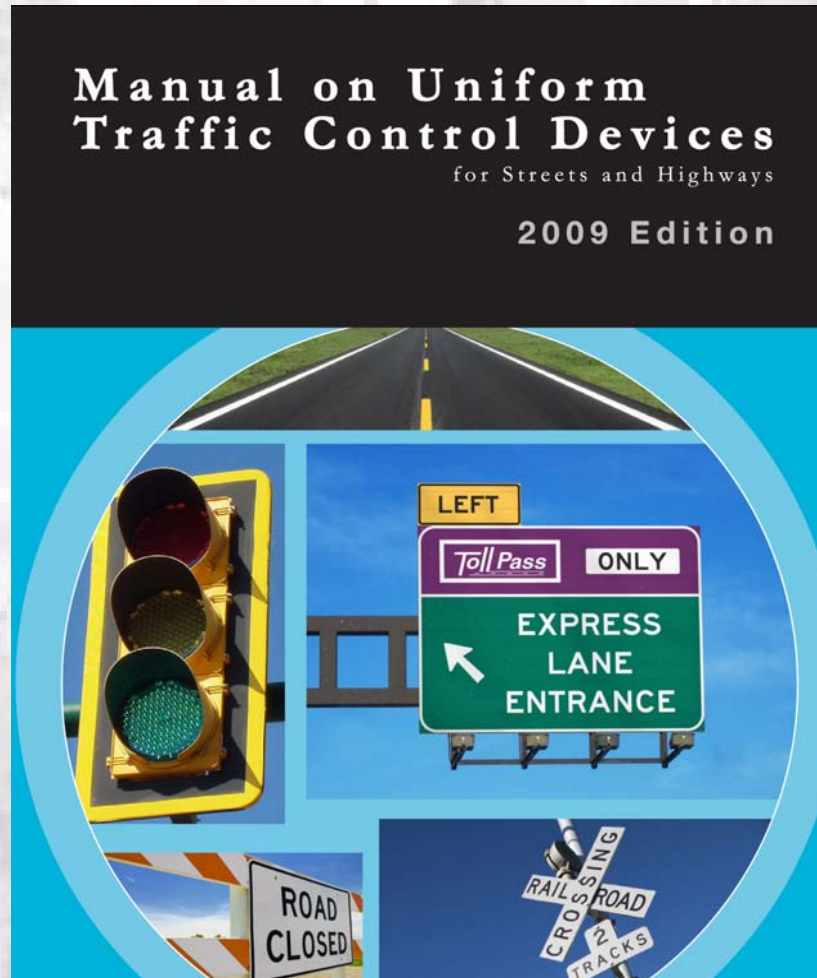
R306.4 Directional Information and Signs. Pedestrian signal devices shall provide tactile and visual signs complying with 306.4 on the face of the device or its housing or mounting to indicate crosswalk direction and the name of the street containing the crosswalk served by the pedestrian signal.

R306.4.1 Arrow. Signs shall include a tactile arrow aligned parallel to the crosswalk direction. The arrow shall be raised 0.8 mm (.03 inch) minimum and shall be 4 mm (1.5 in) minimum in length. The arrowhead shall be open at 45 degrees to the shaft and shall be 33 percent of the length of the shaft. Stroke width shall be 10 percent minimum and 15 percent maximum of arrow length. The arrow shall contrast with the background.

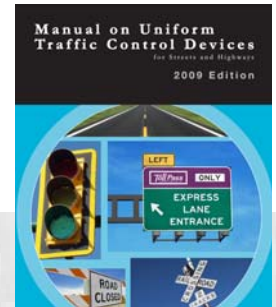
R306.4.2 Street Name. Accessible pedestrian signals (APS) shall include street name information aligned parallel to the crosswalk direction and shall comply with R409.3 or shall provide street name information in audible format.

R306.4.3 Crosswalk Configuration. Where provided, graphic indication of crosswalk configuration shall be tactile.

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Section 4E.08
New guidance
and figures for
locations of all
pedestrian
pushbuttons for
a variety of
conditions



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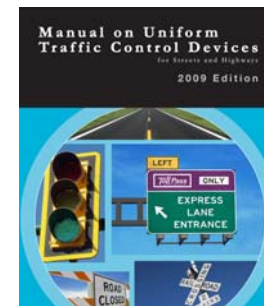
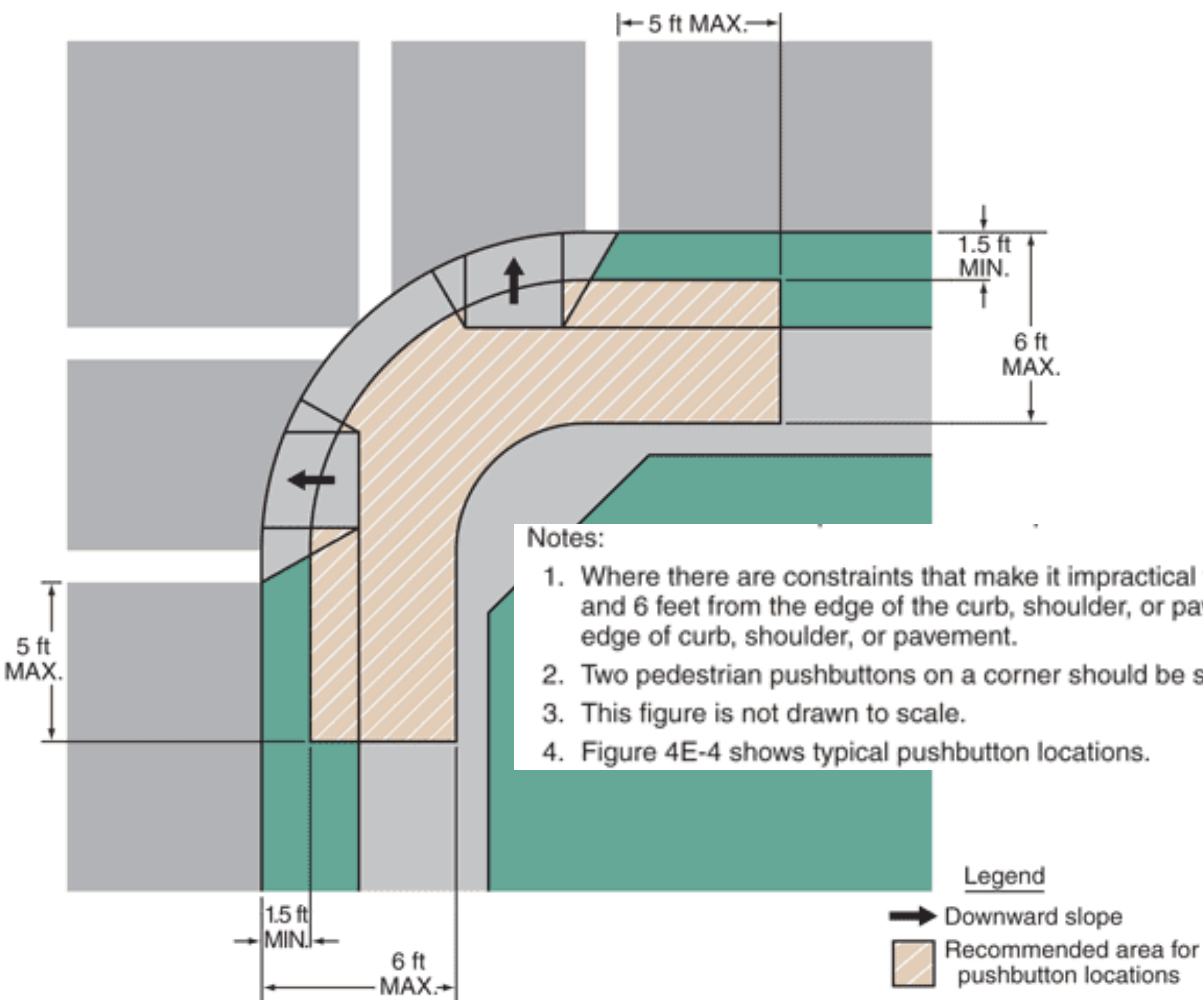


Figure 4E-3. Pushbutton Location Area



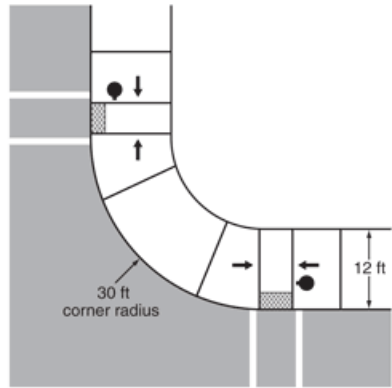
2009 MUTCD



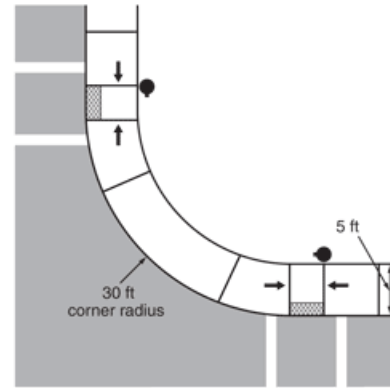
Figure 4E-4. Typical Pushbutton Locations (Sheet 1 of 2)

Figure 4E-4. Typical Pushbutton Locations

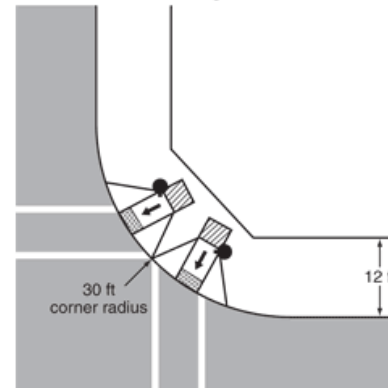
A - Parallel ramps with wide sidewalk



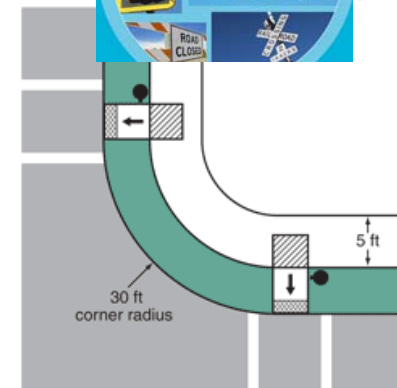
B - Parallel ramps with narrow sidewalk



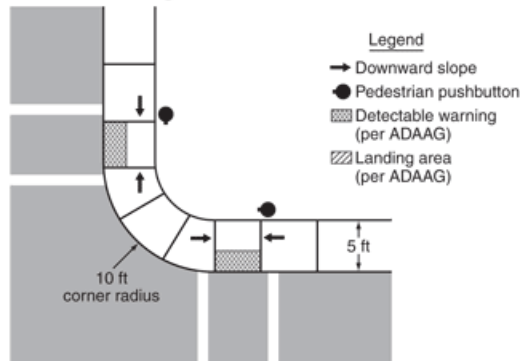
E - Perpendicular ramps with crosswalks close together



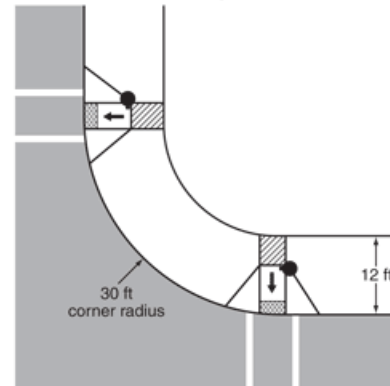
F - Perpendicular ramps with sidewalk set back from road



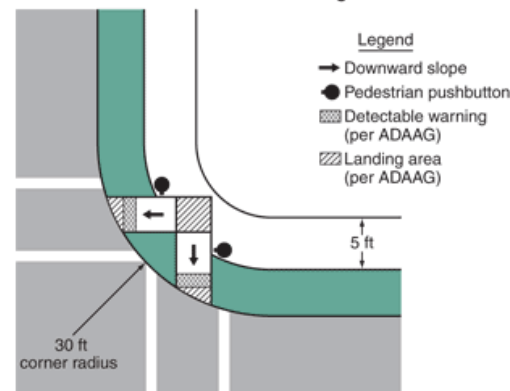
C - Parallel ramps with narrow sidewalk and tight corner radius



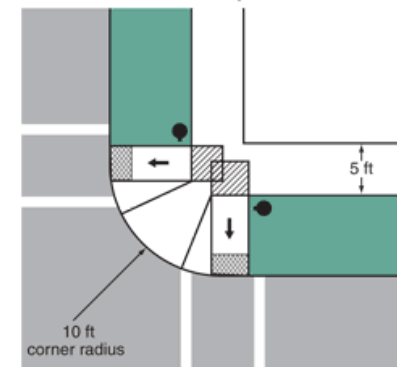
D - Perpendicular ramps with crosswalks far apart



G - Perpendicular ramps with sidewalk set back from road with crosswalks close together



H - Perpendicular ramps with sidewalk set back from road with continuous sidewalk between ramps



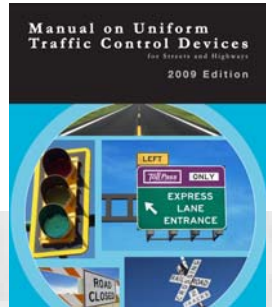
Notes:

1. This figure is not drawn to scale.
2. These drawings are intended to describe the typical locations for pedestrian pushbutton installations. They are not intended to be a guide for the design of curb cut ramps.
3. Figure 4E-3 shows the recommended area for pushbutton locations.

Notes:

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3. Figure 4E-3 shows the recommended area for pushbutton locations.

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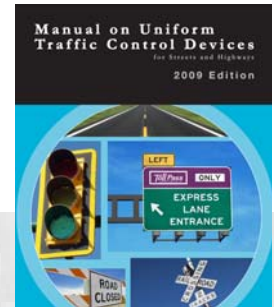


Sections 4E.09 - 4E.13

New & revised provisions for APS



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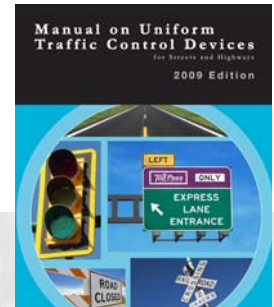
Section 4E.09 Accessible Pedestrian Signals and Detectors – General

Guidance:

03 If a particular signalized location presents difficulties for pedestrians who have visual disabilities to cross the roadway, an engineering study should be conducted that considers the needs of pedestrians in general, as well as the information needs of pedestrians with visual disabilities. The engineering study should consider the following factors:

- Potential demand for accessible pedestrian signals;
- A request for accessible pedestrian signals;
- Traffic volumes during times when pedestrians might be present, including periods of low traffic volumes or high turn-on-red volumes;
- The complexity of traffic signal phasing (such as split phases, protected turn phases, leading pedestrian intervals, and exclusive pedestrian phases); and
- The complexity of intersection geometry.

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Summary of Sections 4E.09 - 4E.13

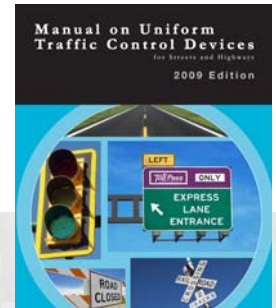
- **All APS:**

- Shall include **Audible & Vibrotactile** indication of WALK interval
- All audibles shall auto-adjust to ambient sound

- **If APS includes pushbutton:**

- Shall include locator tone
- Shall include vibrotactile arrow aligned parallel to crosswalk

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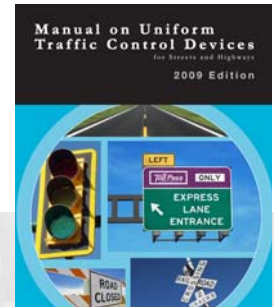


Section 4E.09 Accessible Pedestrian Signals and Detectors – General

Support:

05 Local organizations, providing support services to pedestrians who have visual and/or hearing disabilities, can often act as important advisors to the traffic engineer when consideration is being given to the installation of devices to assist such pedestrians. Additionally, orientation and mobility specialists or similar staff also might be able to provide a wide range of advice. The U.S. Access Board (www.access-board.gov) provides technical assistance for making pedestrian signal information available to persons with visual disabilities.

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Section 4E.09 Accessible Pedestrian Signals and Detectors – General

Standard:

- 06 The information provided by an accessible pedestrian signal shall clearly indicate which pedestrian crossing is served by each device.
- 07 Under stop-and-go operation, accessible pedestrian signals shall not be limited in operation by the time of day or day of week.

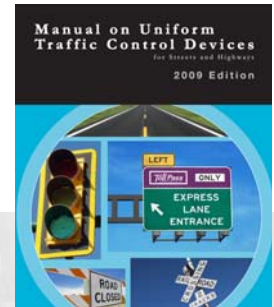
Support:

- 12 Specifications regarding the use of Braille or raised print for traffic control devices can be found in the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)" (see [Section 1A.11](#)).

Standard:

- 13 At accessible pedestrian signal locations where pedestrian pushbuttons are used, each pushbutton shall activate both the walk interval and the accessible pedestrian signals.

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Section 4E.09 Accessible Pedestrian Signals and Detectors – General

Option:

08 Accessible pedestrian signal detectors may be pushbuttons or passive detection devices.

09 At locations with pretimed traffic control signals or non-actuated approaches, pedestrian pushbuttons may be used to activate the accessible pedestrian signals.

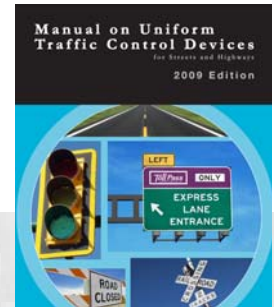
Support:

10 Accessible pedestrian signals are typically integrated into the pedestrian detector (pushbutton), so the audible tones and/or messages come from the pushbutton housing. They have a pushbutton locator tone and tactile arrow, and can include audible beaconing and other special features.

Option:

11 The name of the street to be crossed may also be provided in accessible format, such as Braille or raised print. Tactile maps of crosswalks may also be provided.

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Section 4E.10 Accessible Pedestrian Signals and Detectors – Location

Guidance:

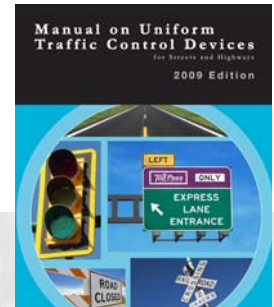
02 *Pushbuttons for accessible pedestrian signals should be located in accordance with the provisions of [Section 4E.08](#) and should be located as close as possible to the crosswalk line furthest from the center of the intersection and as close as possible to the curb ramp.*

Standard:

03 **If two accessible pedestrian pushbuttons are placed less than 10 feet apart or on the same pole, each accessible pedestrian pushbutton shall be provided with the following features (see [Sections 4E.11](#) thru [4E.13](#)):**

- A pushbutton locator tone,
- A tactile arrow,
- A speech walk message for the WALKING PERSON (symbolizing WALK) indication, and
- A speech pushbutton information message.

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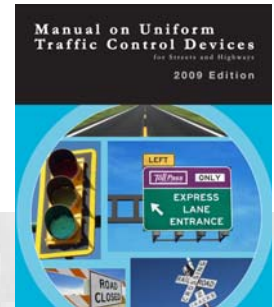


Section 4E.11 Accessible Pedestrian Signals and Detectors – Walk Indications

Support:


- 01 Technology that provides different sounds for each non-concurrent signal phase has frequently been found to provide ambiguous information. Research indicates that a rapid tick tone for each crossing coming from accessible pedestrian signal devices on separated poles located close to each crosswalk provides unambiguous information to pedestrians who are blind or visually impaired. Vibrotactile indications provide information to pedestrians who are blind and deaf and are also used by pedestrians who are blind or who have low vision to confirm the walk signal in noisy situations.

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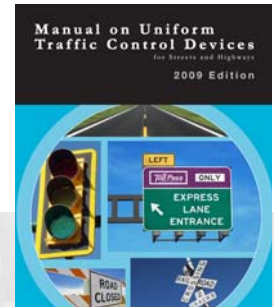


Section 4E.11 Accessible Pedestrian Signals and Detectors – Walk Indications

Standard:


-  02 Accessible pedestrian signals shall have both audible and vibrotactile walk indications.
- 03 Vibrotactile walk indications shall be provided by a tactile arrow on the pushbutton (see [Section 4E.12](#)) that vibrates during the walk interval.
- 04 Accessible pedestrian signals shall have an audible walk indication during the walk interval only. The audible walk indication shall be audible from the beginning of the associated crosswalk.
- 05 The accessible walk indication shall have the same duration as the pedestrian walk signal except when the pedestrian signal rests in walk.

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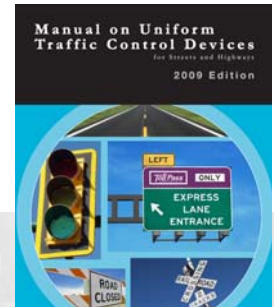


Section 4E.11 Accessible Pedestrian Signals and Detectors – Walk Indications

Standard:

-  07 Where two accessible pedestrian signals are separated by a distance of at least 10 feet, the audible walk indication shall be a percussive tone. Where two accessible pedestrian signals on one corner are not separated by a distance of at least 10 feet, the audible walk indication shall be a speech walk message.
- 08 Audible tone walk indications shall repeat at eight to ten ticks per second. Audible tones used as walk indications shall consist of multiple frequencies with a dominant component at 880 Hz.

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Section 4E.11 Accessible Pedestrian Signals and Detectors – Walk Indications

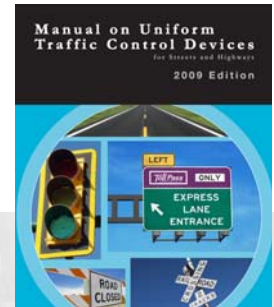
Guidance:

09 *The volume of audible walk indications and pushbutton locator tones (see [Section 4E.12](#)) should be set to be a maximum of 5 dBA louder than ambient sound, except when audible beaconing is provided in response to an extended pushbutton press.*

Standard:

10 **Automatic volume adjustment in response to ambient traffic sound level**  **shall be provided up to a maximum volume of 100 dBA.**

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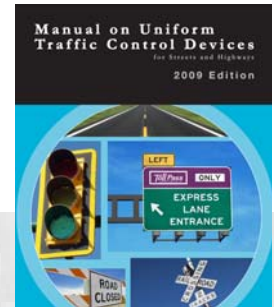


Section 4E.11 Accessible Pedestrian Signals and Detectors – Walk Indications

Support:


- 14 Speech walk messages communicate to pedestrians which street has the walk interval. Speech messages might be either directly audible or transmitted, requiring a personal receiver to hear the message. To be a useful system, the words and their meaning need to be correctly understood by all users in the context of the street environment where they are used. Because of this, tones are the preferred means of providing audible walk indications except where two accessible pedestrian signals on one corner are not separated by a distance of at least 10 feet.
- 16 By combining the information from the pushbutton message or Braille label, the tactile arrow aligned in the direction of travel on the relevant crosswalk, and the speech walk message, pedestrians with visual disabilities are able to correctly respond to speech walk messages even if there are two pushbuttons on the same pole.

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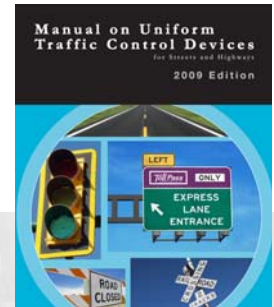


Section 4E.11 Accessible Pedestrian Signals and Detectors – Walk Indications

Standard:

-  17 If speech walk messages are used to communicate the walk interval, they shall provide a clear message that the walk interval is in effect, as well as to which crossing it applies. Speech walk messages shall be used only at intersections where it is technically infeasible to install two accessible pedestrian signals at one corner separated by a distance of at least 10 feet
- 18 Speech walk messages that are used at intersections having pedestrian phasing that is concurrent with vehicular phasing shall be patterned after the model: "Broadway. Walk sign is on to cross Broadway."
- 19 Speech walk messages that are used at intersections having exclusive pedestrian phasing shall be patterned after the model: "Walk sign is on for all crossings."
- 20 Speech walk messages shall not contain any additional information, except they shall include designations such as "Street" or "Avenue" where this information is necessary to avoid ambiguity at a particular location.

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Section 4E.11 Accessible Pedestrian Signals and Detectors – Walk Indications

Guidance:

21 *Speech walk messages should not state or imply a command to the pedestrian, such as "Cross Broadway now." Speech walk messages should not tell pedestrians that it is "safe to cross," because it is always the pedestrian's responsibility to check actual traffic conditions.*

Standard:

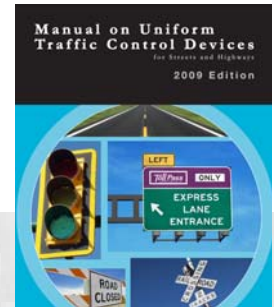
22 **A speech walk message is not required at times when the walk interval is not timing, but, if provided:**

- It shall begin with the term "wait."
- It need not be repeated for the entire time that the walk interval is not timing.

Standard:

25 **Following the audible walk indication, accessible pedestrian signals shall revert to the pushbutton locator tone (see [Section 4E.12](#)) during the pedestrian change interval.**

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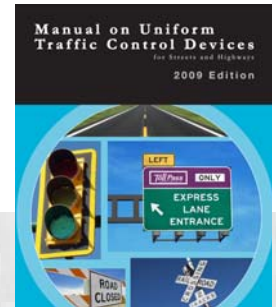
Section 4E.12 Accessible Pedestrian Signals and Detectors – Tactile Arrows and Locator Tones

Standard:

01 To enable pedestrians who have visual disabilities to distinguish and locate the appropriate pushbutton at an accessible pedestrian signal location, pushbuttons shall clearly indicate by means of tactile arrows which crosswalk signal is actuated by each pushbutton. Tactile arrows shall be located on the pushbutton, have high visual contrast (light on dark or dark on light), and shall be aligned parallel to the direction of travel on the associated crosswalk.


 An accessible pedestrian pushbutton shall incorporate a locator tone.

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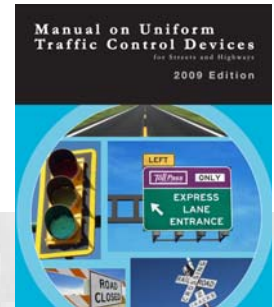


Section 4E.12 Accessible Pedestrian Signals and Detectors – Tactile Arrows and Locator Tones

Standard:

- 04 Pushbutton locator tones shall have a duration of 0.15 seconds or less, and shall repeat at 1-second intervals.
- 05 Pushbutton locator tones shall be deactivated when the traffic control signal is operating in a flashing mode. This requirement shall not apply to traffic control signals or pedestrian hybrid beacons that are activated from a flashing or dark mode to a stop-and-go mode by pedestrian actuations.
- 06  Pushbutton locator tones shall be intensity responsive to ambient sound, and be audible 6 to 12 feet from the pushbutton, or to the building line, whichever is less.

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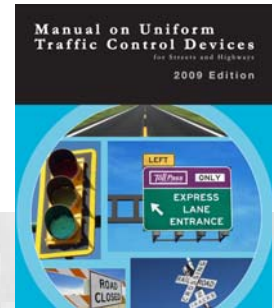


Section 4E.13 Accessible Pedestrian Signals and Detectors – Extended Pushbutton Press Features

Standard:

- 02 If an extended pushbutton press is used to provide any additional feature(s), a pushbutton press of less than one second shall actuate only the pedestrian timing and any associated accessible walk indication, and a pushbutton press of one second or more shall actuate the pedestrian timing, any associated accessible walk indication, and any additional feature(s).
- 03 If additional crossing time is provided by means of an extended pushbutton press, a PUSH BUTTON FOR 2 SECONDS FOR EXTRA CROSSING TIME (R10-32P) plaque (see [Figure 2B-26](#)) shall be mounted adjacent to or integral with the pedestrian pushbutton.

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Section 4E.13 Accessible Pedestrian Signals and Detectors – Extended Pushbutton Press Features

Support:

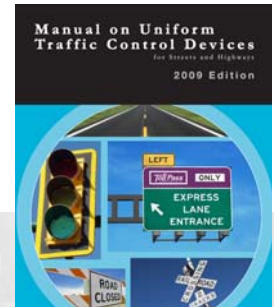
05 Not all crosswalks at an intersection need audible beaconing; audible beaconing can actually cause confusion if used at all crosswalks at some intersections. Audible beaconing is not appropriate at locations with channelized turns or split phasing, because of the possibility of confusion.

Guidance:

06 *Audible beaconing should only be considered following an engineering study at:*

- Crosswalks longer than 70 feet, unless they are divided by a median that has another accessible pedestrian signal with a locator tone;
- Crosswalks that are skewed;
- Intersections with irregular geometry, such as more than four legs;
- Crosswalks where audible beaconing is requested by an individual with visual disabilities; or
- Other locations where a study indicates audible beaconing would be beneficial.

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Section 4E.13 Accessible Pedestrian Signals and Detectors – Extended Pushbutton Press Features

Option:

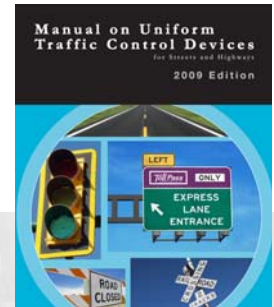
07 Audible beaconing may be provided in several ways, any of which are initiated by an extended pushbutton press.

Standard:

08 If audible beaconing is used, the volume of the pushbutton locator tone during the pedestrian change interval of the called pedestrian phase shall be increased and operated in one of the following ways:

- The louder audible walk indication and louder locator tone comes from the far end of the crosswalk, as pedestrians cross the street,
- The louder locator tone comes from both ends of the crosswalk, or
- The louder locator tone comes from an additional speaker that is aimed at the center of the crosswalk and that is mounted on a pedestrian signal head.

2009 MUTCD



Section 4E.13 Accessible Pedestrian Signals and Detectors – Extended Pushbutton Press Features

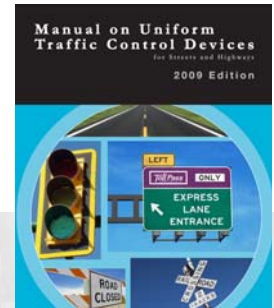
Option:

09 Speech pushbutton information messages may provide intersection identification, as well as information about unusual intersection signalization and geometry, such as notification regarding exclusive pedestrian phasing, leading pedestrian intervals, split phasing, diagonal crosswalks, and medians or islands.

Standard:

10 **If speech pushbutton information messages are made available by actuating the accessible pedestrian signal detector, they shall only be actuated when the walk interval is not timing. They shall begin with the term "Wait," followed by intersection identification information modeled after: "Wait to cross Broadway at Grand." If information on intersection signalization or geometry is also given, it shall follow the intersection identification information.**

2009 MUTCD



Section 4E.13 Accessible Pedestrian Signals and Detectors – Extended Pushbutton Press Features

Guidance:

- 11 *Speech pushbutton information messages should not be used to provide landmark information or to inform pedestrians with visual disabilities about detours or temporary traffic control situations.*

Support:

- 12 Additional information on the structure and wording of speech pushbutton information messages is included in ITE's "Electronic Toolbox for Making Intersections More Accessible for Pedestrians Who Are Blind or Visually Impaired."

An aerial, grayscale photograph of a city street intersection. The image is slightly tilted. A large, bold, blue text overlay is centered on the image. The text reads "WHEW..." in a sans-serif font. The background shows buildings, streets, and some greenery.

WHEW...

***So where do the six
New England State DOT's
stand with regard to
APS?***

In General...





- All agencies have general stipulations in Standard Specifications:

e.g.: The Contractor shall observe and comply with all Federal and State laws, all local laws and ordinances, and regulations, orders, and decrees of bodies or tribunals having any jurisdiction or authority, that affect individuals engaged or employed on the Project, or that affects the conduct of the Work on the Project

- All agencies have completed (or are in process of completing) Transition Plan & Implementation Plan for ADA compliance
 - Via Office of Civil Rights/ADA Coordinator/Accessibility, etc.

⚠ Typically Special Provisions required for APS ⚠

APS installation (as of today)

Approx. Number of Traffic Signals*:				
Owned by Agency	150	750	1500	2500
Maintained by Agency	152	750	1500	2500
Owned by Agency with APS**	27	0	<25	0
Maintained by Agency with APS**	28	0	<25	0

* "Stop & Go" R/Y/G traffic control signal

** APS means that signal includes at least one crossing with ped detectors & pushbuttons including: locator tone and vibrotactile arrow aligned parallel to crosswalk; audible & vibrotactile indication of WALK interval (either TONE/TICK or SPEECH); and all audibles auto-adjusted to ambient noise.

- Standard Details (2010) **DO NOT** cover APS
- Standard Specs (2010) **DO NOT** describe APS
- Highway Design Manual (1999) – “NHDOT has chosen to comply with ADAAG” for ped facility design
 - Being updated now

Interesting Points...

- Policy requires NHDOT’s Title II ADA Coordinator to work closely with Division Directors, planners, design and project engineers to ensure “required accessibility standards” are applied in new construction and alterations
- Office of Federal Compliance has used an inventory/ranking procedure for APS priority

Source: **Jay Ankenbrock**, Chief of Labor Compliance (603) 271-2467

- Standard Details (2002) **DO NOT** cover APS
- Standard Specs (2002) **DO NOT** describe APS

Interesting Points...

- MaineDOT only *maintains* ~15 signals (even though they own ~900)
 - Municipalities/Developers maintain
- APS installed where there is a “documented need”
 - Using Special Provisions, tend to follow ADAAG
- New Policy in Development
 - MaineDOT ADA Coordinator **(207) 624-3006**

Source: **Stephen Landry**, MDOT Traffic Engineering **(207) 624-3620**

- Standard Details (2010) **DO NOT** cover APS
- Standard Specs (2010) **DO NOT** describe APS
- Project Development and Design Guide (2006) –
“Technologies are available that enable audible and vibrating signals to be incorporated into ped walk signal systems”
 - Merely makes reference to MUTCD and Draft PROWAG

Interesting Points...

- MassDOT history of complaints about APS noise
- Several MUTCD-compliant APS included on MassDOT’s Approved Products List
- Draft APS Policy developed
 - waiting for final PROWAG ruling

Source: **Charles Hale**, MassDOT Traffic Engineering (617) 973-7389



RIDOT

- Standard Details (1998) **DO NOT** cover APS
- Standard Specs (2004) **DO NOT** describe APS
- DRAFT ADA Technical Infeasibility Policy (2010)
 - References both “ADA compliant” and ADAAG

Interesting Points...

- Ped signals/buttons typically installed everywhere
 - ***But no APS yet!***
- APS installed where there is a “documented need”
 - Using Special Provisions
- Now planning to update Specs & Details for “ADA compliance” using HFL Grant
 - On-Call Consultant




- Standard Specs (2010) describe only “audible” ped signals
- Standard Details (2009) **DO NOT** cover APS
 - Neither is compliant with MUTCD/PROWAG

Interesting Points...

- “Audible” ped signals used for years (exclusive ped phases)
- Traffic Control Signal Design Manual (2009), APS Section states:
 - Audible ped signals can be installed when requested on behalf of visually impaired ***and*** Traffic Eng. verifies need w/ **CT Services for the Blind**
 - Audible ped signal active w/ walk indication & pulse w/ don’t walk
 - Audible ped signals should only be used in exclusive ped signal phasing
- As of today, MUTCD followed for new ped signals (using Special Provisions)

Source: **Robin Waterman**, CDOT Traffic Engineering (860) 594-2992

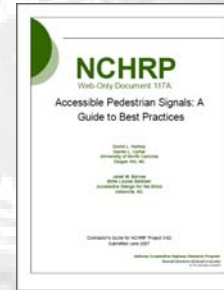
Interesting Points...

- VTrans Policy (1981) **requires** install of “audible” ped signal for exclusive ped signal phases
 - Only “wired” when need is documented w/ “advocacy groups”
- Ped & Bike Facility Planning & Design Manual (2002) – “Where ped buttons/heads used, hardware should include additional features to aid visually impaired peds”; also advises that Designers “work with blind peds & an OMS”
 - Prepared by **Nat. Center for B&W** for VTrans
- Standard Specs (2006) **DO** describe APS 
- Standard Details (1995) still call for “audible signals”
 - Not compliant with MUTCD/PROWAG
 - Being updated now (no longer used)

Suggested Resources

- APS: A Guide to Best Practices
 - NCHRP Project 3-62

www.apsguide.org



- **ITE Electronic Toolbox: Making Intersections More Accessible for Pedestrians Who are Blind or Visually Impaired**

www.ite.org/accessible



- **ITE Online Course: Designing Accessible Pedestrian Facilities in the Public Rights-of-Way: Module 4 – Accessible Pedestrian Crossings**

www.ite.org/education/olq.asp

Questions?