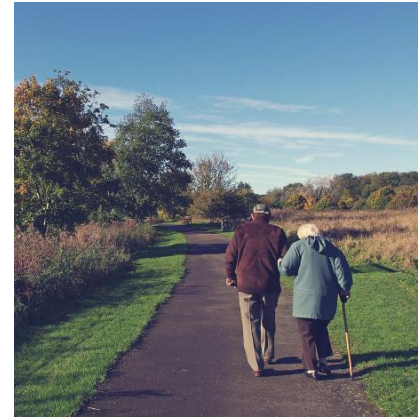
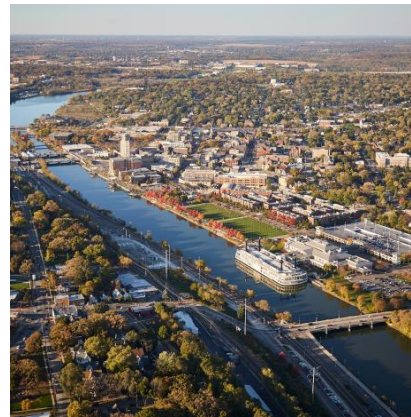
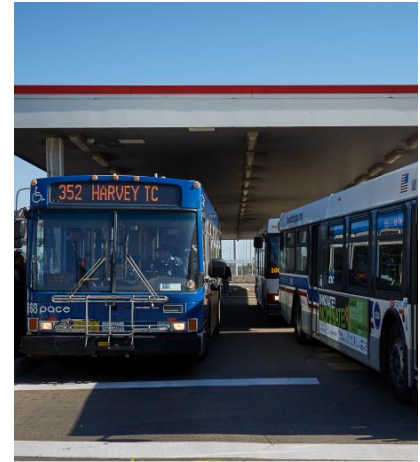


Transportation Technology and Operations Coalition

February 1, 2024

9:30 – 11:30 a.m.

When you are not speaking, please mute your microphone to reduce background noise.



1.0 Welcome

Stephen Zulkowski, KDOT (Chair)

2.0 Agency updates

Open discussion among TTOC members regarding current work projects, topics of interest for upcoming meetings, etc.

3.0 CMAP announcements

Aaron Brown and Noah Harris, CMAP

4.0 Congestion Management Process (CMP) update

Thomas Murtha, CMAP

5.0 PROWAG requirements and updated accessibility standards

Paul Leddy, MoboTrex Inc. & Matt Baker,
Polara

Brian Plum, Traffic Control Corporation &
Travis Goldsby, PedSafety



Pedestrian Signals and the ADA

*Changes under PROWAG and the newly
released 11th Edition of the MUTCD*

Presented by

POLARA

To:

Transportation Technology & Operations Coalition

February 1, 2024





WHAT IS PROWAG?

The Public Right-of-Way Accessibility Guidelines (PROWAG) are accessibility guidelines for implementing the Americans with Disabilities Act (ADA) with regard to: sidewalks, crosswalks, pedestrian signals, and other public pedestrian facilities, to ensure they are equally accessible to and usable by all pedestrians. PROWAG becomes enforceable when it is adopted by the DOT and DOJ.”

PROWAG was published in the Federal Register August 8, 2023.

The ADA is a law. PROWAG are accessibility guidelines.

The Americans with Disabilities Act of 1990 (ADA) and two other laws – Section 504 of the Rehabilitation Act and the Architectural Barriers Act – require federally funded facilities to be accessible. **PROWAG now spells out what exactly that accessibility looks like under the law.**

PROWAG covers:

1

SIDEWALKS

Width, grade, slope, surface, and more are regulated by PROWAG.

2

CROSSWALKS

Curb ramps, detectable warning surfaces, and crossings at roundabouts are all covered.

3

SIGNALS

Accessible pedestrian signals and pushbuttons are no longer optional.

4

PARKING

The number and dimensions of accessible parking spaces and passenger loading zones are regulated.

5

TRANSIT

Rail crossings, boarding areas, transit stops, and shelters have new requirements.

PROWAG becomes mandatory

These minimum guidelines will become enforceable once they are adopted, with or without modifications, as mandatory standards under the ADA by the U.S. Department of Justice (DOJ) and the U.S. Department of Transportation (USDOT)

Page 4

USDOT will do a separate rulemaking to adopt PROWAG. Once that rulemaking is done, then there will be a rulemaking to revise the MUTCD to reflect the PROWAG requirements. They said this would likely be Revision 1 of the 11th edition.

ALL levels of government – federal, state, and local – will be required to comply.

PROWAG's guidelines will be legally enforceable once adopted as accessibility standards by the federal agencies charged with implementing Title II of the Americans with Disabilities Act, Section 504 of the Rehabilitation Act, and the Architectural Barriers Act.

PROWAG

- Final rule Aug 8, 2023. Effective Sep 6, 2023
- USDOT and USDOJ rulemakings must happen for PROWAG to become binding.

MUTCD

- MUTCD 11th Edition released and becomes effective Jan 18, 2024
- Must adopt within 2 years of effective date.
- MUTCD Revisions to incorporate PROWAG:
 - Timing depends on USDOT and USDOJ rulemakings (USDOT has rulemaking on the docket for Spring, 2024)
 - FHWA/MUTCD to issue NPA for public comment (after USDOT final rule)

Pedestrian signals must be made accessible when:

They are installed

When pedestrian signals are added to a crossing, a PROWAG-compliant APS must also be added.

OR

The existing pedestrian facilities are altered

Alteration defined: "A change to or an addition of a pedestrian facility in an existing, developed public right-of-way that affects or could affect pedestrian access, circulation, or usability." - R103.3

- The Access Board acknowledges the diverse nature of alterations that affect pedestrian signals and declines in the final guidelines to list specific actions that trigger the requirement to install accessible pedestrian signals. Rather, pedestrian signals are subject to the same alteration requirements as other pedestrian facilities.
- The entity making the alteration will assess, according to requirements in the guidelines as adopted by USDOT and DOJ, whether installation of an accessible pedestrian signal is required. The Board notes that USDOT and DOJ may provide further specifics as to alterations triggering installation of APS in their rulemakings adopting these guidelines.

Pedestrian signals must be made accessible when The existing pedestrian facilities are altered:

Alteration defined: "A change to or an addition of a pedestrian facility in an existing, developed public right-of-way that affects or could affect pedestrian access, circulation, or usability." - R103.3

1.3 | TYPES OF PEDESTRIAN FACILITIES

- Sidewalks, walkways and curb ramps •
- Shared use paths
- Crosswalks, signals and other treatments of facilities for crossing streets
- Signs (DOT/FHWA 2013 Manual)

Pedestrian Facilities - Any features or elements used by disabled or able-bodied pedestrians to move from one point to another including sidewalks, crossings, refuge islands, pedestrian signs and signals, curb ramps.

PROWAG: The entity making the alteration will assess, according to requirements in the guidelines as adopted by USDOT and DOJ, whether installation of an accessible pedestrian signal is required. The Board notes that USDOT and DOJ may provide further specifics as to alterations triggering installation of APS in their rulemakings adopting these guidelines.

Two kinds of audible crosswalk buttons, compared:

Accessible Pedestrian Signals (APS) Controlled Crossings

- Audio and vibro-tactile supplement to visual signals at signalized crossings
- Button vibrates when it is time to walk
- Audible indication given for WALK phase
- Audible message or rapid percussive tone

Audible Message “Broadway, walk sign is on to cross Broadway”



Audible Information Devices (AID) Warning Indications

- Audio and tactile supplement to warning beacons and RRFBs at midblock crossings
- Tells pedestrians when the warning lights are flashing – **NOT that it is time to cross**
- No vibration
- Audible message “Warning lights are flashing” (MUTCD 11th Edition Message change from previous “Yellow lights are flashing”)



WHERE DOES PROWAG REQUIRE APS?





At all pedestrian signals with crosswalks

If a crosswalk has a pedestrian signal, it must include an accessible pedestrian signal that conforms to the requirements in PROWAG R307 or R308.

At HAWK signals

Hybrid Beacons with pedestrian signal heads and crosswalks are now required to have accessible pedestrian signals

- PROWAG R206



At RRFB Locations – Audible Information Devices – AID's required

R307.7 *Where a pedestrian push button or a passive detection device is provided for pedestrian activated warning devices, such as rectangular rapid flashing beacons, the pedestrian push button or passive detection device shall activate a speech message that indicates the status of the beacon in lieu of an audible walk indication.*

- PROWAG R307.7



At multi-lane pedestrian crossings at channelized turn lanes or roundabouts

These crossings must include one or more of the following: a traffic control signal with a pedestrian signal head; a pedestrian hybrid beacon; a pedestrian actuated rectangular rapid flashing beacon; or a raised crossing. APS is required at all of these except the raised crossing.

Sources: [PROWAG R306.4.2](#) & [R306.5](#)



Clear spaces, reach ranges, & operable parts

PROWAG R403-R406 covers these in detail, largely repeating the requirements set out in the 2010 ADA Standards for Accessible Design.

Sources: [PROWAG preamble](#)

[2010 ADA Standards for Accessible Design | ADA.gov](#)

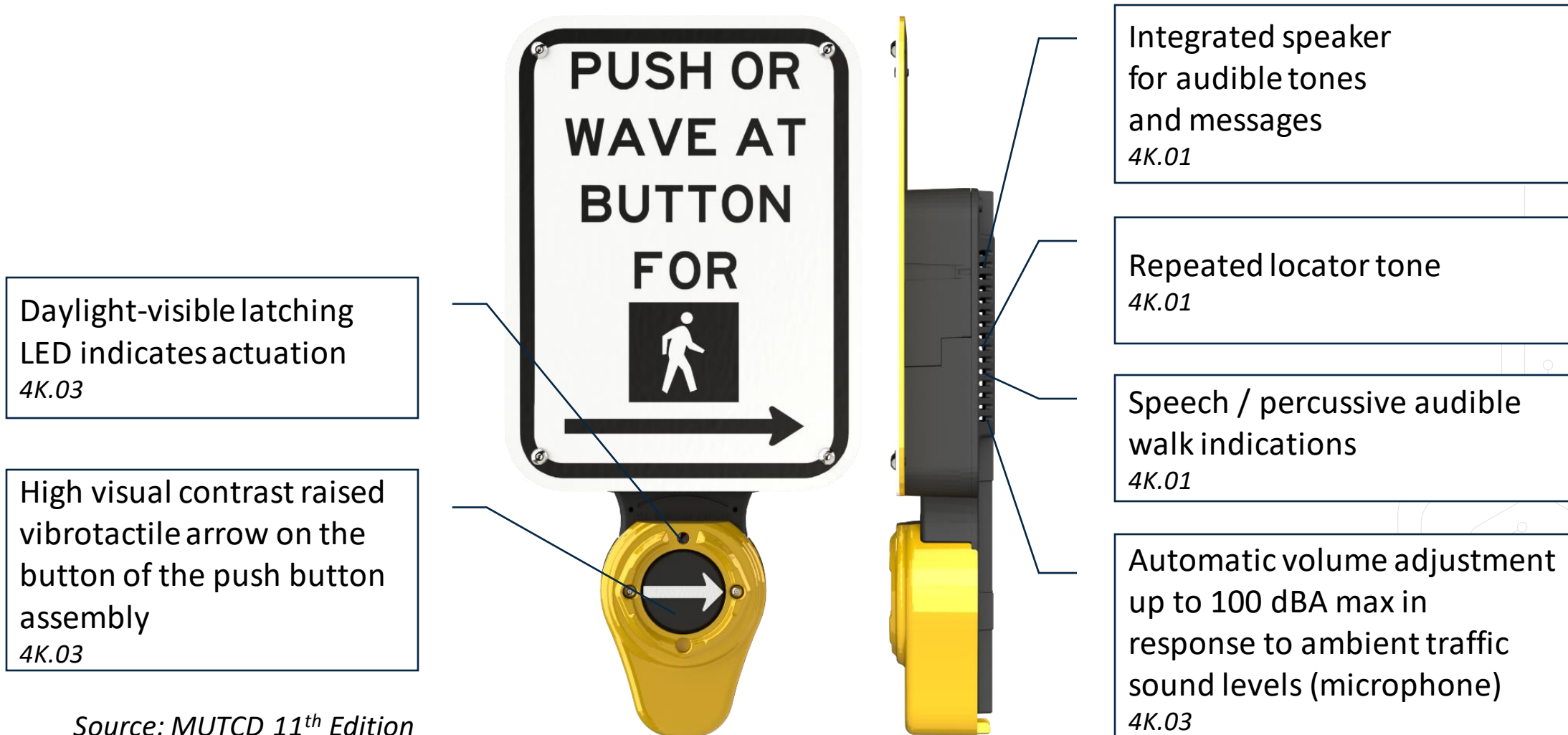
R403.4 Operation. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum.

11th Edition MUTCD-compliant APS

These next few slides state MUTCD and PROWAG similar requirements



MUTCD 11th Edition specifications



Source: MUTCD 11th Edition

The MUTCD requires APS to have three primary features:



A high-contrast button with a raised arrow that vibrates during the WALK phase



An audible signal or voice message that announces, "Walk sign is on"



A locator tone that repeats to help pedestrians with visual disabilities find the button

Signal information given in multiple alternative formats



1. LOCATE TONE (s. 4K.04) :

Beeping tone plays once per second, audible within 6-12 ft of the Pushbutton Station (PBS)

2. VIBRO-TACTILE ARROW IN PUSHBUTTON:

- When pushed says “Wait”. (s. 4K.03) Arrow is aligned parallel to crosswalk. (s. 4K.04)
- An “Extended Push” (>1 sec) of the button can activate audible beaconing, mute other buttons, and/or activate crossing information message, with the name of street to cross & direction of travel. (s. 4K.05)

“Wait to cross Broadway at Grand, travelling Northeast”



3. WALK INDICATION:

Vibrating Button & an Audible Indication (2 types):

- Rapid Tick (percussive tone), OR
- Speech Message “Broadway, Walk sign is on to cross Broadway”

10FT AUDIBLE WALK INDICATION RULE:

- If pushbuttons are spaced 10ft apart, Rapid Tick (percussive tone) is to be used
- If pushbuttons are closer than 10ft, the Audible Speech Message is to be used



4. PEDESTRIAN CLEARANCE:

Button stops vibrating & audible is changed to a Locate tone
(usually a higher volume than used when in Don't Walk).



AUDIBLE COUNTDOWN OPTION

Can be programmed to provide an “Audible Countdown” in sync with the visual Countdown Pedestrian Signal.

- ***MUTCD does not support the use of an Audible Countdown***
- ***Polara ships units set to “Locate tone” per MUTCD as factory default.***
- ***User must choose to turn on the countdown feature.***



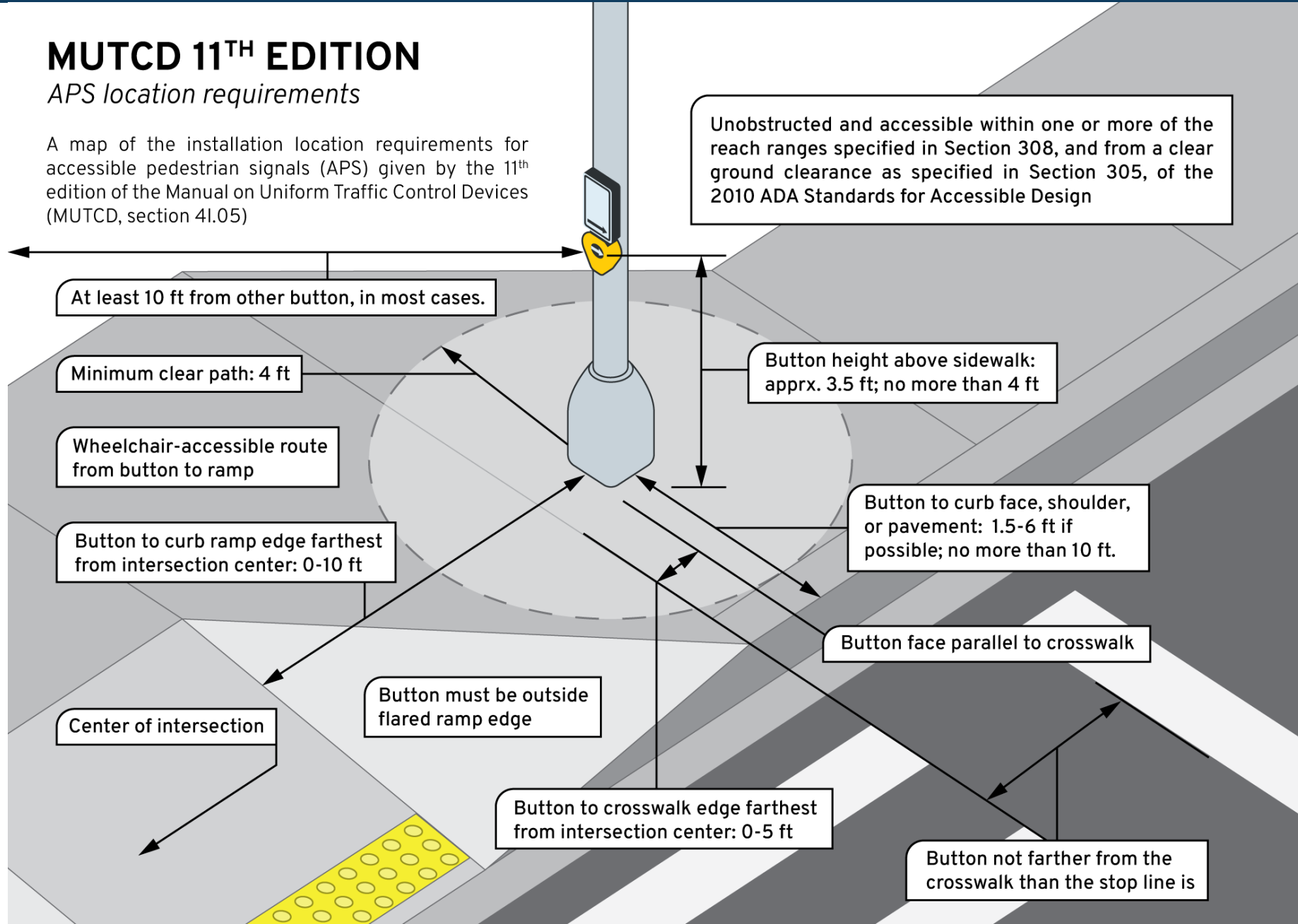
5. DON'T WALK INDICATION:

Sounds reverts back to Locate Tone

MUTCD 11TH EDITION

APS location requirements

A map of the installation location requirements for accessible pedestrian signals (APS) given by the 11th edition of the Manual on Uniform Traffic Control Devices (MUTCD, section 4I.05)



PROWAG & MUTCD SUMMARY:

- **PROWAG**: Any crossing that has a pedestrian signal or pedestrian-activated warning will now have to have an accessible push button.
- **MUTCD**: Currently does not specify that APS must be used, but standards/requirements when used. References ADA and the Rehabilitation Act, and court cases to showing APS is already a requirement. Also, Rulemaking will be done to adopt PROWAG
- **PROWAG/MUTCD**: All pushbuttons now must meet specific functional standards.
- **PROWAG**: Agencies will be required to upgrade these crossings when pedestrian facilities are altered.

REMEMBER:

- *PROWAG represents the minimum standard and may be strengthened by the DOT & DOJ when they adopt it.*
- *The Access Board notes “USDOT and DOJ may provide further specifics as to alterations triggering installation of APS in their rulemakings adopting these guidelines” and “These minimum guidelines will become enforceable once they are adopted, with or without modifications, as mandatory standards under the ADA”*
- *We’ll be keeping an eye on this as it develops, and keep you informed!*

PROWAG:

- R307.8.4 Locator Tone and Traffic Control Signal in Flashing Mode. When the traffic control signal is operating in a flashing mode, pedestrian push button locator tones shall remain active, and the pedestrian push button shall activate a speech message that communicates the operating mode of the traffic control signal.
- (MUTCD: Push button locator tones shall be deactivated when the traffic control signal or pedestrian hybrid beacon 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 steady (stop-and-go) mode by pedestrian actuations.)

DISTRACTED PEDESTRIANS – APS “AUDIBLES” CAN HELP EVERYONE





Everyone deserves to
arrive home safely.

PedSafety

A Campbell Company

Welcome to PedSafety

About Us

PedSafety provides solutions that allow pedestrian access at intersections and public areas.

Since 1972

ISO 9001:2015

Employee
Owned

USA made



Our Solutions

Accessible
Pedestrian
Systems



Push
Buttons



Mounting
Hardware



Turn
Lane
Pedestrian
Indicator

PROWAG Updates



Major Requirements

- All new and altered pedestrian signal heads installed at crosswalks must include APS
- Must be located within a reach range such persons seated in a wheelchair can reach them
- Must have sufficient crossing time to allow for pedestrians with disabilities sufficient time to cross
- Audible Information Devices (AID) are required at non intersection crossings (midblocks)

All PedSafety APS are PROWAG Compliant

PROWAG Updates

APS Defined

- High Contrasting tactile arrow
- Locator Tone
- Verbal “Wait” message plays when pressed or detected
- Audible and vibrotactile walk indications
- Vibrate during the walk interval
- Audible Walk indicators automatically adjust to ambient sound
- Extended press feature providing additional accessible walk indication or features

No more than 5 feet from side of a curb ramp

Corners where 2 buttons are greater than 10 feet apart must play percussive tones

Altered Corners where this is not possible must play verbal messages detailing crossing info (wait to cross 1st street at Main) (1st street walk sign is on to cross 1st street)

Types of APS Devices

Independent – No devices in cabinet

Networked – Central Controller in cabinet



PROWAG Updates

AID Defined

- Similar to APS but must NOT have a vibrotactile response
- Do not require a physical push button if no Pedestrian Signal Head is present and using Passive Detection for activation of system
- Should a physical push button be used it must still have high contrasting tactile arrow
- Must activate a speech message that indicates the status of the system through a button or passive detector



AID Devices

Can be APS devices or remote intelligent speakers that communicate all typical APS messages



PROWAG Updates

PROWAG declined in the final guidelines to list specific actions that trigger the requirement to install APS. Rather they stated, "pedestrian signals are subject to the same alteration requirements as other pedestrian facilities."

Entities will assess the requirements in the guidelines as adopted by the USDOT and DOJ to determine if an APS is required. The USDOT and DOJ may provide further specifics at that time.

Pedestrian Facilities Subject to PROWAG

➤ The 3 Types

- Newly Constructed Facilities
- Newly Added Facilities
- Altered Existing Facilities

➤ Newly Constructed and Added Facilities are subject to full compliance with PROWAG

PROWAG Updates

Section R307.8.4

Locator Tone and Traffic Control Signal in Flashing Mode

- When the traffic control signal is operating in a flashing mode, pedestrian push button locator tones shall remain active, and the pedestrian push button shall activate a speech message that communicates the operating mode of the traffic control signal.
- Where traffic control signals or pedestrian hybrid beacons are activated from a flashing or dark mode to a stop-and-go mode by pedestrian actuations, a speech message communicating the operating status of the traffic control signal is not required.
- Flashing mode is identified as an intersection that enters flashing mode at set times of the day

PROWAG Updates

Section R307.8.4

PedSafety's Position

- As of January 2024, no APS or controller manufacturer can achieve this requirement. It may be available in the future
- Does not specify which message should be transmitted from the APS which reduces the chances for uniformity
- No studies were done with the various accessibility groups to identify correct message to play during these times or if any message should be played
- The U.S. Access Board did not factor in extra costs agencies would incur to achieve this requirement

Following the NCUTCD annual conference in December they have encouraged the U.S. Access Board to suspend this section

State and local jurisdictions are encouraged to implement APS to the maximum extent possible

PROWAG is not mandatory until USDOT and DOJ rulemaking, all interested parties should provide public comment

Both the 2009 MUTCD or the MUTCD 11th edition state, "push button locator tones shall be deactivated when the traffic control signal or pedestrian hybrid beacon is operating in a flashing mode."



A Full Suite of Solutions



Independent Solutions



Networked Solutions



Extension Brackets

APS Independent

APS Networked



A solution for every pedestrian safety need.

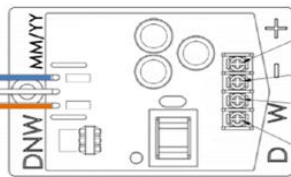
APS – Independent vs. Networked

Independent

Power Interface in Pedhead

WARNING 120 VAC Inputs

Blue wire to Walk
White wire to Neutral
Orange wire to Don't Walk

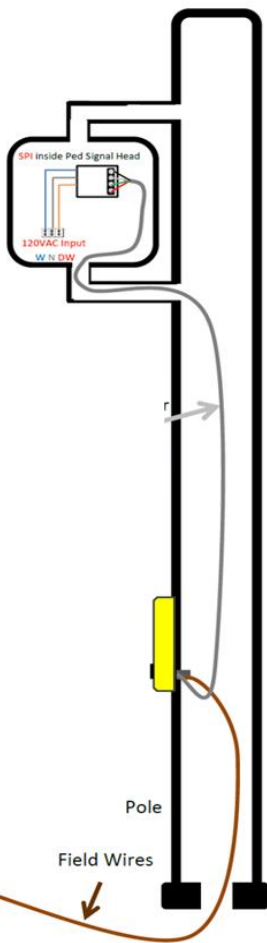


12 VDC Outputs

Terminal 4: +12VDC
Terminal 3: -GND
Terminal 2: S2 W (Walk)
Terminal 1: S1 DW (Don't Walk)

Cabinet

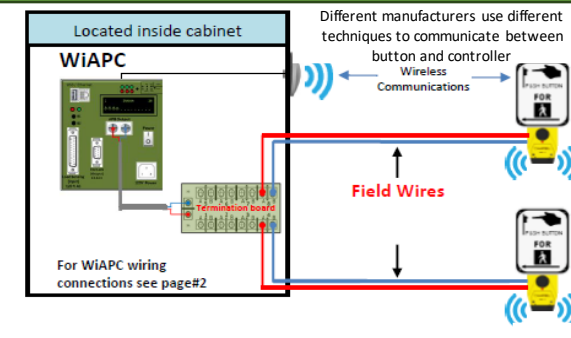
- ✓ Utilizes the existing Field Wires from cabinet to pedestrian push buttons to place calls
- ✓ NOT polarity dependent



VS.

Networked

Pedestrian Controller and Board provide power to the buttons



Cabinet

- ✓ Controller places calls to the cabinet
- ✓ Utilizes existing PPB field wires
- ✓ Various controller options including shelf mount or card rack options



Existing or new field wires
To termination board for power



Independent APS

- Independent and fully integrated Pedestrian Station
- No devices in the cabinet
- Power and signal information is communicated through device in the Pedhead
- Optimal for intersections that do not require remote monitoring

Complies with

- MUTCD
- ADA
- PROWAG



Networked APS

- Pedestrian Controller “server” located in cabinet coordinates with buttons to provide them information
- Pedestrian Controller identifies status of intersection and status of buttons to place calls and inform buttons when to messages
- Allows for remote monitoring of stations when connected to network

Complies with

- MUTCD
- ADA
- PROWAG



Networked Utilities

- Various manufacturers allow for different levels of control
- Can pull log data remotely
- Observe status of buttons
- Password Protected
- Common Procedure Guides for all manufacturers



Questions
&
Answers?

THANK YOU

5.0 PROWAG requirements and updated accessibility standards

Paul Leddy, MoboTrex Inc. & Matt Baker,
Polara

Brian Plum, Traffic Control Corporation &
Travis Goldsby, PedSafety

6.0 Adjournment

Next meeting:

May 2, 2024

Location: TBD

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