



SDOT POLICY MEMORANDUM

Date: May 29, 2014
To: Goran Sparrman, SDOT Interim-Director
From: SDOT ADA Committee
Subject: SDOT's Accessible Pedestrian Signal Design and Implementation Policy

Overview and Purpose

At the present time there are Federal requirements, and a number of guidance documents that provide information about standards for removing barriers and making Public Right of Way (ROW) street crossings accessible to all users. Citations from the Federal requirements and guidance documents are provided for reference at the end of this document. One aspect of providing an accessible crossing is an Accessible Pedestrian Signal (APS).

The documents the City can refer to and follow when implementing APS are the 2005 and 2011 Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG), the WSDOT Pedestrian Design Manual, WSDOT Field Guide for Accessible Public Rights of Way, FHWA Technical Memorandum, and Title II of the American Disabilities Act (ADA). At this time, the basis for enforcement for the Department of Justice (DOJ) is Title II of the ADA, and the FHWA and WSDOT refer to the 2005 PROWAG as the best available guidance for accessible improvements in the ROW.

This proposed policy is based on the guidance we are provided by others but seeks to define consistent policy where others are unclear and inconsistent. In accordance with the guidance provided by the FHWA, the goal of adopting this policy is to provide a reasonable and consistent approach for when APS is triggered and how APS equipment will be installed and activated within the City of Seattle public ROW.

Aspects of Accessible Pedestrian Signals

As described in the 2009 MUTCD, there are multiple aspects of a pedestrian signal that make it accessible to pedestrians who have visual disabilities. These aspects include, but are not limited to: signal controller, location of pedestrian pushbuttons with respect to sidewalk, curb ramps, and edge of the curb, shoulder, or pavement, height of pushbutton, pedestrian signal head location, auditory indications, and vibrotactile indications.





Proposed APS Policy for Traffic Signal and/or Pedestrian Signal Alteration:

As improvements are studied and engineering is undertaken, Figure 1 is proposed to be referred to for determining the minimum APS improvements. In addition, engineers shall also assess intersections according to the 2009 MUTCD, and determine justification for non-visual/audible formats exists, on a case by case basis. Where a Traffic/Pedestrian Signal alteration is proposed, an engineering study should be conducted to determine if APS is warranted to be installed where any of the following conditions exist: existing traffic signal adjacent to an existing transit stop (bus or street car), existing or proposed cycle track facility; or where pedestrian signal warrant is met.

When pedestrian signal alterations are undertaken, and a new or replaced pedestrian push button is being provided, as described in Figure 1, it shall at a minimum feature a latching mode with a LED indicator light and audible feedback. The LED and audible feedback will actuate each time the pushbutton is pressed and shall terminate at the beginning of the WALK pedestrian interval. Pedestrian pushbuttons shall be located and installed per the current MUTCD requirements and manufacturer's specifications. When feasible, it is generally considered a good practice to provide conduit and other related infrastructure for the future APS signal installation as part of any pedestrian signal modification.

Where equipment is installed that has auditory cue capability, a Speech Walk Indication shall be provided, and it is recommended that the message be "[Street Name] WALK". This message should be repeated for the duration of the WALK indication.

Although this direction differs from the 2011 PROWAG, it further clarifies what is stated in the WSDOT Pedestrian Design Manual, for what signal alterations constitute an alteration of the pedestrian facility, and what type of alteration triggers an APS improvement for a crossing.

New Pedestrian/Traffic Signal, or Complete Replacement:

As new improvements or complete replacements are studied and engineering is undertaken for Traffic or Pedestrian Signals, Figure 1 is proposed to be referred to for determining the minimum APS improvements. As described in the figure, the pedestrian signal heads and pushbuttons shall be installed per the current MUTCD requirements and the new APS equipment shall meet the requirements of Standard Plan 522b and include auditory cue capabilities. The auditory cue shall be activated upon installation, unless otherwise requested by the public or the City.

Where an existing traffic or pedestrian signal is replaced, or a new traffic signal is installed, this policy is consistent with the 2011 PROWAG, 2009 MUTCD, and WSDOT requirements.





FIGURE 1: APS Equipment Minimum Requirements and Project Scope for Local AND Federally Funded Improvements

APS Improvement	Project: Sidewalk or curb ramp improvement requires existing PPB ² be relocated	Project: Existing pedestrian signal head replaced	Project: Existing Traffic and/or Pedestrian Signal Significantly Altered	Project: New Signal, Completely Replaced Signal, or a location where an APS has been requested by the public
Pedestrian Countdown Head and Companion		X	X¹	
All Pedestrian Heads Countdown at the Intersection			X¹	X
Pedestrian Pushbutton (PPB) per COS Std Plan 522A	X			
Companion Pushbutton (PPB) upgraded per COS STD Plan 522A	X			
Pedestrian Pushbutton located per MUTCD	X		X¹	X³
Pedestrian Pushbuttons per COS Std Plan 522B for all crossing of the intersection			X¹	X

¹Number of crossings and extent of equipment upgraded to be determined on a project by project basis based on scope of modification and type of intersection. At a minimum, arterial crossings shall be upgraded to Pedestrian Countdown Head and PPB per COS Standard Plan 522B.

²Pedestrian Pushbutton

³If feasible given existing conditions and site constraints





REFERENCES for Requirements and Guidance

1) Federal Requirements: American Disabilities Act Accessibility Guidelines (ADAAG)

- A) New Construction Requirements, CFR 35.151: Each facility or part of a facility constructed by, on behalf of, or for the use of a public entity shall be designed and constructed in such a manner that the facility or part of the facility that is readily accessible to and usable by individuals with disabilities, if the construction was commenced after January 26, 1992.
- B) Alteration Requirements, CFR 35.151: Each facility or part of a facility altered by, on behalf, or for the use of a public entity in a manner that affects or could affect the usability of the facility or part of the facility shall, to the maximum extent feasible be altered in such a manner that the altered portion of the facility is readily accessible to and usable for individuals with disabilities, if the alteration was commenced after January 26, 1992.
- C) No specific guidance/requirement provided for APS in alteration or new construction. However it can be interpreted that a pedestrian signal is a facility that is integral to a pedestrian facility in the Right of Way, and thus needs to be accessible.

2) Manual on Uniform Traffic Control Devices (MUTCD), 2009 Edition

A) Section 4E.09:

- 01 Accessible pedestrian signals and detectors provide information in non-visual formats (such as audible tones, speech messages, and/or vibrating surfaces).
- 02 The primary technique that pedestrians who have visual disabilities use to cross streets at signalized locations is to initiate their crossing when they hear the traffic in front of them stop and the traffic alongside them begin to move, which often corresponds to the onset of the green interval. The existing environment is often not sufficient to provide the information that pedestrians who have visual disabilities need to cross a roadway at a signalized location.

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

Support:

- 04 The factors that make crossing at a signalized location difficult for pedestrians who have visual disabilities include: increasingly quiet cars, right turn on red (which masks the beginning of the through phase), continuous right-turn movements, complex signal operations, traffic circles, and wide streets. Furthermore, low traffic volumes might make it difficult for pedestrians who have visual disabilities to discern signal phase changes.
- 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 (see Page i for the address for the U.S. Access Board).





3) Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG DRAFT 2005)

NOTE: This document is a **DRAFT** guideline at this time, and is not adopted by the DOJ. It has been endorsed by FHWA as the “best available” guidance for accessible design in the Public Right of Way and is what WSDOT follows.

- A) 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

4) Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG DRAFT 2011)

NOTE: This document is currently a **DRAFT** guideline at this time, and is not adopted by the DOJ.

- A) R209.1 General: Where pedestrian signals are provided at pedestrian street crossings, they shall include accessible pedestrian signals and pedestrian pushbuttons complying with sections 4E.08 through 4E.13 of the MUTCD (incorporated by reference, see R104.2). Operable parts shall comply with R403.
- B) R209.2 Alterations: Existing pedestrian signals shall comply with R209.1 when the signal controller and software are altered, or the signal head is replaced.

5) WSDOT Design Manual Section 1510 (July 2013)

- A) Section 1510.12 Pedestrian Pushbuttons at Signals: When pedestrian signals are newly installed, replaced, or significantly modified, include accessible pedestrian signal (APS) pushbuttons and countdown pedestrian displays as described in 1510.12(2).
- B) Section 1510.12(2) Accessible Pedestrian Signals (APS): At all locations where pedestrian signals are newly installed, replaced, or significantly modified, the installation of accessible pedestrian signals and countdown pedestrian displays is required.

6) FHWA

- A) *Per Jodi Peterson of FHWA, February 2014:* Each agency must have a reasonable and consistent policy in place for APS. FHWA does not require agencies to upgrade to APS when modifying signals/curb ramps unless it is stated as part of that project. Changing countdown head, installing and modifying signal displays, signal timing changes, curb ramp installation , etc does not trigger APS. It is good practice to provide the conduits and other infrastructure for the future APS signal installation if it makes sense to do so.
- B) *FHWA Technical Memorandum, January 2006:* The present standards to be followed are the ADA Accessibility Guidelines (ADAAG) standards. However, the Draft Guidelines (NOTE: 2005) are the currently recommended best practices, and can be considered the state of the practice that could be followed for areas not fully addressed by the present ADAAG standards. Further, the Draft Guidelines are consistent with the ADA's requirement that all new facilities (and altered facilities to the maximum extent feasible) be designed and constructed to be accessible to and useable by people with disabilities.

