# Accessible Pedestrian Signals (APS)

## For detailed information on APS and installation, see [www.apsguide.org](http://www.apsguide.org)

## APS_P1080324_cropped.JPGWhat is an Accessible Pedestrian Signal?

The Manual on Uniform Traffic Control Devices (MUTCD) defines an Accessible Pedestrian Signal as “a device that communicates information about pedestrian timing in nonvisual format such as audible tones, verbal messages, and/or vibrating surfaces.” (Manual on Uniform Traffic Control Devices 2009, Section 1A.13, paragraph 3)

## Why are they needed?

Changes in intersection design and signalization, as well as the presence of quiet cars, have affected the traditional street crossing techniques used by pedestrians who are blind or visually impaired, making the pedestrian phase harder to recognize without seeing the visual pedestrian signal. At many intersections, the pedestrian phase (the time during which pedestrians are allowed to cross) does not correspond with the green signal for the vehicles, for example where vehicles are allowed to turn left while pedestrians wait, and at leading pedestrian intervals (which give the pedestrians a head start) and exclusive pedestrian phasing (which allow pedestrians to cross but all vehicles have a red signal). Some locations require pedestrians to push a button to actually receive enough time to walk across the street. Pedestrians who cross without pushing the button are likely to still be in the intersection when perpendicular traffic begins moving. In many states, it is illegal to begin crossing during the flashing don’t walk or don’t walk intervals of the pedestrian signal.

Figure 1: Photo of pushbutton integrated APS

APS provide the same information that is provided by the visual pedestrian signal to sighted pedestrians in an audible and vibrotactile format, making it possible for pedestrians who are blind to precisely identify the onset of the WALK signal.

## Accessible Pedestrian Signal Features

The 2009 MUTCD specifies that all newly installed APS have an audible walk indication, a vibrotactile walk indication, a pushbutton locator tone, a tactile arrow, and automatic volume adjustment. These are sometimes called pushbutton-integrated APS; they have been common in Europe and Australia for years. These types of APS provide a speaker and a vibrating surface or arrow at the pedestrian pushbutton and sounds come from the pedestrian pushbutton housing, rather than from overhead speakers.

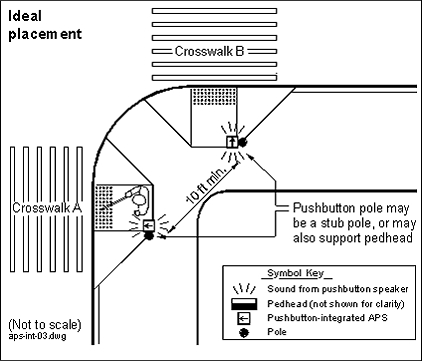
A quiet locator tone, repeating once per second during the flashing and steady don’t walk, provides information to the blind individual about the presence and location of a pedestrian pushbutton. The locator tone should be adjusted to be audible 2 to 4 meters (6 to 12 feet) from the pole or from the building line, whichever is less. A tactile arrow on the APS should be aligned with the direction of travel on the crosswalk it controls.

This type of APS automatically adjusts its volume in response to ambient sound levels. These signals are intended to be loud enough to be heard ONLY at the beginning of the crosswalk, but on some APS, volume is increased if pedestrians press the pushbutton for one second or longer.

The walk interval may be a rapid ticking tone or by a speech message. Which type of sound is used is determined by the location of the two APS on the corner.

## Installation recommendations

Installation in the proper location and orientation in relation to the crosswalk is important for the use of any type of APS. The MUTCD, based on recent research, recommends that each APS device should be on a separate pole, located as close as possible to the curb line, and as close as possible to the crosswalk line that is furthest from the center of the intersection.

Two APS on a corner should be at least 10 feet apart in order for pedestrians to easily distinguish which device is sounding. Both APS should have the same WALK indication; the direction of the sound source clarifies which crosswalk the APS signals. [See graphic at left]. The recommended WALK indication for APS that are located according to these recommendations is a fast tick, or percussive sound, at 10 repetitions per second.

Where it is technically infeasible to install two APS pushbuttons (and speakers) on a corner on two separate poles at least 10 feet apart, it is recommended that speech WALK messages be used. The required wording is “[street name] walk sign is on to cross [street name]”, for example, “Beechwood; walk sign is on to cross Beechwood”. If speech walk messages are used, it’s essential that pedestrians know the name of the street being crossed. An additional feature, called a pushbutton information message, is needed on the device to provide street name to pedestrians who are unfamiliar with the intersection. If the pushbutton is pushed in and held for more than one second, the name of the street controlled by the pushbutton is stated.

Figure 2: Drawing from APS: Guide to Best Practice showing APS installation locations on a corner. A ramp leads to each crosswalk. Each pushbutton is near the top of the ramp on the side of the crosswalk furthest from the parallel street

## Adjustment of APS

## Proper placement of the APS and careful adjustment of the APS volume can be critical, both for usability by pedestrians who are blind and for neighborhood acceptance. The pushbutton locator tone and walk indication are normally supposed to only be audible 6 to 12 feet from the pushbutton.

## Additional information on features and installation including a recorded presentation is available at [www.apsguide.org](http://www.apsguide.org). A document on Common Problems Arising in the Installation of Accessible Pedestrian Signals is available on the Access Board’s site at [www.access-board.gov](http://www.access-board.gov) under the section on Streets and Sidewalks, Public Rights-of-Way.

## Requesting an APS

In the US the first and best course of action is to draft a letter with your student following the process outlined on the Orientation and Mobility Division website under the Environmental Access Committee resources.

Secondly, it can be useful to become connected with the Planning and Engineering folks in your area through Advisory Committees or Community Outreach Meetings. These connections can keep you in the loop about ongoing projects so you can provide information about APS (and other access issues) in the planning stages when budgeting is less of an issue.

## Installation examples

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Figure 3: Photo of APS installed in San Francisco; the APS is on a pole near the street, in line with the crosswalk line

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The graphic at left, Figure 6-2 from *Accessible Pedestrian Signals: A Guide to Best Practice*, illustrates the placement of APS pushbuttons when installed at corner with various typical curb ramps. The APS would be installed on separate poles, on the side of the crosswalk furthest from the parallel street. Obviously, in retrofit situations, this wouldn’t be possible in all cases, however, this is the installation goal and clients/students need to know about the new locations for pushbuttons on two separate poles, one for each crosswalk.