



City of New Orleans

Mayor's Office of Human Rights and Equity

Accessible Pedestrian Signals - 2019 Report

Introduction:

Accessible Pedestrian Signals (APS) are devices which communicate information about intersections and pedestrian timing in nonvisual format. In addition to traditional lighted signage with walk signals, APS include “audible tones, verbal messages, and/or vibrating surfaces.” Currently in the United States, APS are installed by request along specific routes of travel or upon upgrade and renovation efforts to existing pedestrian signals. These technologies are often seen as falling under the “effective communication” portion of the Americans with Disabilities Act (ADA). Intentional and effective placement of navigable APS machinery “can make it more enjoyable to walk around by giving (low or no vision) people similar information to sighted pedestrians.”¹ Viewing upgrades to pedestrian signals under the umbrella of effective communication provides a useful frame by which ensuing questions regarding implementation may be approached. Accessible Pedestrian Signals should provide the same level of critical information needed for a non-sighted individual to cross an intersection as a non-APS intersection provides to a sighted pedestrian.

In cities across the country, the US Department of Justice (DOJ) has pursued aggressive enforcement actions and cities have faced consent decrees and settlements for non-compliance. In 2004, *Barden v. Sacramento* demonstrated that without proactive action taken by a city, concerns surrounding the accessibility of pedestrian intersections may ultimately result in settlements that determine how much money and time a city must be allocated regardless of a city’s budgetary or capacity constraints.² Cities and public entities are responsible for making pedestrian rights of way

¹ Gallo, S. 2019. “Navigating with Accessible Pedestrian Signals in Washington, DC.”

² Burks, R. 2004. “*Barden v. Sacramento*.”

accessible to individuals with vision and/or mobility disabilities, and settlements can result from a failure to do and claim large percentages of a city's budget for long periods of time³. Accessibility updates should incorporate input from members of the public and prioritize requests from residents that seek to address barriers at specific sites.

Literature review:

The United States has been slow to adopt audio or tactile additions to pedestrian signals. In comparison, Japan, Australia, and some European countries have been routinely creating accessible pedestrian signals over the past 25 years. APS modifications provide information to pedestrians about the: “existence of and location of the pushbutton, beginning of the WALK interval, direction of the crosswalk and location of the destination curb, intersection street names, intersection signalization with a speech message, and/or intersection geometry through tactile maps and diagrams, or through speech messages.”⁴ Ultimately, an effective APS should endeavor to provide the same type of critical information needed for a non-sighted individual to cross an intersection as a non-APS intersection provides to a sighted pedestrian.

There are no “one size fits all” regulations, but rather minimum requirements that should be adapted to serve a city's population based on its needs. Department of Justice standards require that jurisdictions accept responsibility for self-evaluations and creating transition plans that demonstrate concrete progress with the ultimate understanding that services must be accessible to all users regardless of ability.

Guidance for installation of APS is drawn from the Manual on Uniform Traffic Control Devices (MUTCD) which recommends that intersections with complex signalization patterns (i.e. split phases, protected turn phases, or exclusively pedestrian phases), high or low traffic volumes⁵, and intersection geometry, be specifically addressed. The recommendations also state that engineering studies be conducted whenever there are community requests for APS which coincide with any of the above intersection features or conditions.⁶ For this reason, many jurisdictions establish methods for public input so they may tailor any APS decision-making to community demand.

Many best practice guides warn against simplifying or isolating features to be included in APS, but recognize that many manufacturers still use common language when describing products. Although isolated categories are outdated, they can be useful in understanding what parts of a system may be addressed for accessibility. The most common type of signal in the United States between 1960-2000 was the “pedhead-mounted” style, which is a speaker mounted to the top of the pedestrian signal

³ Sacramento is responsible for allocating 20% of their Department of Transportation budget for 30 years following the settlement to pedestrian right of way renovations.

⁴ National Academies of Sciences, Engineering, and Medicine 2011.

⁵ Best practice guides emphasize that both high and low volume traffic can present hazards for low or no vision pedestrians as either road condition does not provide clear cues, making it difficult for a pedestrian to assess flow of traffic or other traffic patterns.

⁶ *United States National Advisory Committee on Uniform Traffic Control Devices.*

head “emitting a bell, buzzer, cuckoo, cheep, tone, or verbal message during the walk interval.” These signals are intended to be heard across the street and act as a beacon, which often means they are fairly loud.⁷ The chief complaint from surrounding communities have been related to noise, yet as technologies have improved, APS technology can now moderate noise levels to ambient sound and provide more information than a beacon tone.

A common style in Europe and Australia is a “pushbutton-integrated” signal, which includes a speaker and vibrating surface located at the pushbutton. This speaker emits a regularly repeating locator tone providing information about the placement of the pushbutton. Signals of this nature are often responsive to ambient and traffic noise, and unlike the traditional locator signal type are meant to be heard at the beginning of the crosswalk and provide information about walk times, intervals, and sometimes street names, geometry, or signalization of the intersection.⁸ These technological updates address community concerns for noise pollution and serve to provide more information to low or no vision pedestrians.

Having devices on the market which do not effectively increase accessibility or meet the minimum guidelines can be confusing if cities do not take precautions to ensure their plans are informed by standards, best practices, and community input. Two types of APS technologies that cities have implemented are “receiver-based,” where a pedestrian has a receiver technology (i.e. infrared or LED technology) that transmits messages from the pedestrian signal to the pedestrian individually through a handheld device. The final is “vibrotactile-only,” which only includes information on a pedestrian push button.⁹ Neither of these conform with current ADA requirements.

Additionally, if an APS device is incorrectly aligned or located, it will provide ambiguous information and create a situation whereby a pedestrian might not have any other information cues to rely on. Additionally, a number of cities have experienced concerns related to maintenance of devices. Instances of users reporting malfunctioning or broken APS devices have been recorded with technicians often believing that all parts of the device were working correctly. It is necessary to create systems whereby a low or no vision user who can quickly identify when features of the device are not operating correctly.¹⁰

Places like Montgomery County, Maryland, have worked to install APS in intersections of concern, but encountered problems such as failure to provide adequate funding, difficulties with integrating APS with existing infrastructure, failure to create formal evaluation processes and failure to institute methods by which public input may be gathered and inform changes.¹¹ Lessons learned from other

⁷ National Academies of Sciences, Engineering, and Medicine 2011. Pages 3-9

⁸ Ibid. Pages 203-212.

⁹ Ibid. Pages 3-9.

¹⁰ Barlow, J. M. 2009.

¹¹ National Academies of Sciences, Engineering, and Medicine 2011. Pages 168-171.

municipalities and an examination of federal guidelines demonstrates the need for public engagement and transparent criteria for installation and application of assistive technology.

Best Practices

What are access board standards? What are individual city standards and guidelines?

As referenced above, there are a number of resources available and federal, state, and local agencies also play a role determining guidelines and standards for accessibility measures. The Access Board recommends cities develop their individual standards and guidelines by first looking at what the Federal Highway Administration and ADA require. Cities develop standards that meet these minimum requirements with the understanding that they should design programs proactively with the intent to exceed these standards. In model cities, policies incorporate all relevant standards and also include city-specific expectations, so program designers can simply refer to that single policy source. When creating their policies, cities should refer to the following:

- The Manual on Uniform Traffic Control Devices (MUTCD) from the Federal Highway Administration;
- Any state-specific version of the MUTCD that exist;
- ADA Title II regulations from the DOJ;
- The Access Board’s 2013 Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way, and;
- City and state requirements for public right of way.

Cities like San Francisco and Des Moines are examples of correct implementation of federal guidelines and standards in policies and installations that incorporate community input and transparency of installation.¹² Both the San Francisco and Seattle policies are included in the appendices and the San Francisco policy and implementation is considered a “gold standard.”¹³ Seattle’s policy is also presented in the appendices as an example of a clear and transparent policy incorporating relevant guidelines.¹⁴ While these provide an invaluable framework, every municipality should investigate their state and city requirements to ensure they are compliant.

How do cities prioritize APS installations?

Federal recommendations referenced in ADA regulations, the Rehabilitation Act, and MUTCD regulations around accessibility and roadways call for logging and tracking community input and integrating these data into APS planning. The need to do this was echoed by the Access Board. Cities should have a method to gather input and feedback and many use their 311 lines, their ADA offices, or their municipal Departments of Transportation to receive public requests for upgrades to

¹² Windley, S., and V. Pasquantonio. 2019.

¹³ Lainey Feingold. 2010.

¹⁴ Both city’s policies are included in the appendices.

certain intersections and integrate this feedback into prioritization rubrics.¹⁵ The Access Board also encouraged cities to consider demographics, including information on areas of the city that may have high concentrations of older adults or low or no vision residents.¹⁶ Cities may then establish a ranking system and review process that prioritize those requests. Some cities accomplish this through community advisory boards made up of stakeholders, advocates, people living with disabilities, mobility specialists, and transportation professionals to review requests and determine priority in accordance with date of request, plans for other construction, or any other local considerations that may impact installation. Other cities have published rubrics and scoring systems which are applied to every incoming request, and prioritize which ever requests rank highest in the scoring criteria.¹⁷ In our city, the Mayor’s Advisory Council for Citizens with Disabilities should be incorporated into community engagement efforts.

What work initiates APS installation?

Many cities require that any new pedestrian signal installations include APS technology. Chicago requires that all new traffic signal installations, roadway construction projects, and signal modernization projects result in APS upgrades or installations. Overall, cities should specifically determine what types of maintenance and roadwork are extensive enough to require APS retrofitting. ADA Accessibility Guidelines are minimum guidelines for new construction or reconstruction, and cities must apply those guidelines to alterations, renovations, or additions. While the ADA does not require that all intersections and locations be immediately retrofitted, it does require that accessibility be improved when work is performed at a location.

Many cities draw lines of distinction between work on roadways or sidewalks versus repairs, replacements, or significant upgrades to the signal itself. In such cities, if a sidewalk or section of pavement is being repaired, these changes generally would not automatically update the signal, while any work done to the pedestrian signal itself would then trigger APS installation. These guidelines should be created with public facing processes for engagement and prioritization. The Access Board also suggested that the City reach out to respective departments each time they execute a capital project and remind them of the ADA requirements.

What are proactive actions cities are taking?

The City of Chicago has recently taken proactive steps to increase the number of accessible intersections by committing to install 50 APS devices over the next two years.¹⁸ These updates are being made in their city center and various residential or commercial locations and prioritize

¹⁵ Windley, S. 2019.

¹⁶ *United States National Advisory Committee on Uniform Traffic Control Devices.*

¹⁷ Chong, C. 2012.

¹⁸ Greenfield, J. 2019. “CDOT Will Include Accessible Ped Signals in All Projects — Up to 100 Within 2 Years.” Streets Blog Chicago.

intersections near key institutions, six-legged intersections, university campuses, and locations suggested by stakeholders.

Importantly, some cities who attempted to make proactive upgrades for accessible pedestrian signals used initial criteria that members of the community were not pleased with. Des Moines, Iowa originally factored in proximity to older adult, sight-assistive, or mobility-assistive organizations and service providers.¹⁹ Community members then expressed that this was not automatically the most effective way to determine placement of these expensive resources since this led to other crucial and high-traffic areas remaining inaccessible.

Who are model cities for APS programs?

As mentioned above, San Francisco has been considered the “gold standard” of APS installations, and their interventions have come to exceed the minimum standards required in a 2007 settlement. They have installed well over 1,000 devices and in 2010 leveraged federal stimulus funds through the San Francisco Municipal Transportation Authority (SFMTA). A large contributor to the success of their program is the close coordination of service organizations with SFMTA efforts and funding, which ensured that community interests and needs were central to installations. Additionally, the APS devices themselves are equipped with audible and tactile features, including street names, locator tones, and vibrating push buttons. Comprehensive and communicative technology implementation was an appreciated part of the San Francisco efforts. San Francisco’s APS programs also includes a detailed checklist for prioritizing requests and carefully monitored maintenance. Their assessment addresses characteristics of the intersection (like crosswalk width and angle, traffic volume and presence, and pedestrian intervals), connectivity of location to transit system, and proximity of location to services and attractions. Their assessment is seen as a comprehensive set of criteria that respectfully and effectively identifies priority areas.

For cities with fewer resources than San Francisco, Des Moines, Iowa has created a robust program with significant success despite funding constraints. The City of Des Moines is able to fund no more than two APS devices per year. Throughout the year, the City accumulates requests from residents and reviews and acts on them annually. Requested intersections are scored based on a published rubric assessing intersection complexity, signal phasing, crosswalk length, approach and geometries, and requests from the public. Those intersections receiving the highest scores are selected by an advisory committee of City employees and members of the public, with additional weight put on input from the public in determinations.

Conclusion

Key recommendations include incorporation of community input, transparency in planning and determinations, and initiatives to address public concerns and accessibility. Indeed, a city could have APS devices at every intersection but that would not necessarily make these devices user-friendly or accessible. Users prioritize using both audio and tactile features, stress the need for safety and

¹⁹ Chong, C. 2012.

accuracy in installation and maintenance, and the need for transparency regarding where accessible intersections are located and how they were prioritized.²⁰ Cities who are aware of barriers, document concerns, and create plans to address them fare better than those who hide the concerns or dangers which are present. All federal transportation and accessibility departments have strongly recommended that APS be integrated into ADA transition plans for cities, and emphasized the need to include timelines and benchmarks in these plans. City documents and processes should adjust to demand and input from the community. Without this perspective and commitment, cities have faced significant barriers and even consequences.

²⁰ Gallo, S. 2019.

Appendices:

San Francisco Policy

San Francisco Checklist

Seattle Policy

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