Accessible Pedestrian Signals

Program Status Report

November 2012

Program Overview

The New York City Department of Transportation (NYC DOT) installs Accessible Pedestrian Signals (APSs) to assist pedestrians who are blind or have low vision in crossing the street. These devices provide information in non-visual formats, such as audible tones, speech messages, and vibrating surfaces, to alert vision-impaired pedestrians when the "walk" phase is available at a given intersection.

As of November 1, 2012, there are APS units installed at 48 intersections citywide, 28 of which were installed over the past year. A list of these locations is included in this report and is available on NYC DOT's website at www.nyc.gov/dot.

As required by Local Law 21 of 2012, NYC DOT will install APS units at each corner of 25 additional intersections each year. The agency works closely with the Mayor's Office for People with Disabilities and the visually impaired community, such as the group Pedestrians for Accessible and Safe Streets (PASS), to identify intersections which present a crossing difficulty for persons with visual impairments. NYC DOT is also guided by the Americans with Disabilities Act Accessibility Guidelines to consider APS units for new traffic signal installations and alterations, and considers locations that are recommended by constituents and elected officials.

NYC DOT establishes a ranked priority list of intersections for the installation of APSs based on established criteria, including but not limited to off-peak traffic presence, current traffic-signal patterns and the complexity of the intersection's geometry, including crossing distance. This criteria is set forth by the National Cooperative Highway Research Program (NCHRP) and the most recent version of the federal Manual on Uniform Traffic Control Devices (MUTCD). Final scores are based on the individual crosswalk and intersection scores for each location, and ultimately determine priority for installation. This report includes the list of the fifty top-ranked intersections as of November 1, 2012.

Cost and Funding Sources

The cost per intersection averages approximately $36,500. For the 28 intersections where APS was installed over the past year, the total cost was $1,022,000. The NYC DOT anticipates spending approximately a similar amount of funds for next year's program.

The baseline estimated cost to furnish and install an APS unit on an existing pole is $500. A typical quadrant intersection would require eight units, meaning that the estimated cost per intersection is at least $4,000. In many instances, an intersection may require additional work that increases the cost of the installation. For example, most intersections do not have pedestrian signal poles at the location required for APS installation (i.e., adjacent to a pedestrian ramp) requiring the construction of new poles at additional cost. Other factors, such as utilities located underneath the intersection, may add to the total cost of installation. Overall, the costs for each intersection varies depending on the number of additional poles needed, geometry and complexity of the intersection.

Funding for the installation of APS devices comes from NYC DOT's annual signal construction contract, which is funded by the Consolidated Local Street and Highway Improvement Program

(CHIPS). CHIPS provides New York State funds to municipalities to support the construction and repair of highways, bridges, highway-railroad crossings, and other facilities that are not on the state highway system. Funding allocations to municipalities are calculated annually by the New York State Department of Transportation (NYSDOT) according to formulas specified in Section 10-c of the State Highway Law. At this time, there does not appear to be additional funding sources for this program.

Recommendations for Improvements and Availability of New Technology

NYC DOT is continuously researching new technologies and instituting updates to enhance the APS program. The agency is currently in the process of replacing older types of APSs, which provide “birdcalls” from overhead speakers mounted on the pedestrian signal to alert visually impaired pedestrians when it is safe to cross. These older devices are louder, emit a noise with every walk display regardless of pedestrian demand, and may use a different bird call for each crossing, which may confuse the user. In addition, the older devices do not provide crossing information as new types of APS units do.

The new type of APS unit used by NYC DOT was tested and approved for use in New York City in 2011, and features a distinct clicking sound that can be adjusted based on the needs of a specific intersection. They also feature a raised vibrating tactile arrow at the pedestrian pushbutton location, which a user can find by a locator tone. These units are installed in close proximity to each pedestrian crossing ramp so that there is no confusion which APS unit is for which crossing. Upon pushing the button, the arrow will vibrate and there will be a rapid percussive tone or audible message when the “walk” signal is displayed.

NYC DOT has also recently evaluated new technology such as Prisma and Talking Signs, for use in the APS program. With this technology, transmitters mounted on an APS unit send invisible, infrared signals to receivers, then decode it into a voice message that tells a user what infrastructure or street furniture he or she is near, such as a crosswalk, bus stop or public telephone. However, this technology requires a person to have a receiver with them at all times in order to benefit from the system. NYC DOT will continue to evaluate the potential uses of this and other technologies on the market to assist blind and low vision individuals in navigating the city’s roadways.

Some recommendations for improvement to NYC DOT’s APS program include, but are not limited to:

- Continued evaluation of the structure of the APS program for possible improvements to staffing and funding levels and sources.
- Further research of new technologies to enhance the APS program.
- Continued dialogue with blind and low vision advocacy groups.

Accessible Pedestrian Signals Locations in New York City

November 1, 2012

Location	Borough
Avenue of Americas and 23rd Street (Selis Manor)	Manhattan
Park Avenue and East 59th Street (Lighthouse)	
Lexington Avenue and East 59th Street (Lighthouse)	
Third Avenue and East 59th Street (Lighthouse)	
7th Avenue and West 23rd Street	
Central Park West and West 65th Street	
Columbus Avenue and West 65th Street	
East 25th Street between Lexington and 3rd Avenues (**Mid-block**)	
West 34th Street between 8th and 9th Avenues (**Mid-block**)	
Broadway and West 23rd Street	
5th Avenue and East 23rd Street	
Stone and Whitehall Streets	
Lexington Avenue and East 52nd Street	
7th Avenue and West 32nd Street	
York Avenue and East 62nd Street	
27th Avenue and 8th Street (Goodwill Industries of NY&NJ)	Queens
Hillside Avenue and 256th Street	
Little Neck Parkway and 86th Avenue	
Queens Boulevard (WB) and Woodhaven Boulevard	
Queens Boulevard (EB) and Woodhaven Boulevard	
Woodhaven Boulevard (NB) and LIE entrance ramp	
Marathon Parkway and 57th Avenue	
Castleton and Brighton Avenues (SI Center for Independent Living Inc.)	Staten Island
Brielle Avenue and Gansevoort Boulevard (Susan E. Wagner HS)	
Castleton and Bard Avenues	
Forest and Bement Avenues	
Kappock Street and Knolls Crescent	Bronx
Bronxwood Avenue and East 220th Street	
Bronxwood Avenue and East 219th Street	
Morris Park Avenue and Albert Einstein College of Medicine (**Mid-block**)	
Grand Concourse and Fordham Road	
Church and McDonald Avenues (New York Industries for the Blind) - Audible	Brooklyn
14th Avenue and 36th Street (New York Industries for the Blind) - Audible	
Church and Dahill Avenues (New York Industries for the Blind) – Audible	
Bedford Avenue between Avenue I and Campus Road (**Mid-block**)	
Jay Street and Metrotech Roadway (South Leg)	
Adams Street between Fulton and Johnson Streets (**Mid-block**)	
Adams Street / Boerum Place and Atlantic Avenue	
Adams Street / Boerum Place and Fulton Street	
Adams Street / Boerum Place and Livingston Street	
Jay Street and Metrotech Roadway (North Leg)	
Flatbush Avenue with Fulton Street and Nevins Street	
Court and Livingston Streets	
Smith and Livingston Streets	
Court and Schermerhorn Streets	
Boerum Place and Schermerhorn Street	
McDonald and Ditmas Avenues	
Atlantic Avenue and Nevins Street	

Top ranked intersections for new accessible pedestrian signals

November 1, 2012

Please note that the list of the fifty top ranked intersections for new APS units will fluctuate as new locations are added and evaluated based on the prioritization criteria described above.

Rank	Location	Borough
1	Court and Joralemon Streets	Brooklyn
2	Flatbush Avenue and Willoughby Street	Brooklyn
3	Jay / Smith Streets and Atlantic Avenue	Brooklyn
4	Jay / Smith and Willoughby Streets	Brooklyn
5	5th Avenue and 89th Street	Brooklyn
6	Ditmas Avenue and E. 5th Street	Brooklyn
7	8th Avenue and W. 55th Street	Manhattan
8	Nevins and Schermerhorn Streets	Brooklyn
9	Bond Street and Atlantic Avenue	Brooklyn
10	Nevins and Livingston Streets	Brooklyn
11	Hoyt and Livingston Streets	Brooklyn
12	Bond and Livingston Streets	Brooklyn
13	Flushing Avenue and Skillman Street	Brooklyn
14	Hoyt Street and Atlantic Avenue	Brooklyn
15	Ocean Parkway and Ditmas Avenue	Brooklyn
16	East 229th Street and Needham / Grace Avenues	Bronx
17	Adams St / Boerum Place and State Streets	Brooklyn
18	224th Street and Hempstead Avenue	Queens
19	East 183rd Street and Walton Avenue	Bronx
20	Court and State Streets	Brooklyn
21	East 154th Street and Elton Avenue	Bronx
22	202nd Street and 53rd Avenue	Queens
23	218th Street and 64th Avenue	Queens
24	Fulton Street and Gold Street	Brooklyn
25	Crosby Avenue and Westchester Avenue / Edison Avenue / Buhre Avenue	Bronx
26	Hoyt and Fulton Streets	Brooklyn
27	Beekman Street and Gold Street	Manhattan
28	Court and Montague Streets / Cadman Plaza West	Brooklyn
29	Jay / Smith and Fulton Streets	Brooklyn
30	211th Street and Northern Boulevard	Queens
31	Flatbush and De Kalb Avenues	Brooklyn
32	Bond and Fulton Streets	Brooklyn
33	Court Street and Atlantic Avenue	Brooklyn
34	Clintonville Street and Locke Avenue	Queens
35	Lydig Avenue and White Plains Road	Bronx
36	James Street and St. James Place	Manhattan
37	Guyon Avenue and North Railroad Avenue	Staten Island
38	Bronxwood Avenue and East 221st Street	Bronx
39	East 163rd Street and Rogers Place	Bronx
40	Colden Avenue and Mace Avenue	Bronx
41	Front Street and Maiden Lane	Manhattan
42	23rd Street and 36th Avenue	Queens
43	164th Street and 59th Avenue	Queens
44	260th Street and Hillside Avenue	Queens
45	Avenue S and Hendrickson Street	Brooklyn

Top ranked intersections for new accessible pedestrian signals, continued

Rank	Location	Borough
46	East 57th Street and Flatlands Avenue	Brooklyn
47	St. Mark's Avenue and Utica Avenue	Brooklyn
48	Albany Avenue and Avenue K	Brooklyn
49	Francis Lewis Boulevard and Laurelton Parkway	Queens
50	201st Street and 53rd Avenue	Queens