



Accessible Pedestrian Signals

Program Status Report

November 2013

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, 2013, there are APS units installed at 71 intersections citywide, 26 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, 2013.

Cost and Funding Sources

The cost per intersection averages approximately \$34,430. For the 26 intersections where APS was installed over the past year, the total cost was \$895,200. 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 over the past year has replaced all older types of APSs, which provided "birdcalls" from overhead speakers mounted on the pedestrian signal to alert visually impaired pedestrians when it is safe to cross. These older devices were louder, emitted a noise with every walk display regardless of pedestrian demand, and used a different bird call for each crossing, which confused the user. In addition, the older devices did 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 is constantly evaluating new technologies for use in the APS program. For example, with Talking Signs 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, 2013

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)	
Seventh Avenue and West 23rd Street	
Central Park West and West 65th Street	
Columbus Avenue and West 65th Street	
East 25th Street between Lexington and Third Avenues (Mid-block)	
West 34th Street between Eighth and Ninth Avenues (Mid-block)	
Broadway and West 23rd Street	
Fifth Avenue and East 23rd Street	
Stone and Whitehall Streets	
Lexington Avenue and East 52nd Street	
Seventh Avenue and West 32nd Street	
York Avenue and East 62nd Street	
Eighth Avenue and West 55th Street	
West 57th Street between 6th and 7th Avenues (Mid-block)	
West 57th Street between 8th and 9th Avenues (Mid-block)	
West 23 Street between 5th and 6th Avenues (Mid-block)	
Broadway and Bowling Green	
Gold and Spruce Streets	
Gold and Beekman Streets	
Gold and Fulton Streets	

27 th Avenue and 8 th Street (Goodwill Industries of NY&NJ)	Queens
Hillside Avenue and 256 th Street	
Little Neck Parkway and 86 th Avenue	
Queens Boulevard (WB) and Woodhaven Boulevard	
Queens Boulevard (EB) and Woodhaven Boulevard	
Woodhaven Boulevard (NB) and LIE entrance ramp	
Marathon Parkway and 57 th 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 220 th Street	
Bronxwood Avenue and East 219 th Street	
Morris Park Avenue and Albert Einstein College of Medicine (Mid-block)	
Grand Concourse and Fordham Road	
Goulden Avenue and Lehman College High School	
Webster Avenue between East Tremont and East 178th Street	
Valentine Avenue between East Tremont and East 178th Street	
Bedford Avenue between Avenue I and Campus Road (Mid-block)	Brooklyn
Jay Street and Metrotech Roadway (South Leg)	
Adams Street between Fulton and Johnson Streets (Mid-block)	
Atlantic Avenue and Boerum Place	
Adams Street / Boerum Place and Fulton Street	

Jay Street and Metrotech Roadway (North Leg)	Brooklyn
Boerum Place and Livingston Street	
Court and Livingston Streets	
Flatbush Avenue with Fulton Street and Nevins Street	
McDonald and Ditmas Avenues	
Smith and Livingston Streets	
Court and Schermerhorn Streets	
Boerum Place and Schermerhorn Street	
Atlantic Avenue and Nevins Street	
5 th Avenue and 89 th Street	
Ditmas Avenue and East 5 th Street	
Jay Street and Willoughby Street	
Cadman Plaza West and Montague Street	
Livingston and Bond Streets	
Livingston and Hoyt Streets	
Atlantic Avenue and Hoyt Street	
Court Street with Remsen and Joralemon Streets	
Church and McDonald Avenues (New York Industries for the Blind)	
Atlantic Avenue and Smith Street	
Church Avenue and Dahill Road	
14 th Avenue and 36 th Street (New York Industries for the Blind)	
Flushing Avenue and Skillman Street	
Court Street and Atlantic Avenue	
Jay Street/Smith and Fulton Streets	

Top ranked intersections for new accessible pedestrian signals

November 1, 2013

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	St. Nicholas Place and West 155 th Street / Edgecombe Avenue / Harlem River Drive	Manhattan
2	Crosby Avenue and Westchester Avenue / Edison Avenue / Buhre Avenue	Bronx
3	7 th Avenue / Broadway and West 45 th Street	Manhattan
4	Laconia Avenue and Pelham Parkway North / Esplanade	Bronx
5	Hoyt and Fulton Streets	Brooklyn
6	Broadway and West 175 th Street	Manhattan
7	Crocheron Avenue and Francis Lewis Boulevard	Queens
8	Battery Place and Washington Street	Manhattan
9	211 th Street and Northern Boulevard	Queens
10	Jefferson Street and Madison Street	Manhattan
11	Eddy Street and Victory Boulevard	Staten Island
12	DeKalb Avenue and Hudson Avenue	Brooklyn
13	Flatbush and DeKalb Avenues	Brooklyn
14	Bond and Fulton Streets	Brooklyn
15	St. Nicholas Avenue and West 125 th Street	Manhattan
16	East 85 th Street and East End Avenue	Manhattan
17	58 th Street and Queens Boulevard	Queens
18	Dean Street and East New York Avenue / Sackman Street	Brooklyn
19	Freeport Loop (North Leg) and Pennsylvania Avenue	Brooklyn
20	Clintonville Street and Locke Avenue	Queens
21	East 107 th Street and Flatlands Avenue	Brooklyn
22	Grand Army Plaza and West 58 th Street	Manhattan
23	East 52 nd Street and Rutland Road / Remsen Avenue	Brooklyn
24	Lydig Avenue and White Plains Road	Bronx
25	Howard Avenue and Hillside Avenue	Staten Island
26	Hill Street and Tompkins Avenue	Staten Island
27	James Street and St. James Place	Manhattan
28	Thompson Street and Washington Square South (West 4 th Street)	Manhattan
29	Campus Road and Hillel Place	Brooklyn
30	Flatbush Avenue and Willoughby Street	Brooklyn
31	86 th Street and Bay 22 nd Street	Brooklyn

Top ranked intersections for new accessible pedestrian signals, continued:

32	Bailey Avenue and West 234 th Street	Bronx
33	Avenue J and Brooklyn Avenue	Brooklyn
34	Erasmus Street and Nostrand Avenue	Brooklyn
35	Broad Street and Main Street	Manhattan
36	Bay 49 th Street and Cropsey Avenue	Brooklyn
37	Bay 35 th Street / 24 th Avenue and Cropsey Avenue	Brooklyn
38	82 nd Street and Myrtle Avenue	Queens
39	Gold Street and Maiden Lane	Manhattan
40	Edgecombe Avenue and West 164th Street	Manhattan
41	196th Street and Jamaica Avenue	Queens
42	Edward L. Grant Highway and West 169th Street	Bronx
43	199th Street and Hillside Avenue	Queens
44	110th Avenue and Sutphin Boulevard	Queens
45	Hanson Place and Saint Felix Street	Brooklyn
46	East 178th Street and Valentine Avenue	Bronx
47	Clove Lake Place and Clove Road	Staten Island
48	221st Street and Hempstead Avenue	Queens
49	94th Street and Corona Avenue	Queens
50	Cherry Street and Rutgers Street	Manhattan