



CITY OF MINNEAPOLIS ACCESSIBLE PEDESTRIAN SIGNAL INSTALLATION GUIDELINES

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ACCESSIBLE PEDESTRIAN SIGNAL INSTALLATION GUIDELINES

PURPOSE

The lack of direction to address pedestrian safety enhancements at signalized intersections has necessitated an approach by Metropolitan Counties, Cities and the Minnesota Department of Transportation (Mn/DOT) to develop guidelines for the purpose of safety enhancement installations at signalized intersections. The criteria guidelines within this document are specific to Accessible Pedestrian Signals (APS) and the incorporation of APS equipment and functionality into new, modified, and existing traffic signals. The guidelines set forth in this document will be superseded at such time when any governing specification from Mn/DOT, FHWA or AASHTO are adopted that address pedestrian safety enhancements at signalized intersections.

These guidelines utilize the Prioritization Tool for Installation of APS from the National Cooperative Highway Research Program (NCHRP) Project 3-62: Guidelines for APS. The Prioritization Tool was developed by/under NCHRP at the University of North Carolina, Chapel Hill, and then modified to fit our needs. The Prioritization Tool is used to evaluate crosswalks at a signalized intersection to determine the need of an APS based on set thresholds. There are different levels of thresholds depending on new construction, modifications or existing.

DEFINITION OF ACCESSIBLE PEDESTRIAN SIGNAL

According to the Minnesota Manual on Uniform Traffic Control Devices (MMUTCD), an APS is “a device that communicates information about pedestrian timing in nonvisual format such as audible tones, verbal messages, and/or vibrating surfaces.” (Minnesota Manual on Uniform Traffic Control Devices May 2005, Section 4A.2)

NEW CONSTRUCTION OF TRAFFIC SIGNALS

Each crosswalk at a new traffic signal or complete replacement of a traffic signal in conjunction with roadway construction shall be evaluated by means of the Prioritization Tool or subsequent evaluation process approved by Mn/DOT, FHWA, or AASHTO. If the evaluation of a crosswalk results in a score of 30 points or above, the signal will include a fully functional APS system for that crosswalk.

If an evaluation of a crosswalk at the traffic signal does not result in a score of 30 points or above, the design and installation of the traffic signal will include any underground infrastructure and controller cabinet intelligence for the future

implementation of an APS system for the crosswalk. The design shall include be limited to any handholes (pull boxes) and conduits that would be required such that future grade disruption is not necessary to implement an APS system. No crossing legs shall be considered for APS where a pedestrian crossing of that leg is prohibited for any reason.

TRAFFIC SIGNAL MODIFICATIONS

The City of Minneapolis will evaluate all crosswalks at signalized intersections for APS installation where the signal structures are proposed to be modified or there is a change in the existing signal phasing. Modification is defined by the need to install new signal structures/foundations or to relocate a signal structures/foundation at an existing signalized intersection for the purpose of a planned operational improvement. Evaluation of the crosswalks at the signalized intersections shall be made by the means of the Prioritization Tool or subsequent evaluation process approved by Mn/DOT, FHWA, or AASHTO. If an evaluation of a crosswalk results in a score of 40 points or above, the signal will include a fully functional APS system for that crosswalk.

Evaluation of crosswalks that result in a score between 30 and 40 points shall include within the design and installation any underground infrastructure and controller cabinet intelligence for the future implementation of an APS system for that crosswalk. The design and installation shall include but not be limited to any handholes (pull boxes) and conduits that would be required such that future grade disruption is not necessary to implement an APS system. No crossing legs shall be considered for APS where a pedestrian crossing of that leg is prohibited for any reason.

EXISTING TRAFFIC SIGNALS

The City of Minneapolis shall evaluate all existing crosswalks at signalized intersections under their jurisdiction for the installation of APS systems on a 10 year cycle or if there is a written request. Evaluation of these crosswalks shall be made by the means of the Prioritization Tool or subsequent evaluation process approved by Mn/DOT, FHWA, or AASHTO. Evaluations that result in score of 40 points or above shall be programmed for the addition of an APS System within a 5 year time period unless any subsequent evaluation results in a score below 30 points.

If a written request is submitted to the City of Minneapolis, a meeting should take place at the intersection between a traffic engineer, the pedestrian requesting the APS and an Orientation & Mobility Specialist to determine if there are other accommodations that can be made for the pedestrian (i.e. increase the pedestrian walk or clearance times, understanding of the signal operations, etc.). The pedestrian's routes of travel should be determined at the meeting.

NOTES

An APS system maybe installed based on engineering judgment even though the evaluation of the crosswalk by means of the Prioritization Tool or subsequent evaluation process approved by Mn/DOT, FHWA, or AASHTO does not meet the threshold.

Even if it has been determined that an APS will be installed at a given location, there are many things that can delay their installation:

Product procurement – The devices are a unique item that requires an extended lead time.

Time of year- Depending on the extent of the work required may delay the installation during favorable weather.

Existing intersection hardware – APS may require the upgrade of signal control hardware, installation of electrical conduits, curb ramps, and will greatly increase the scope and time of the installation.

APPENDIX

City of Minneapolis Prioritization Tool for Installation of
Accessible Pedestrian Signals

Recommended Pushbutton Locations for Accessible Pedestrian Signals

Accessible Pedestrian Signal Pushbutton Options/Initial Settings