ADMINISTRATIVE INFORMATION: This Office of Traffic Safety & Mobility Instruction (TSMI) is effective immediately.

PURPOSE: This TSMI is intended to provide general direction and specific policy regarding when Americans with Disability Act (ADA) compliance is required related to traffic signal pedestrian facilities at signalized intersections. The TSMI also clarifies compliance with ADA where there may be conflicting guidance involving the following type of traffic signal equipment:

1. Pedestrian Facility Design Standards
2. Implementation of Accessible Pedestrian Signals (APS)
3. Prohibitive Use of Audible Countdown Pedestrian Signals
4. Restricted Use of Latching Type Push Buttons

BACKGROUND: Recent issuances of various policies and standards from federal and state sources have raised questions on the applicability of implementation of certain measures related to pedestrian signalization.

The Department has a duty to construct, maintain, monitor, and update any facility it owns or it maintains to current ADA standards. Four documents are referenced in this TSMI and they provide the bulk of the information necessary to carry out this mandate. The documents are:

1. Highway Design Manual (HDM) Chapter 18 – Used for newly constructed and altered facilities, Chapter 18 standards are consistent with the most current ADA standards found in the 2011 Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right of Way.

   Information about how the ADA applies to the Department’s highways can be found in the New York State Department of Transportation (NYSDOT) HDM: Chapter 18 - Pedestrian Facility Design or at:

   https://www.dot.ny.gov/divisions/engineering/design/dqab/hdm/chapter-18

3. FHWA Letter of Interpretation (dated June 18, 2014) – FHWA issued a letter stating that the use of Audible Countdown Pedestrian Signals shall not be used in traffic signal installations and that the use of any existing audible countdown needs to be terminated as soon as practical. Excerpts from that letter are provided.

4. Public Rights of Way Accessibility Guidelines (PROWAG) – The Architectural and Transportation Barriers Compliance Board proposed in 2011 accessibility guidelines for the design, construction, and alteration of pedestrian facilities in the public right-of-way. The guidelines ensure that sidewalks, pedestrian street crossings, pedestrian signals, and other facilities for pedestrian circulation and use constructed or altered in the public right-of-way by state and local governments are readily accessible to and usable by pedestrians with disabilities. The guidelines are deemed to be “best practices”, but have not formally been adopted.

TECHNICAL INFORMATION: Pedestrian Facility Design Standards

Important points as they relate to traffic signals and ADA compliance are noted below. For a more comprehensive understanding of Chapter 18, refer to the HDM.

CHAPTER 18
PEDESTRIAN FACILITY DESIGN - (Excerpts related to traffic signal pedestrian facilities)

18.3 POLICY
Current Department policy is consistent with federal policy and design guidance and states that: “NYSDOT must make...pedestrians integrated elements of our intermodal transportation system.” It is Department policy to consider the accommodation of pedestrians, including persons with disabilities, during the earliest scoping stage of Department projects. “Considerations” of pedestrian needs should include, at a minimum, a presumption that pedestrians will be accommodated, unless pedestrian access is prohibited by law, deemed unfeasible based on anticipated use, and/or an absence of need is determined.

18.4 DEFINITIONS
The following definitions apply for all Department projects.

Alteration - A change to a facility within the public right of way that affects or could affect pedestrian access, circulation or use. An alteration triggers the requirement for accessibility compliance of pedestrian facilities to the extent practicable within the scope of the project. The Department of Justice (DOJ) and FHWA have determined an alteration is a change that affects or could affect the usability of all or part of a building or facility. Alterations of streets, roads, or highways include activities such as reconstruction, rehabilitation, resurfacing, widening, new traffic signal installation (including pedestrian traffic signals), and projects of similar scale and effect. Maintenance activities such as filling potholes are not considered alterations.

Maintenance Activities - The DOJ and FHWA have determined that maintenance activities include treatments that serve solely to seal and protect the road surface, improve friction, and control splash and spray are considered to be maintenance because they do not significantly affect the public’s access to or
usability of the road. Refer to HDM Chapter 7, Section 7.1 for the types of treatments that are considered maintenance. In some cases, the combination of several maintenance treatments occurring at or near the same time may qualify as an alteration.

Pedestrian Facilities - Any features or elements used by disabled or able-bodied pedestrians to move from one point to another including sidewalks, crossings, refuge islands, pedestrian signs and signals, curb ramps.

18.6 PEDESTRIAN FACILITY DESIGN
This section will provide project designers with information on how to design for pedestrian accommodation. It is not intended to cover all topics of pedestrian facility design.

18.6.1 Pedestrian Facility Design under the Americans with Disabilities Act (ADA)
The Department has a duty to construct, maintain, monitor, and update, any facility it owns or maintains to meet the most current ADA standards.

All pedestrian facilities designed, constructed, or altered, must meet or exceed the minimum requirements for design, construction, and alteration established in ADAAG. However, if full compliance is technically infeasible on alterations, the alteration must provide accessibility to the maximum extent possible.

ADA regulations require that sidewalk curb ramps must be constructed or reconstructed to meet current standards when new construction or alterations involve work at intersections where sidewalks lead to street crossings. If a project resurfaces the street, for accessibility purposes, the curbs, curb ramps and pavement at the pedestrian crosswalk are in the scope of the project, but the sidewalks and pedestrian signals are not. Any features disturbed by construction must be replaced so that they are accessible. Maintenance activities are not considered to be alterations.

For alteration projects, the Department is required to ensure that all pedestrian facilities within the scope and limits of the project meet current ADA standards, except for existing curb ramps on 1R projects which must meet the 1991 ADAAG. Any of the features disturbed by the construction are considered to be within the scope of circumstances and scope of a project and must be replaced so that they are accessible. Based upon the specific circumstances and scope of a project, the Department may not be required to address all facilities within an intersection.

Installation of a new signal (traffic and/or pedestrian) where none has previously existed triggers full compliance with ADA for whatever facilities are being controlled by the signal. When traffic signal upgrades, repairs or similar work involves the demolition and reconstruction of a pedestrian facility, the facility must be made to conform to the current accessibility standards. If the scope of the signal upgrade or repair project does not affect the pedestrian facility, no upgrades to the pedestrian facilities are required. For example, if the signal work requires the demolition of a small piece of sidewalk adjacent to the intersection, only that piece of sidewalk needs to be reconstructed to ADA standards, not the entire intersection.
18.6.1.1 Additional Design Considerations for Persons with Special Needs
In addition to mandated design requirements for persons with disabilities, the following are design considerations for areas where there are significant numbers of persons with special needs.

B. Visually Impaired Persons
.... Accessible pedestrian signals (APS) and other traffic control devices are typically installed at conventional intersections upon request of an individual or groups of individuals who would benefit by their existence.

Federal regulations direct that pedestrian safety considerations, “including installation of APS at street crossings” be included, where appropriate. However, an interim product from NCHRP Project 3-62 recognizes that the types of APS used in the United States are not entirely adequate. The results of the project, when completed, are expected to form the basis for better guidance regarding the use of APS.

The National MUTCD Section 4E.06 (Note: Revised in 2009 as 4E.06) states, “The installation of accessible pedestrian signals … should be based on an engineering study, which should consider the following factors:

- Potential demand for accessible pedestrian signals.
- A request for accessible pedestrian signals.
- Traffic volumes during times when pedestrians might be present.
- The complexity of intersection geometry (from the pedestrian point of view).

The following is the recommended practice:

- The ADA requires “effective communication” with persons with disabilities and it requires state and local governments to respond to requests for accessible pedestrian crossings from pedestrians who are blind or vision-impaired. These ADA requirements are acknowledged in the National MUTCD Section 4E.06 (Note: Revised in 2009 as 4E.09).

- Proactively assure there is outreach and dialogue with blind and vision-impaired persons and organizations that represent them during the Department’s public involvement process for projects that may include roundabouts and/or channelized turn lanes. 28 CFR 35.160(a) requires that “(a) public entity shall take appropriate steps to ensure that communications with … members of the public with disabilities are as effective as with others.”

Decisions to employ pedestrian crossing features (e.g., beneficial geometric designs, traffic control devices (i.e., APS, flashing beacons, etc.), and way-finding techniques) to assist blind and vision-impaired pedestrians should result from “effective communications” with individuals, groups, or organizations and should be based on the following:

- A request or requests from blind or otherwise vision-impaired individuals and/or organizations that represent them.
- The frequency or likelihood of use by blind or vision-impaired pedestrians.
SUBJECT: APPLICABILITY OF AMERICANS WITH DISABILITY ACT (ADA) GUIDELINES ON TRAFFIC SIGNALS

- The proximities to transit stops, government offices, medical facilities, places of employment, shopping, places that provide services to blind and/or other vision-impaired persons.
- Motor vehicle traffic conditions (e.g., volumes, speeds, vehicle mix, peaks, lulls, etc.), proximity to other accessible crossings, “need” for an individual requestor to cross.
- Special, unique, or unusual conditions such as motorists’ inability to clearly see pedestrians who are waiting to cross at intersections (e.g., obstructions, curved approaches, parking lanes).

It is beneficial to involve an orientation and mobility specialist who teaches blind and other vision-impaired pedestrians how to find and use more difficult crossings such as roundabouts and channelized turn lanes. These people are usually familiar with traffic control devices, auxiliary aids, and other related services that benefit blind and vision impaired persons. (Orientation and mobility specialists can be located by contacting organizations representing the blind and vision-impaired community or by contacting local centers for disabled persons.)

Pedestrian facility features that benefit pedestrians who are blind or are visually impaired include:

- Accessible text messages (larger print and raised text).
- Accessible audible pedestrian signals (APS).
- Guide strips for way-finding.
- Physical barriers to prevent hazards in work zones.
- Provide pedestrian lighting.
- Utilize visual contrast in a consistent manner.

18.7.2.4 Roundabouts
C. Blind Persons and Vision-Impaired Pedestrians
There are no specific current practices for accommodating blind and vision-impaired pedestrians at roundabouts and channelized turn lanes. However, accessible pedestrian signals (APS), other traffic control devices, and geometric designs are typically installed at conventional intersections upon request of an individual or groups of individuals who would benefit by their existence.

18.7.9 Pedestrian and Vehicular Traffic Signals
Refer to this section for information regarding pedestrian and vehicular traffic signals. Where pedestrian pushbuttons and indications are required, they are installed at locations in conformance with the MUTCD (Part 4, Chapter E. Pedestrian Control Features). Signal and pedestrian timings are established by the Regional Traffic Engineer (RTE) in compliance with the MUTCD. Warrants for signals are spelled out by the MUTCD and the RTE is responsible for the interpretation and application of the warrants for any particular location.
TECHNICAL INFORMATION: Accessible Pedestrian Signals (APS)

Information about the use of Accessible Pedestrian Signals (APS) is provided in three sources:


2. New York State Department of Transportation (NYSDOT) Highway Design Manual (HDM):  
   Chapter 18 - Pedestrian Facility Design  
   https://www.dot.ny.gov/divisions/engineering/design/dqab/hdm/chapter-18

3. 2011 Revised, Draft Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG) is deemed as “best practices”, but has not formally been adopted as part of the MUTCD.

Section 1A.13 of the MUTCD defines an Accessible Pedestrian Signal (APS) as follows:

1. Accessible Pedestrian Signal—a device that communicates information about pedestrian signal timing in non-visual format such as audible tones, speech messages, and/or vibrating surfaces.

When is the implementation of APS required? According to the HDM, APS shall be included in any new traffic signal installation. The Office of Traffic Safety & Mobility (OTSM) requires that all new signals designed in 2015 contracts or later shall include APS if pedestrian signal heads are provided. Approved APS devices can be found on the NYSDOT Approved Products List (APL) at

https://www.dot.ny.gov/divisions/operating/oom/transportation-systems/info-spec/specification-downloads

Furthermore, the following shall be applicable for existing traffic signals:

The OTSM policy regarding signal modifications is as follows:

- If major modifications are made to an existing traffic signal (e.g. span wire, signal heads, controller cabinet, controller, etc.), then an upgrade involving APS should be performed.

- If minor modifications are made to an existing traffic signal (e.g. timing changes, adding a sign, adding FYA where a protected only arrow exists currently, etc.), then an upgrade involving APS should be considered.

- If no work is proposed at an existing traffic signal, no upgrade involving APS needs to be considered unless a request is received or indication of need becomes apparent. In such instances, MUTCD guidance should be followed.
All pedestrian facilities designed, constructed, or altered, must meet or exceed the minimum requirements for design, construction, and alteration established in ADAAG. However, if full compliance is technically infeasible on alterations, the alteration must provide accessibility to the maximum extent possible.

TECHNICAL INFORMATION: Audible Countdown Pedestrian Signals

NYSDOT is committed to replacing pedestrian signal indications with Countdown Pedestrian Indications at all eligible locations. The installation of a Countdown Pedestrian Indications activates the need to consider compliance with Americans with Disability Act (ADA) Guidelines.

The use of an audible countdown feature during the pedestrian change interval at an accessible pedestrian signal is not compliant with the MUTCD. The use of any existing audible countdown needs to be terminated as soon as practical.

FHWA issued an official interpretation on June 18, 2014 stating that it was intentional on their part to prohibit an audible countdown during the pedestrian change interval and that there are no provisions in the MUTCD to permit that type of operation. For a full explanation of their reasoning, relevant excerpts pertaining to the memorandum can be found below or at: http://mutcd.fhwa.dot.gov/resources/interpretations/index.htm.

Paragraph 25 in Section 4E.11 requires accessible pedestrian signals to revert to the pushbutton locator tone during the pedestrian change interval. There are no provisions in the MUTCD that permit an audible countdown during the pedestrian change interval. Paragraph 22 in Section 4E.11 says that speech walk messages are not required when the walk interval is not timing, but if a speech message is provided when the walk interval is not timing, it shall begin with the term “wait”. An audible countdown of the number of seconds left in the pedestrian change interval does not begin with the term “wait”.

The prohibition of an audible countdown during the pedestrian change interval is intentional. Both the Federal Highway Administration and mobility experts who specialize on accessibility issues for persons with visual disabilities believe that there are serious safety concerns associated with an audible countdown. Among the concerns expressed to us by mobility specialists are the following:

1. The most important sounds that pedestrians who have visual disabilities need to hear as they cross the roadway are the sounds that come from vehicles using the intersection. Decisions about whether to proceed, wait, or try to speed up need to be based on what is happening at the intersection on a moment-by-moment basis, not on a pedestrian signal indication. An audible countdown might interfere with the ability of pedestrians who have visual disabilities to hear the sounds of vehicles that might be crossing their path. An audible countdown is heard for a much larger proportion of the time than is occupied by the very short sound bursts of the locator tone, and thus might make it more difficult to hear vehicular sounds.

2. The sharp onset of each locator tone aids in localizing the source of the tone. While speech messages have been found to be somewhat localizable, in the wider field of sound localization research, sharp onsets of tones have been shown to facilitate localization. Maintaining a straight line of travel across the street is a critical aspect of wayfinding for pedestrians who have visual disabilities. Thus, being able to hear and localize the accessible pedestrian signal locator tone on the far end of a crosswalk reduces the probability that pedestrians who have visual disabilities will veer into moving vehicular traffic.
3. Pedestrians who have visual disabilities who are unfamiliar with a particular crossing have limited information upon which to judge the width of that crossing, and therefore have limited ability to know whether they will be able to make a crossing in the time remaining. Using only percussive tones without an audible countdown during the pedestrian change interval encourages pedestrians who have visual disabilities to wait until the next walk interval to begin their crossing.

4. When pedestrians who have visual disabilities hear that the countdown has reached zero and they are still crossing, they might not have access to visual information (such as viewing that a red signal indication is still being shown to conflicting traffic) that could reassure them that they still have a short time before the conflicting traffic is released. This can result in very high anxiety. In most cases, pedestrians who have visual disabilities will already be crossing at their maximum velocity.

Therefore, it is the FHWA's official interpretation that providing an audible countdown during the pedestrian change interval at an accessible pedestrian signal does not comply with the MUTCD.

TECHNICAL INFORMATION: Pedestrian Detectors

All pedestrian push button shall be ADA compliant regardless of type used. Shortly after the adoption of the Americans with Disabilities Act (ADA) in 1990, the Department began installing ADA compliant pedestrian push buttons in all new traffic signal installations. The systematic replacement of existing non-compliant pedestrian push buttons with ADA compliant buttons also began as intersection control systems were upgraded.

In 2012, the Department modified its specifications to replace mechanical pedestrian push buttons with a more reliable Piezo driven solid state switch. These new push buttons also provided positive audible feedback and the option of providing a latching LED indication which remain illuminated until the phase is serviced. Although latching push buttons are ADA compliant, they are not considered to be APS, and therefore can only be utilized for retrofits as an interim measure.

SUMMARY OF POLICY

The above information was a compilation of various sources and reflects guidance and policies that are not completely consistent. The following reconciles and summarizes the various sources into one consistent set of policy statements.

1. ADA Compliance

   A. Projects that are considered Alterations (reconstruction, rehabilitation, widening, new traffic signal and pedestrian signal installations, and projects of similar scale and effect) except for those considered re-surfacing projects shall include provisions to bring traffic signal pedestrian facilities into compliance with ADA and MUTCD standards. Where physical limitations prevent compliance to standards, the facility must provide accessibility to the maximum extent possible. (HDM)
B. Projects that are considered Alterations but are limited to re-surfacing are not required to bring traffic signal pedestrian facilities into compliance. (HDM 18.6.1) But such improvements or upgrades should be considered and if not included, identified for upgrade within a reasonable timeframe. (HDM)

C. Traffic signal upgrades, repairs or similar work that involves the demolition and reconstruction of a pedestrian facility requires that such facility be made to conform to the current accessibility standards. If the scope of the signal upgrade or repair project does not affect the pedestrian facility, no upgrades to the pedestrian facilities are required. (HDM)

D. Installation of a new signal (traffic and/or pedestrian) where none has previously existed triggers full compliance with ADA for whatever facilities are being controlled by the signal. (HDM)

2. Accessible Pedestrian Signals (APS)

A. New Signals
   1. All signals designed in 2015 contracts or later shall include APS if pedestrian signal heads are provided. (OTSM Policy)

B. Retrofitted Signals
   1. If major modifications are made to an existing traffic signal (e.g. span wire, signal heads, controller cabinet, controller, etc.), then an upgrade involving APS should be performed. (OTSM Policy)

   2. If minor modifications are made to an existing traffic signal (e.g. timing changes, adding a sign, adding FYA where a protected only arrow exists currently, etc.), then an upgrade involving APS should be considered. (OTSM Policy)

C. APS and other traffic control devices are typically installed at conventional intersections upon request of an individual or groups of individuals who would benefit by their existence. This statement will be revised in an upcoming Chapter 18 update to conform with PROWAG Section 209.1. (HDM)

3. Audible Countdown Pedestrian Signals

A. The use of an audible countdown feature during the pedestrian change interval at an accessible pedestrian signal is not compliant with the MUTCD. The use of any existing audible countdown needs to be terminated as soon as practical. (FHWA Letter of Interpretation)
4. Pedestrian Detectors

   A. All pedestrian push button shall be ADA compliant regardless of type used. (OTSM Policy)

   B. Mechanical pedestrian push buttons should be systematically replaced with a more reliable Piezo driven solid state switch. (OTSM Policy)

   C. Latching push buttons are ADA compliant, but they are \textbf{not} considered to be APS, and therefore can only be utilized for retrofits as an interim measure. (OTSM Policy)

REFERENCES:

\textit{Manual on Uniform Traffic Control Devices} (MUTCD) - 2009 edition
http://mutcd.fhwa.dot.gov/

\textit{New York State Department of Transportation (NYSDOT) Highway Design Manual (HDM): Chapter 18 - Pedestrian Facility Design}
https://www.dot.ny.gov/divisions/engineering/design/dqab/hdm/chapter-18

4(09)-40 (1) - Audible Countdown Pedestrian Signals - FHWA Letter of Interpretation (dated 6/18/14)


CONTACT: Direct questions regarding this issuance to the Office of Traffic Safety & Mobility, Operations Bureau at (518) 457-1793.