SMTC

Memorandum

TO: Mr. Neil Burke, City of Syracuse Department of Public Works
Ms. Mary Robison, City of Syracuse Engineering Department

FROM: Danielle Krol, Senior Transportation Planner

DATE: November 8, 2018

RE: Florence Avenue Bicycle/Pedestrian Access Technical Analysis

Introduction

In response to the Syracuse Metropolitan Transportation Council (SMTC)'s project solicitation for the 2018-2019 Unified Planning Work Program (UPWP), the City of Syracuse submitted a proposal requesting that the SMTC identify opportunities to improve east-west pedestrian and bicycle access along Florence Avenue and over Onondaga Creek in the North Valley neighborhood. The SMTC agreed to complete the requested work as a technical analysis within the general "Bicycle/Pedestrian Planning" task in the 2018-2019 UPWP. This memo summarizes the results of this analysis.

This study was completed as a planning-level analysis only. The SMTC is not able to create engineering-level designs for any of the pedestrian, bicycle or other infrastructure recommendations noted. Completion of this assessment does not imply that any funds for implementation will be made available through the SMTC now or in the future.

A working group was established to guide this study, which included the City of Syracuse Engineering and Department of Public Works departments. As this work was completed as a technical analysis, public outreach was not conducted.

Study Area

The area examined for this analysis extends from Maxwell Avenue in the west across Valley Drive to Fish Avenue to Loomis Avenue, following West Florence Avenue to a path that extends over a footbridge over Onondaga Creek to Midland Avenue. After crossing Midland Avenue, a short herd path continues east to West Florence Avenue. The study area continues along West Florence Avenue, then crosses South Salina Street and ends at Churchill Avenue/Springbrook Avenue (see Figure 1: Study Area).

Previous Studies

The SMTC examined previously completed studies that were conducted in/around the study area to inform this analysis.

Tomorrow's Neighborhoods Today (TNT) Area 4 – The Valley Five-Year Neighborhood Plan 2007-2011

The City of Syracuse is organized into eight neighborhood sections, each of which developed a five-year neighborhood plan that outlines the vision for that area of the Syracuse community. The study area (primarily Florence Avenue) is located in the Valley TNT area.

Valley TNT Planning Area

Florence Avenue has an east-west orientation and cuts through several sub-regions of the Valley TNT area, which are primarily north-south oriented, including corridor sections (South Salina A, South Salina B, Onondaga Creek A) and neighborhood zones (Barnes, Van Duyn, South Midland, Cityline Brook). The Valley TNT plan outlines physical, social, perceptual and economic conditions, as well as goals/recommendations for each of these areas.

Overall Valley-wide goals and recommendations from the TNT plan include the following:

- Speed limit enforcement: Improve speed limit enforcement through strong advocacy by neighborhoods and higher police coverage.
- Improved streets: Reduce the number of unimproved streets in an effort to reduce runoff impacts, cause less damage to treed lawns from cleanup and snow plowing, and provide a safer, better-defined pedestrian environment.
- Drainage Plan: Develop a Valley-wide drainage plan that assess causes, impacts, and possible solutions to flooding, pooling and channeling issues in the Valley.
- Streetscape Improvements: Major streetscape improvements on key commercial corridors (Seneca Turnpike, South Salina Street) should be completed to promote appropriate commercial investment, produce traffic calming effects, foster a walkable, bikeable community, and create gateways and public spaces.
- Restricting Commercial Encroachment: The residential character of the Valley is historic and strongly valued by neighborhood residents. Commercial uses should be restricted to the primary commercial areas (Seneca Turnpike, South Salina Street, and Valley Plaza).
- Community Schools: The Valley's City schools should be altered to accommodate extended day, multi-service facilities (such as social service, health care clinics, job training, day care, and other community oriented uses) in order to maximize school investment and the social impact of various service provisions.[1]

Goals and recommendations common amongst the seven sub-regions that Florence Avenue moves through, that relate to the purpose of the study include:

- Improve conditions for pedestrians within the district as well as those who are walking to the district with streetscape amenities and improved traffic circulation, especially to and from the Valley Plaza parking lot (Salina Street A).
- Plan, design and implement a pedestrian-oriented streetscape with pedestrian amenities such as seating, paving lighting and street trees (see previous SMTC plan) (Salina Street B).
- Campaign to attract pedestrian-oriented businesses based on the energy-efficiency of having nearby residents/transit corridor (i.e. when energy prices get worse, customers will still be there) (Salina Street B).
- Introduce a trail on both sides of the creek – trail material should support bikes and pedestrians, design features and signage should exclude ATV's and other motorized vehicles. (Onondaga Creek)
- Wherever possible, improve pedestrian access from the neighborhoods from pedestrian and vehicular bridges or other opportunities. (Onondaga Creek)
- Purchase undesirable adjacent land uses for inclusion in open space and for improved access to the creek. (Onondaga Creek A)

[1] Tomorrow's Neighborhoods Today – Area 4 – The Valley, "Five Year Neighborhood Plan 2007-2011", Goals & Recommendations, IV. Valley-Wide Goals & Recommendations.

- Develop a traffic plan for the Valley that directs through traffic to an alternate (by-pass) route (Barnes).
- Improve the visual appearance, pedestrian usability, and overall character of the east-west Glen Avenue corridor (South Midland).
- Evaluate apartment complex relationships to the neighborhood streets and improve these through physical design, circulation, and visual connections. (South Midland).
- Improve the corridor entry character from South Salina Street – keep commercial character supportive of residential character (South Midland).

Sustainable Streets Project/Sidewalk Priority Zones

In 2014, the SMTC completed the *Sustainable Streets Project*, which included the development of a pedestrian demand model. This model assigns ratings to locations in the SMTC's metropolitan planning area (MPA) based on how likely people are to want to walk there. The model gives higher scores to places where a short distance between origins (such as homes and apartments) and destinations (such as shopping centers and parks) makes it possible to get around on foot. The highest-scoring areas were identified as "Priority Zones": areas where adding facilities like sidewalks, crosswalks, and pedestrian signals would be likely to benefit large numbers of pedestrians. For the purposes of analyzing pedestrian activity along the Florence Avenue study area, the SMTC consulted the pedestrian model.

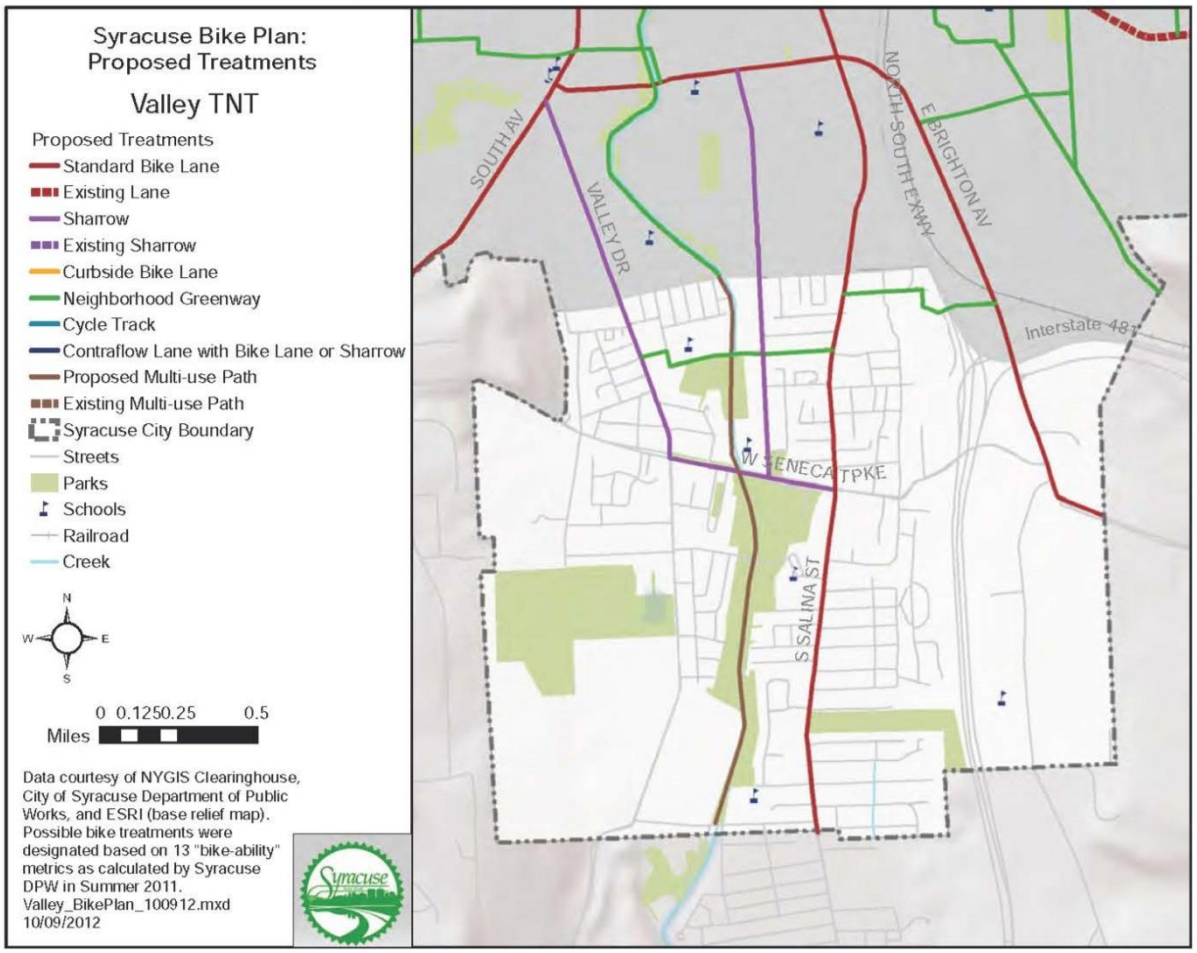
The majority of the City of Syracuse meets the criteria to be considered a Priority Zone, including the Florence Avenue study area. Both origins and destinations are plentiful in most parts of the city, and most streets in the city have at least a partial sidewalk. In order to identify a smaller area of the City with the greatest potential for pedestrian activity, a higher standard of walkability than was used elsewhere in the MPA was used to identify a single large Priority Zone within the City's limits. The Florence Avenue Study Area does not fall within this single large Priority Zone for the City.

Syracuse Bicycle Plan

The Valley holds the southern entrances into the City of Syracuse bike infrastructure network, as outlined in the *Syracuse Bicycle Plan 2040* (Bicycle Plan). The Onondaga Creekwalk and Salina Street corridor will provide access to downtown Syracuse amenities, the Lakefront, and neighborhoods on the Northside. The Valley currently has bike lanes on South Salina Street from Dorwin Avenue to Seneca Turnpike, and sharrows on South Salina Street from East Glen Avenue to Ballantyne Road/Walrath Road.

Onondaga Creekwalk in the Valley area is identified as a "short-term priority" for an off-road multi-use path in the Bicycle Plan. The Plan describes the purpose, connections and treatment for the Onondaga Creekwalk as follows:

This path is intended to be the primary north-south corridor in the City for all users, and will have an ecological and recreational focus due to the proximity to Onondaga Creek. This path would connect to Onondaga Creek Boulevard, which is being considered for an extension of the Onondaga Creekwalk that currently connects Downtown with the Inner Harbor and Lakefront. Within the Valley, this corridor will connect Meachem Field, Meachem Elementary School, and the green space along Onondaga Creek.



Proposed bicycle infrastructure treatments for city streets in the Valley TNT area
Source: Syracuse Bicycle Plan, 2040.

Users
Families
Slow-Speed Recreational Users
School Children & Students.

Treatment
An off-road multi-use path along the creek is proposed for commuter and recreational cyclists. Traffic calming infrastructure is suggested at intersections to prioritize bike traffic and discourage, or slow, car through-traffic. Signage will provide way-finding and advertise the path as a safe route to school.

Florence Avenue (between Valley Drive and South Salina Street) is identified as a "mid-term priority" for a neighborhood greenway in the Bicycle Plan. The Plan describes the conditions on Florence Avenue and the suggested treatment as follows:

This low volume neighborhood corridor provides an important link across Onondaga Creek, via a pedestrian bridge, and also provides a safe route to Van Duyn School.

Users
Families
Slow-Speed Recreational Users
School Children & Students.

Treatment
A neighborhood greenway is suggested. Minimal infrastructure changes would need to be made, as many traffic calming solutions are already in place.

Although one of the short-term recommendations in the Bicycle Plan for South Salina Street was to add standard bike lanes for commuter cyclists, the City has decided to utilize sharrows in some sections instead, as noted above.

Both Valley Drive and Midland Avenue were included as "long-term" priorities for sharrows or standard bike lanes (if on-street parking is removed). These two locations were not rated highly through the inventory measures utilized in the Bike Plan, but were included at the request of the public.

Onondaga Creekwalk

The Onondaga Creekwalk is a trail that runs from Onondaga Lake to Dorwin Avenue in the City of Syracuse, primarily following Onondaga Creek. The Creekwalk forms the spine of a future interconnected trail system that will link to city neighborhoods. It is organized into three phases:

- Phase I: Onondaga Lake to Armory Square (completed)
- Phase II: Armory Square to Kirk Park (currently underway – construction to begin spring 2019)
- Phase III: Kirk Park to Dorwin Avenue (future).

Phase III of the Onondaga Creekwalk applies to the Florence Avenue Bicycle/Pedestrian Access Study Technical Analysis. Phase III runs behind the Van Duyn Elementary school, and is anticipated to include a thirteen-foot wide asphalt trail from Colvin Street south to Dorwin

Avenue, and/or use segments of existing roads. In the area between Ballantyne Road and Seneca Turnpike, the side of the Creek to be utilized for the trail has not been determined. According to the City of Syracuse Engineering Department, the pedestrian bridge behind the Van Duyn Elementary School would likely not be funded as part of the Phase III Creekwalk, but the City will try. The connecting path to Midland Avenue is also an unknown for funding at this point.

Existing Conditions

Road Ownership

West and East Florence Avenue are locally owned streets, which means the City of Syracuse owns them and is responsible for their maintenance. All of the streets in and around the study area are City owned.

Traffic Volumes

The Average Annual Daily Traffic (AADT) is the total volume of vehicle traffic on a road segment for a year divided by 365 days. New traffic volumes were not gathered as part of this study. However, there was an AADT count completed on the segment of West Florence Avenue between South Salina Street and the dead end (just shy of Midland Avenue). The AADT here, based on a July 2015 count, was 653 vehicles per day. Traffic volumes on nearby road segments are noted in Table 1 below.

Table 1: Average Annual Daily Traffic (AADT) counts near the study area

Count location		AADT (vehicles per day)	Year counted
Valley Drive	Between Route 173 and Route 175	5,417	2014
Midland Avenue	Between West Onondaga Street and Seneca Turnpike	4,278	2015
South Salina Street	Between Ballantyne/Walrath Roads and Seneca Turnpike	14,589	2015

Pedestrian Infrastructure

The SMTC conducted a field study to identify and map existing sidewalks, paths and bicycle and pedestrian infrastructure in the project study area.

Sidewalks, crosswalks, curb ramps and pedestrian push buttons were rated for their American's with Disabilities Act (ADA) compliance based on the NYSDOT's ADA "Rating Scale for Accessibility of Pedestrian Facility Segments or Points Along State Highways" using the following scale (see Appendix A):

- Rating 1: NOT APPLICABLE - A facility or feature is not required to be accessible. If a feature is part of an accessible route, it is required to be accessible.
- Rating 2: NOT ACCESSIBLE - Accessibility for Persons with Disabilities is impossible or very difficult
- Rating 3: PARTIALLY ACCESSIBLE Not to current standards. Accessibility is possible, but there are problems
- Rating 4: ACCESSIBLE - May need additional improvements
- Rating 5: FULLY ACCESSIBLE TO CURRENT STANDARDS.

Accessibility ratings for pedestrian infrastructure in the study area are mapped in Figure 2. The style of crosswalk (whether transverse or ladder) and the type/visual contrast of detectable warning (whether truncated domes or bearclaw) were also noted. Crosswalk and detectable warning styles are defined and shown in Appendix B.

In general, sidewalks exist throughout the study area, but are typically only partially accessible or not accessible. While there are numerous crosswalks within the area examined, they are not present on every approach. The majority of curb ramps have detectable warnings, but many are not to current standards, with truncated domes and/or contrasting colors.

Trails

Trail over Onondaga Creek: Just east of the school parking lot access points on West Florence Avenue is a gate. West Florence Avenue (also called "Bernie Blake Drive" in this area) continues east past the gate to the Valley Little League fields, and narrows to trail width just beyond the eastern-most Little League building. The asphalt trail continues east where two concrete pillars, three-feet apart, prevent vehicles from entering the trail. The asphalt trail is approximately 11 feet wide between the chain link fences that run along its length. The trail reaches a steel deck bridge that is approximately 5.5 feet wide with sidewalls. There is a goat path that extends off the mainline on the east side of the bridge.

Pedestrian bridge over Onondaga Creek

The trail, closed from dusk to dawn, ends at Midland Avenue. Here, there is a ladder crosswalk for pedestrians to safely cross Midland Avenue, but there are no detectable warnings, truncated domes, or distinguishing colors on either end of this crosswalk.

After crossing Midland Avenue, there is a small, unpaved foot path that connects the Midland Avenue crosswalk to West Florence Avenue (which only has sidewalks on a small portion of the south side of the street closer to South Salina Street).

Personnel from Van Duyn Elementary School indicated that the trail/pedestrian bridge are utilized by several students walking to and from school. The biggest concerns they hear from parents of children at the school are loitering of older children (middle/high school students once out of school) in/around the trail, and snow/ice buildup along the trail in the winter months.

Valley Plaza: There is an asphalt path with a railing at the rear of Valley Plaza. The path connects Churchill Avenue, the Bernadine (senior living center), and the surrounding neighborhood to Valley Plaza.

Asphalt path connects Valley Plaza to Churchill Avenue

Bicycle Infrastructure

As mentioned previously, bicycle-related infrastructure can be found in the study area in the form of sharrows on South Salina Street from East Glen Avenue to Ballantyne Road/Walrath Road. Bicycles can also be used on the trail that connects Van Duyn Elementary School to Midland Avenue.

Sharrows on South Salina Street near Florence Avenue intersection

Accident Information

The New York State Department of Transportation maintains an Accident Location Information System (ALIS) database that catalogues information about collisions throughout the state. This assessment uses the most recently available ten-year dataset, from January 1, 2008 to December 31, 2017.

Collisions (events) are classified as either "reportable" or "non-reportable" by the Department of Motor Vehicles (DMV). An event is classified as reportable if it results in death, personal injury, or property damage to any single motor vehicle that meets a threshold of at least $1,000. All other events that do not meet these criteria are considered non-reportable. Thus, there are five classifications into which ALIS categorizes events:

- Non-Reportable
- Injury
- Fatal
- Property Damage
- Property Damage and Injury.

To perform this analysis, Geographic Information Systems (GIS) software was used. Using the software, events and the road centerline network were mapped. Consistent with the Scope of Work for this technical analysis, events occurring at the following major intersections were analyzed as a part of this summary:

- Valley Drive / Fish Avenue / Maxwell Avenue
- Fish Avenue / Loomis Avenue
- Midland Avenue / West Florence Avenue

- South Salina Street / West Florence Avenue / East Florence Avenue.

According to NYSDOT standards, an event is considered as occurring at an intersection if it is within 33 feet (approximately 10 meters) of the intersection's center. This buffer distance was used to determine whether events were included in this report's summary.

Over the course of the ten-year period (2008-2017), there were 32 events at intersections of interest in the analysis area. Table 2 shows the number of events falling into each of the five DMV categories as defined previously.

Table 2: Crashes at major intersections, by classification

Collision Classification	Number of Events
Non-Reportable	21
Injury	3
Fatal	0
Property Damage Only	7
Property Damage and Injury	1

In addition to those five classifications, ALIS also stores the number of injuries, serious injuries, and fatalities that occur at each event. For the collisions analyzed, there were no serious injuries or fatalities, but the 32 events resulted in six injuries. Note that this is the total number of injuries occurring, not the total number of events with an injury, which is four for this technical analysis.

Over the ten-year period, there were no events involving bicyclists or pedestrians within the area analyzed. It should be noted, however, that ALIS only tracks those events which are reported to the police, and research has shown that bicyclist and pedestrian crashes are often underreported.[2]

All recorded events must have at least one apparent contributing factor (a "reason" for the crash – such as human, vehicular, and/or environmental), recorded on the accident report. Of these, "Driver Inattention," "Backing Unsafely," and "Failure to Yield Right of Way" were the top contributing factors, respectively. Additionally, ALIS stores the type of collision – such as "collision with motor vehicle" or "collision with another object." Table 3, on the following page, offers a breakdown of collision types in the area analyzed.

[2] (https://www.fhwa.dot.gov/publications/research/safety/pedbike/99078/chapter1.cfm)

Table 3: Collision Types in the analysis area

Collision Type	Number of Events
Motor Vehicle	24
Support / Utility Pole	2
Animal	2
Building / Wall	1
Curbing	1
Fence	1
Tree	1

Intersection Crossing Review

The intersections included in the study area that were examined for potential pedestrian crossing improvements/treatments, included:

- Mains Avenue/Maxwell Avenue (unsignalized)
- Maxwell Avenue/Valley Drive/Fish Avenue (signalized)
- Fish Avenue/Loomis Avenue (unsignalized)
- Midland Avenue/West Florence Avenue/path (unsignalized/mid-block)
- West Florence Avenue/South Salina Street/East Florence Avenue (unsignalized)
- East Florence Avenue/Stevens Avenue (unsignalized)
- East Florence Avenue/Springbrook Avenue (unsignalized).

The SMTC used guidelines set forth in the New York State Pedestrian Safety Action Plan (PSAP)[3] for crosswalk treatments to determine which type of treatments would be applicable at these major crossings. Although PSAP monies are specifically for use at locations with existing pedestrian infrastructure, the SMTC is recommending similar treatments for some locations that do not currently have pedestrian crossings.

[3] The PSAP is a NYSDOT program that calls for a systemic approach to proactively address widespread pedestrian safety issues and minimize the potential for crashes by implementing low-cost countermeasures throughout the roadway network. NYSDOT will undertake improvements on State roads with an "urban" functional classification in busy urban and suburban areas. These include improving existing crosswalks, both at unsignalized and non-intersection locations, and improving 50 percent of signalized locations. Improvements at existing crosswalks without traffic signals or existing mid-block crossings will include pavement markings and signs. In addition, up to 400 locations will receive additional treatments, such as pedestrian refuge islands and attention-grabbing light beacons. (https://www.ny.gov/pedestrian-safety-action-plan/pedestrian-safety-action-plan)

Mains Avenue/Maxwell Avenue

The eastern side of Maxwell Avenue comes to a three-way unsignalized intersection with Mains Avenue. Neither corner of Maxwell Avenue has curb ramps (neither street is curbed). The southern sidewalk on Maxwell Avenue does not continue to the corner. There are no crosswalks at this intersection.

Recommendations

- Bring the intersection up to current ADA standards and into compliance with City codes (which state that the only acceptable replacement sidewalk material is concrete)[4].

Maxwell Avenue/Valley Drive/Fish Avenue

The signalized intersection of Maxwell Avenue/Valley Drive/Fish Avenue was included the City's PSAP application, but as priority 136 of 294 for signalized intersections. As the City will focus on unsignalized intersections first, this location is not likely to receive funding during the 2018 PSAP. Therefore, the SMTC examined this intersection as part of this study.

This is the only signalized intersection along the study area. There are ladder crosswalks on all approaches. The southeast corner of this intersection has color contrasted truncated domes on the curb ramp. The other corners have concrete detectable warnings on the curb ramps but are lacking color contrast.

SMTC staff made the following observations about the signal operation:

- This is a two-phase signal (north/south and east/west phases).
- The east/west pedestrian crossing signal is only activated if the pedestrian push button is pressed.
- When the pedestrian push button is activated, the north/south phase immediately changes to yellow, and east/west traffic will receive the green indication with the east/west walk indication.
- Pedestrian signals rest in "Don't Walk" indication on all approaches.
- Even though there are pedestrian signal heads for both directions of travel, there is only one button on each pole. The button activates the east/west crossing, but this is not clear.
- Pedestrian signals use the walking person icon and the hand icon for "Walk/Don't Walk" indication.
- If there are no pedestrian calls for the east-west approaches, this signal "rests" in green for north/south traffic. However, the north/south pedestrian signals will only remain in "Walk" indication for up to 12 seconds, followed by 9 seconds of "flashing don't walk" and then the pedestrian signals will remain in "Don't Walk" even while the north/south approaches on Valley Drive remain in green.

[4] "Concrete is the ONLY acceptable replacement sidewalk material. Asphalt, tarvia, blacktop are NOT allowed as a repair or replacement material for sidewalks in the City of Syracuse. Their use will result in a condemnation by the City." http://www.syracuse.ny.us/Sidewalk_Maintenance.aspx.

- The existing pedestrian change interval (the flashing "Don't Walk indication) for the east-west pedestrian movements crossing Valley Drive at Fish Avenue/Maxwell Avenue was observed to be 10 seconds.

Recommendations

- Bring the remaining curb ramps into complete ADA compliance by adding color contrast.
- Add signage to identify which pedestrian button to press when crossing.
- Increase the flashing "Don't Walk" indication (the pedestrian change interval) to 13 seconds for crossing Valley Drive at Fish Avenue/Maxwell Avenue.
    - The existing pedestrian change interval was observed to be 10 seconds. The current (2009) edition of the Manual on Uniform Traffic Control Devices (MUTCD) states: "the pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the curb or shoulder at the end of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3.5 feet per second to at least the far side of the traveled way or to a median of sufficient width for pedestrians to wait."[5] The distance from curb-to-curb using the crosswalk across Valley Drive at this location is 45 feet. Using the 3.5 feet per second walking speed indicated by the MUTCD, the pedestrian change interval should be 13 seconds.

Fish Avenue/Loomis Avenue

This signalized intersection is located in front of Van Duyn Elementary School. There are four ladder crosswalks here, and each of the curb ramps use the older style of detectable warning (the bearclaw) with no color contrast. The grass strip separating the school from Loomis Avenue also has a sidewalk and ladder style crosswalk leading to the sidewalk directly in front of the school. The curb ramps at both ends of this crosswalk have bearclaw detectable warnings with no color contrast.

Recommendations

- Bring the existing curb ramps up to current ADA standards (add color contrast and replace bearclaw detectable warnings with truncated domes).
- Follow NYSDOT PSAP Guidelines for this location. Refer to Basic Treatment Package B for Posted Speed Limit 30 and 30 mph (2 lanes). See Appendix D for details (PSAP – Systemic Countermeasure Packages – Crosswalks at Uncontrolled Locations).

Midland Avenue/West Florence Avenue/path

The intersection of Midland Avenue/West Florence Avenue/path (see Figure 3) was included in the City of Syracuse's PSAP application for uncontrolled crossings, and identified as uncontrolled crosswalk priority 39 out of 88. As it is likely that this crossing will receive PSAP treatments, the

[5] See https://mutcd.fhwa.dot.gov/htm/2009/part4/part4e.htm for more detail.

SMTC primarily focused on the area outside of the roadway in this location (i.e., from the crosswalk heading west to Onondaga Creek, and from the crosswalk heading east towards West Florence Avenue).

Recommendations

See Figure 4 for the following recommended treatments at this location:

- Follow NYSDOT PSAP Guidelines for this location. Refer to Basic Treatment Package B for Posted Speed Limit 30 and 30 mph (2 lanes). See Appendix D for details (PSAP – Systemic Countermeasure Packages – Crosswalks at Uncontrolled Locations).
- Add curb ramps with detectable warnings to line up with the crosswalk on the east and west sides of Midland Avenue.
- Extend sidewalk north on the east side of Midland Avenue to reach existing crosswalk (there is currently a footpath here).
- Extend sidewalk east of crosswalk to connect with West Florence Avenue (there is currently a footpath here).
- Clear trees/brush so there is a clear sightline from Midland Avenue to West Florence Avenue. Add a bollard and fencing along the sidewalk.
- Add greenery and benches east of the crossing on the east side of Midland Avenue.
- See the photo simulation on the following page for the view from West Florence Avenue.

Existing view from West Florence Avenue looking west towards Midland Avenue

Proposed treatments and view, West Florence Avenue looking west towards Midland Avenue

West Florence Avenue/South Salina Street/East Florence Avenue

This un-signalized off-set intersection is located just south of Valley Plaza. There is no crosswalk here for crossing South Salina Street.

The closest crosswalk for crossing Salina Street is at the signalized intersection of South Salina Street/Dawes Avenue with the northern Valley Plaza driveway. This intersection has a transverse crosswalk and pedestrian signal for crossing South Salina Street (as well as a transverse crosswalk and pedestrian signal for crossing Dawes Avenue). See Figure 5 for existing conditions at this location. SMTC staff observed that pedestrians wanting to cross South Salina Street closer to the south end of Valley Plaza did not travel north to the crosswalk at South Salina Street/Dawes Avenue with the northern Valley Plaza driveway. Instead, they tended to cross South Salina Street mid-block when there was a break in traffic.

Recommendations

Based on observations, a pedestrian crossing near the Florence Avenue intersection is suggested.

- Three potential locations were examined for a crosswalk on South Salina Street at the Florence Avenue intersection (see Figure 6):
    - A: This is the northern most potential crosswalk location, and would connect the north side of West Florence Avenue to the east side of South Salina Street. A curb ramp with detectable warnings would be required on the eastern side of South Salina Street.
    - B: A crosswalk here would connect the southern corner of West Florence Avenue with the northern corner of East Florence Avenue, utilizing existing curb ramps. However, the offset is not ideal at this location. Vehicles on South Salina Street waiting to make a left-turn onto either West Florence Avenue or East Florence Avenue would likely block this crosswalk.
    - C: A crosswalk here would connect the southern corner of East Florence Avenue to the west side of South Salina Street, requiring a curb cut, curb ramp and detectable warnings. However, from field observations there are potentially sight distance concerns for both pedestrians (when looking south to cross South Salina Street) and motorists (as they approach East Florence Avenue from the south).

The SMTC staff recommends the addition of a crosswalk at location A, as it appears to be the safest option. It is also recommended that the East and West Florence Avenue crosswalks be enhanced to ladder style. The PSAP Basic Treatment Package B for Posted Speed Limit 30 and 35 mph (3 lanes) is recommended for this location as well (See Appendix D (PSAP – Systemic Countermeasure Packages – Crosswalks at Uncontrolled Locations).

East Florence Avenue/Stevens Avenue

East Florence Avenue meets the north end of Stevens Avenue at a three-way, unsignalized intersection. There are no curb ramps or crosswalks at this intersection.

Recommendations

- Bring the intersection up to current ADA standards, and into compliance with City codes.

East Florence Avenue/Springbrook Avenue

East Florence Avenue ends at Springbrook Avenue, making this a three-way, unsignalized intersection. The sidewalks on either side of East Florence Avenue end prior to the intersection, so there are no curb ramps or crosswalks at this location.

Recommendations

- Bring the intersection up to current ADA standards.

Segment Review

Sidewalks on road segments

The major road segments included in the analysis area that were examined for potential pedestrian improvements/treatments, include:

- Maxwell Avenue
- Fish Avenue
- West Florence Avenue
- East Florence Avenue.

These road segments are residential in nature, with primarily "partially accessible" or "not accessible" ADA sidewalk compliance ratings. These road segments also lead to nearby Van Duyn Elementary School. Through observation, the majority of traffic on these residential streets is either school related or neighborhood residents. Because of this, should the City decide to improve the sidewalks in the study area, it is recommended that segments closest to the school be improved first (i.e. Fish Avenue, Maxwell Avenue, West Florence Avenue).

Maxwell Avenue

This residential street connects Valley Drive and Mains Avenue. There are sidewalks on each side of the street consisting of concrete or asphalt. The ADA compliance ratings for sidewalks are primarily partially accessible or not accessible along this stretch. However, there are two segments of accessible sidewalks on the north side of Maxwell Avenue.

Recommendations

- Bring the sidewalks up to current ADA standards, and into compliance with City codes.

Fish Avenue

Fish Avenue, a residential street connecting Valley Drive and Loomis Avenue, is lined with sidewalks on each side. The sidewalks are mostly concrete, but there are two asphalt sections as part of driveways.

Recommendations

- Bring the sidewalks up to current ADA standards, and into compliance with City codes.

West Florence Avenue from Loomis Avenue to Trail over Creek

West Florence Avenue in this location is primarily used to access the Van Duyn Elementary School parking lot and the Valley Little League fields. One ladder crosswalk connects the south parking lot for the Van Duyn Elementary School to the main sidewalk in front of the school. The southern end of the crosswalk at the parking lot does not have any detectable warnings or contrasting color. The northern end of the crosswalk that meets the sidewalk has a bearclaw detectable warning (no truncated domes) with no contrasting color. There are no crosswalks or curb ramps beyond the parking access points on West Florence Avenue.

Recommendations

- Bring the curb ramps across West Florence Avenue (connecting the parking lot to the school sidewalk) up to current ADA standards, and into compliance with City codes.

West Florence Avenue

West Florence Avenue is a residential dead-end street that meets with the South Salina Street commercial district across the street from the southern end of Valley Plaza. There is a narrow herd path connecting West Florence Avenue to the Midland Avenue crosswalk. There are no sidewalks or curbs on either side of West Florence Avenue, with the exception of a small section of sidewalk that begins on the south side of the street just prior to the intersection with South Salina Street. At its origin along West Florence Avenue, the sidewalk begins with a red, plastic detectable warning with truncated domes.

Recommendations

- Add sidewalks to at least one side of West Florence Avenue (the small segment of existing sidewalk on West Florence Avenue is on the southern side of the street, the City could extend the sidewalk to the end of the block).

East Florence Avenue

East Florence Avenue is a residential street extending from the South Salina Street commercial district. There are sections of both concrete and asphalt sidewalks along this street. Midway down the block are two large sections of overgrown trees/brush, one on each side of the street, that block the pedestrian right-of-way. East Florence Avenue ends at Churchill Avenue, but there are no crosswalks, or curb ramps here.

Recommendations

- Bring the sidewalks up to current ADA standards, and into compliance with City codes.
- Clear overgrown trees/brush.

Trail over Onondaga Creek

The asphalt trail behind Van Duyn Elementary School is approximately 11 feet wide, with a 5.5-foot wide pedestrian bridge. The asphalt trail is need of repair in some sections due to tree roots and general wear and tear.

Through contact with the City of Syracuse Office of Parks and Recreation as well as the Office of Planning and Development, it appears that the maintenance of plant overgrowth along the trail is the responsibility of City Department of Public Works as well as the Office of Parks and Recreation. In addition, it has been relayed to the SMTC that the school district completes the snow removal on the pedestrian bridge.

Recommendations

- Consider setting the concrete bollards at the western trailhead further apart. Minimum clear width for single wheelchair passage shall be 32 inches at a point, and 36 inches continuously. The minimum width for two wheelchairs to pass is 60 inches[6]. The concrete bollards are currently 36 inches apart and it is recommended that they be set at least 60 inches apart.

Asphalt trail connecting Van Duyn Elementary School to nearby neighborhood is in need of repair.

- Thin trees/brush along the trail for better visibility.
- Add trail signage in front of Van Duyn school directing users to the path, as well as signs near the West Florence/South Salina Street/East Florence Avenue intersection pointing to the trail.
- Widen the shared-used path to a minimum of 4 meters (approximately 13 feet)[7]
- Widen (or replace) the pedestrian bridge over Onondaga Creek according to AASHTO standards:
    - The "receiving" clear width on the end of a bridge (from inside of rail or barrier to inside of opposite rail or barrier) should allow 2 feet (0.6 meters) of clearance on

[6] https://www.ada-compliance.com/space-allowance-reach-ranges, 10/25/18.

[7] The NYSDOT's minimum recommended width for a shared-use path is 4 meters (NYSDOT, *Highway Design Manual*, Chapter 17 - Bicycle Facility Design, p. 17-20).

each side of the pathway, but under constrained conditions may taper to the pathway width.[8]

Bicycle Treatment Recommendations

As noted previously, a neighborhood greenway is the recommended treatment in the Syracuse Bike Plan for implementation along Florence Avenue (between Valley Drive and South Salina Street). This is a low traffic volume east-west corridor in the Valley, and offers a connection across Onondaga Creek, as well as a route to Van Duyn Elementary School. SMTC supports this recommendation and encourages the City of Syracuse to implement this treatment.

In addition, due to the residential nature of the roads in the study area, share the road signage is suggested along this east-west corridor.

Share the Road Signage, MUTCD

Summary

The Florence Avenue Bicycle/Pedestrian Access Technical Analysis evaluated the east-west pedestrian and bicycle access along Florence Avenue and over Onondaga Creek in the North Valley neighborhood. This is a largely residential area with an elementary school that feeds into the South Salina Street/Valley Plaza commercial district. Recommendations (see Table 4) are largely focused on bringing existing facilities into ADA compliance, as well as up to City code standards (primarily by replacing asphalt sidewalks/corners with concrete). SMTC recommends that the City pursue funds for improving the trail behind Van Duyn Elementary School as well as replacing the pedestrian bridge over Onondaga Creek during the Phase III planning/construction of the Onondaga Creekwalk.

[8] AASHTO, *Guide for the Development of Bicycle Facilities*, 2012, Fourth Edition, p. 5-26.

Table 4: Florence Ave Bicycle/Pedestrian Access Technical Analysis Summary of Recommendations

FLORENCE AVE BICYCLE/PEDESTRIAN ACCESS TECHNICAL ANALYSIS SUMMARY OF RECOMMENDATIONS	
INTERSECTION	**RECOMMENDATIONS**
Mains Ave/Maxwell Ave	• Bring to current ADA standards. • Comply w/City codes.
Maxwell Ave/Valley Dr/Fish Ave	• Bring all curb ramps into ADA compliance (add color contrast). • Add signage to identify which pedestrian button to press when crossing. • Increase the pedestrian change interval to 13 seconds for crossing Valley Dr.
Fish Avenue/Loomis Avenue	• Bring all curb ramps to current ADA standards (add color contrast, replace bearclaw detectable warnings with truncated domes). • Follow NYSDOT PSAP Guidelines for this location - Basic Treatment Package B for Posted Speed Limit 30 and 30 mph (2 lanes).
Midland Ave/W Florence Ave/path	• Follow NYSDOT PSAP Guidelines for this location - Basic Treatment Package B for Posted Speed Limit 30 and 30 mph (2 lanes). • Add curb ramps w/detectable warnings to line up w/Midland Ave crosswalk. • Extend sidewalk north on east side of Midland Ave. • Extend sidewalk east of crosswalk to connect w/W Florence Ave. • Clear trees/brush so clear site line from Midland Ave to W Florence Ave. Add a bollard and fencing along the sidewalk. • Add greenery, benches east of the crossing on the east side of Midland Ave.
W Florence Ave/S Salina St/E Florence Ave	• Add enhanced crossing to connect north side of W Florence Ave to east side of S Salina St. • Add curb ramp w/detectable warnings on east side of S Salina St. • Enhance existing crosswalks to ladder style on E and W Florence Ave. • Follow NYSDOT PSAP Guidelines for this location - Basic Treatment package B for Posted Speed Limit 30 and 35 mph (3 lanes).
E Florence Ave/Stevens Ave	• Bring to current ADA standards. • Comply w/City codes.
E Florence Ave/Springbrook Ave	• Bring to current ADA standards.
SEGMENT	**RECOMMENDATIONS**
Maxwell Ave	• Bring to current ADA standards. • Comply w/City codes.
Fish Ave	• Bring to current ADA standards. • Comply w/City codes.
W Florence Ave (Loomis Ave to Trail over Onondaga Creek)	• Bring curb ramps across W Florence Ave (connecting the parking lot to the school sidewalk) up to current ADA standards. • Comply w/City codes.
W Florence Ave	• Add sidewalks to at least one side of W Florence Ave.
E Florence Ave	• Bring sidewalks up to current ADA standards. • Comply with City codes. • Clear overgrown trees/brush.

Table 4: Florence Ave Bicycle/Pedestrian Access Technical Analysis
Summary of Recommendations (continued)

FLORENCE AVE BICYCLE/PEDESTRIAN ACCESS TECHNICAL ANALYSIS SUMMARY OF RECOMMENDATIONS…continued	
SEGMENT	**RECOMMENDATIONS**
Trail over Onondaga Creek	• Set concrete bollards at western trailhead further apart (60 inches). • Thin trees/brush along trail for better visibility. • Add trail signage directing users to path (in front of Van Duyn school and near the W Florence Ave/S Salina St/E Florence Ave intersection). • Widen shared-used path to a minimum of 4 meters (approximately 13 feet). • Widen (or replace) the pedestrian bridge over Onondaga Creek according to AASHTO standards.
BICYCLE TREATMENTS	• Implement City Bike Plan recommended neighborhood greenway along Florence Ave. • Add Share the Road signage throughout the east-west corridor.

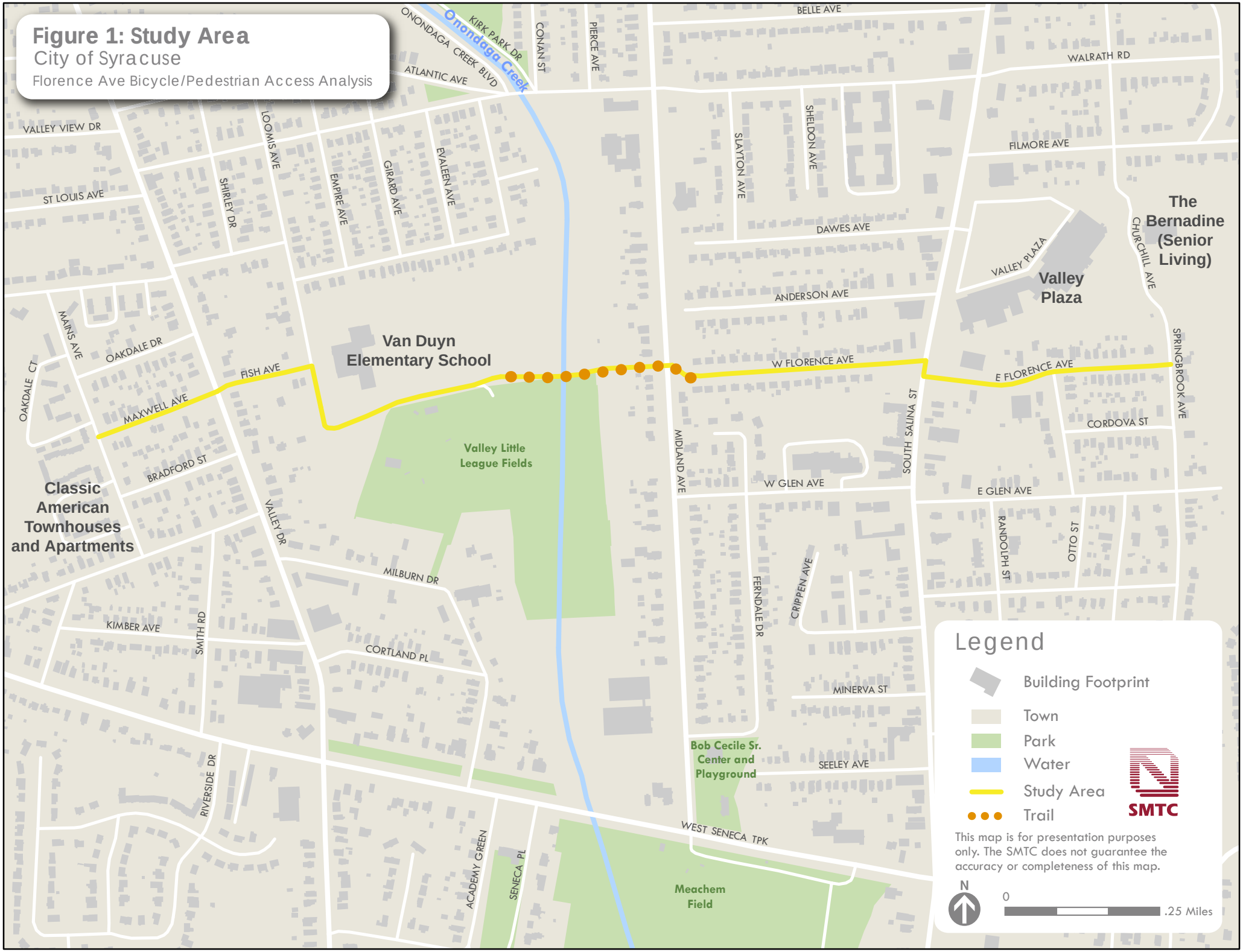
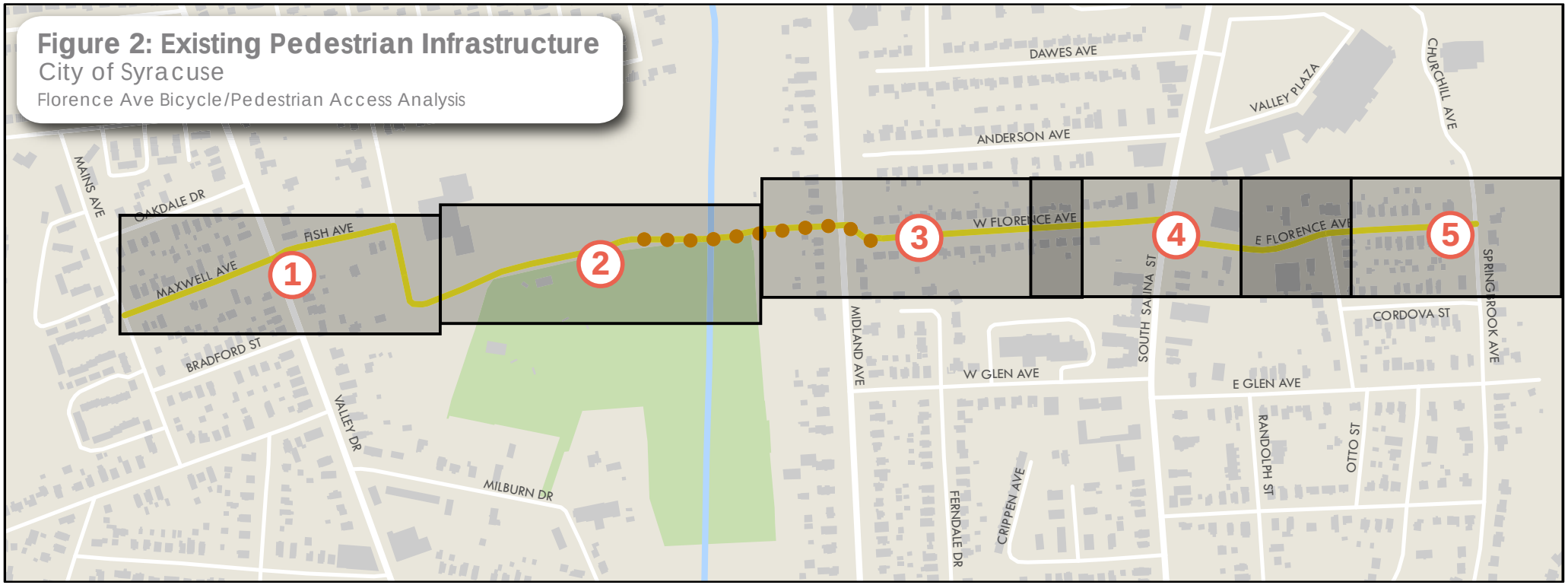


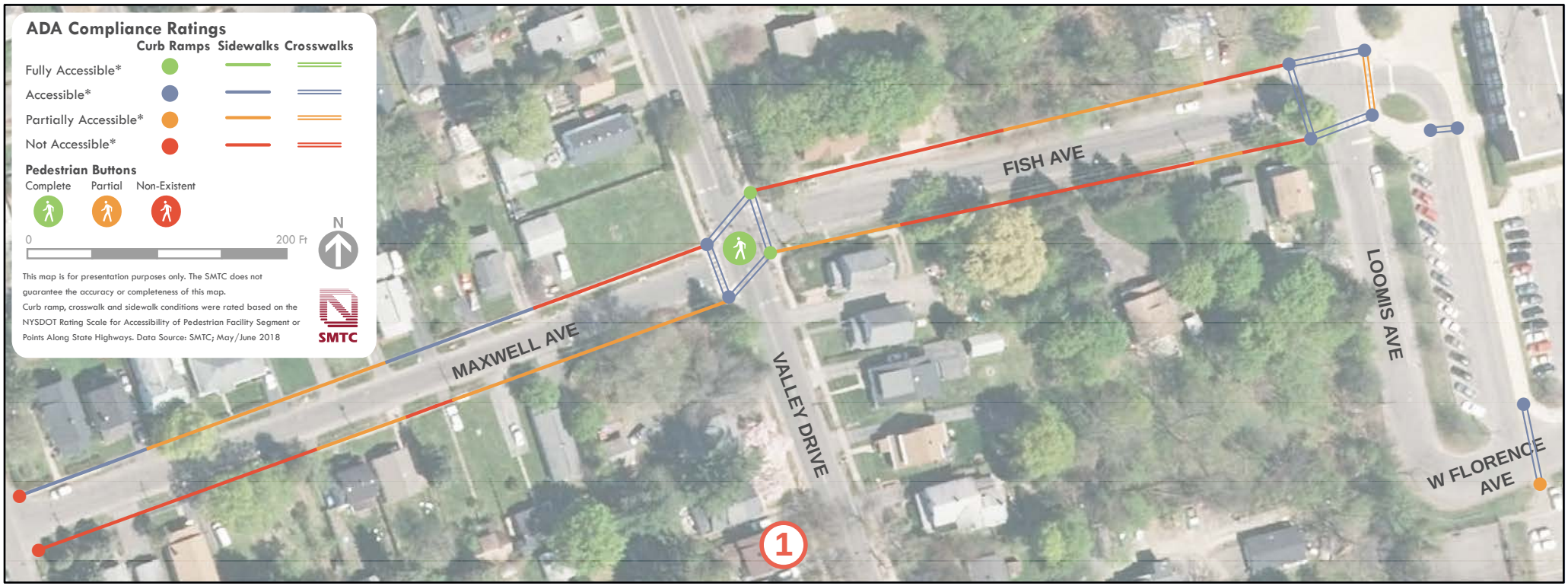
Figure 1: Study Area
City of Syracuse
Florence Ave Bicycle/Pedestrian Access Analysis
Onondaga Creek
ONONDAGA CREEK BLVD
KIRK PARK DR
ATLANTIC AVE
CONAN ST
PIERCE AVE
BELLE AVE
WALRATH RD
VALLEY VIEW DR
LOOMIS AVE
ST LOUIS AVE
SHIRLEY DR
EMPIRE AVE
GIRARD AVE
EVALEEN AVE
SLAYTON AVE
SHELDON AVE
FILMORE AVE
DAWES AVE
The Bernadine (Senior Living)
CHURCHILL AVE
VALLEY PLAZA
Valley Plaza
ANDERSON AVE
MAINS AVE
OAKDALE DR
OAKDALE CT
Van Duyn Elementary School
FISH AVE
MAXWELL AVE
W FLORENCE AVE
E FLORENCE AVE
SPRINGBROOK AVE
CORDOVA ST
Valley Little League Fields
MIDLAND AVE
SOUTH SALINA ST
W GLEN AVE
E GLEN AVE
BRADFORD ST
Classic American Townhouses and Apartments
VALLEY DR
RANDOLPH ST
OTTO ST
MILBURN DR
KIMBER AVE
SMITH RD
CRIPPEN AVE
FERNDALE DR
CORTLAND PL
MINERVA ST
Bob Cecile Sr. Center and Playground
SEELEY AVE
RIVERSIDE DR
WEST SENECA TPK
ACADEMY GREEN
SENECA PL
Meachem Field
Legend
Building Footprint
Town
Park
Water
Study Area
Trail
SMTC
This map is for presentation purposes only. The SMTC does not guarantee the accuracy or completeness of this map.
N
0
.25 Miles

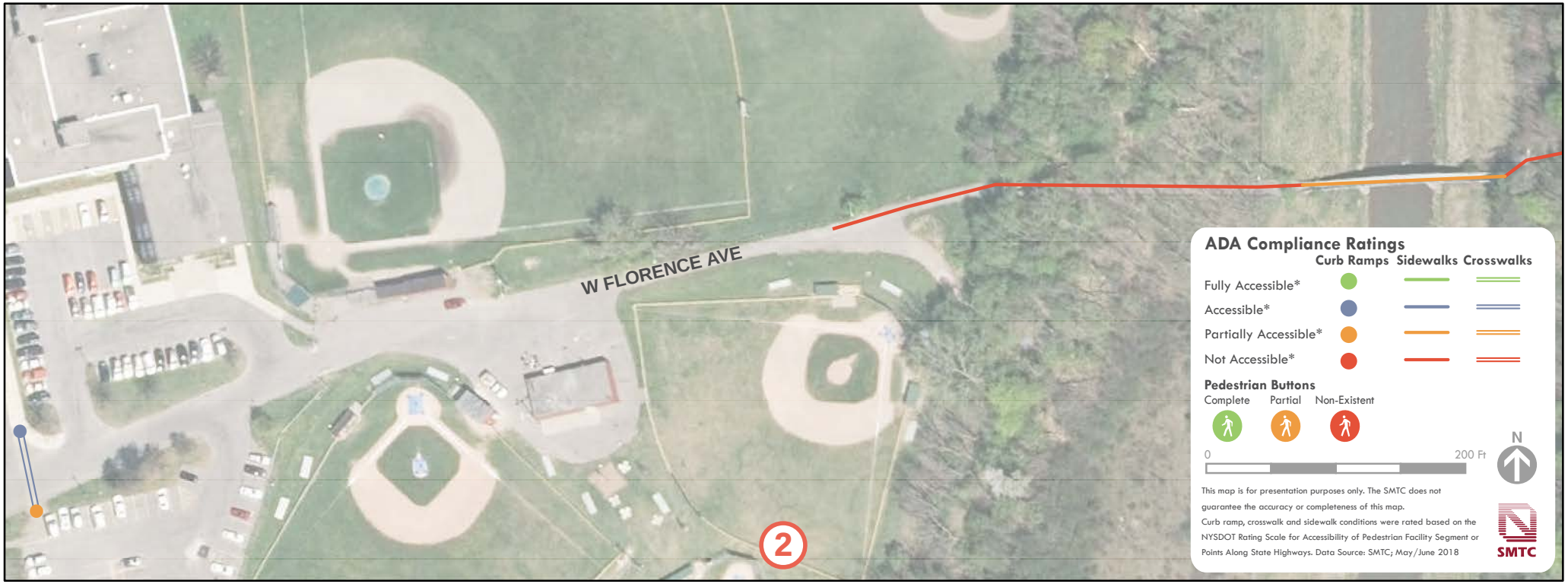
Figure 2: Existing Pedestrian Infrastructure

City of Syracuse

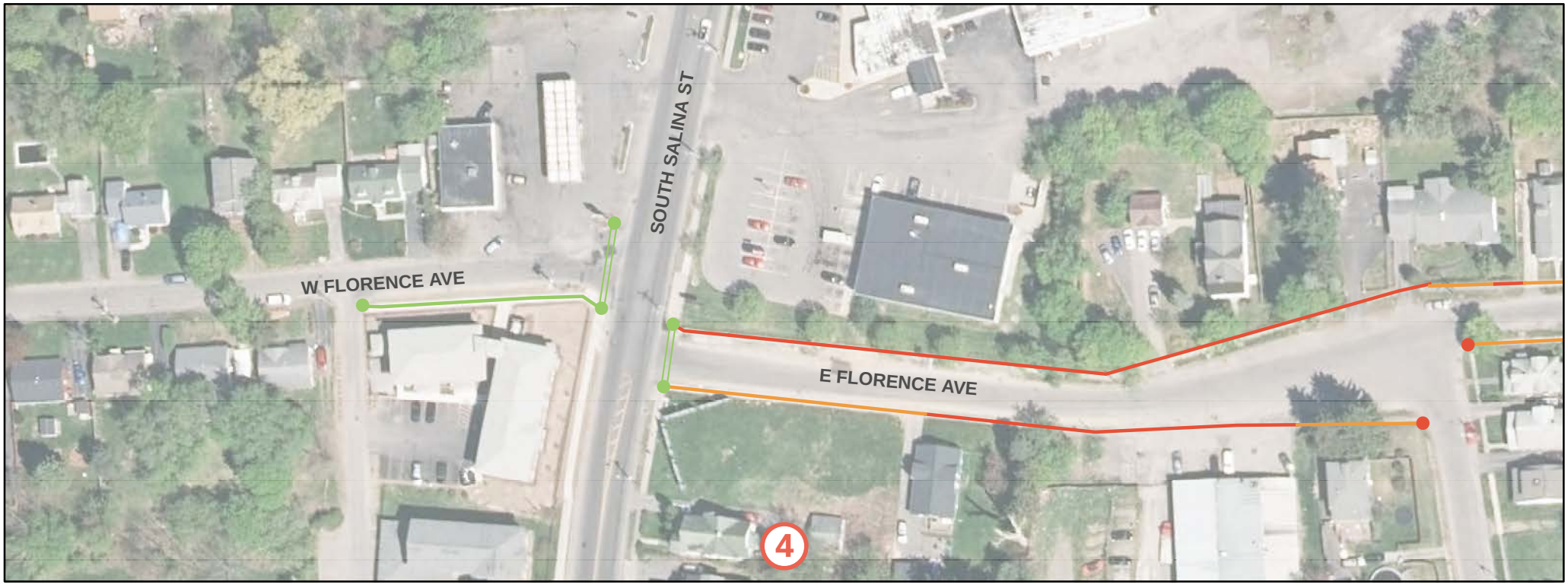
Florence Ave Bicycle/Pedestrian Access Analysis






W FLORENCE AVE
2
ADA Compliance Ratings
Curb Ramps Sidewalks Crosswalks
Fully Accessible*
Accessible*
Partially Accessible*
Not Accessible*
Pedestrian Buttons
Complete Partial Non-Existent
0 200 Ft
N
This map is for presentation purposes only. The SMTC does not guarantee the accuracy or completeness of this map.
Curb ramp, crosswalk and sidewalk conditions were rated based on the NYSDOT Rating Scale for Accessibility of Pedestrian Facility Segment or Points Along State Highways. Data Source: SMTC; May/June 2018
SMTC


W FLORENCE AVE
MIDLAND AVE
3


W FLORENCE AVE
SOUTH SALINA ST
E FLORENCE AVE
4


E FLORENCE AVE
CHURCHILL AVE
STEVENS AVE
5
ADA Compliance Ratings
Curb Ramps Sidewalks Crosswalks
Fully Accessible*
Accessible*
Partially Accessible*
Not Accessible*
Pedestrian Buttons
Complete Partial Non-Existent
0 200 Ft
N
This map is for presentation purposes only. The SMTC does not guarantee the accuracy or completeness of this map.
Curb ramp, crosswalk and sidewalk conditions were rated based on the NYSDOT Rating Scale for Accessibility of Pedestrian Facility Segment or Points Along State Highways. Data Source: SMTC; May/June 2018
SMTC

Figure 3: Existing Mid-block Crossing at Midland Ave

City of Syracuse

Florence Avenue Bicycle/Pedestrian Access Analysis


Figure 4: Proposed Mid-block Crossing at Midland Ave
City of Syracuse
Florence Avenue Bicycle/Pedestrian Access Analysis
Midland Ave
AHEAD
PATH CLOSED DUSK TO DAWN
To pedestrian bridge
new sidewalk extension
W Florence Ave
AHEAD
Legend
Detectable Warning
Fence
Bollard
Bench
School Crossing Sign
Utility Pole w/ Street light
Sign Location
Asphalt Trail
0
25
50 Ft
North
These concepts are for presentation purposes only. The SMTC does not guarantee the accuracy of completeness of these concepts. Location and placement of signs, pavement markings, lighting, and other potential improvements would require review by a licensed engineer.
SMTC


Figure 5: Existing Intersection Crossing at Salina St/Florence Ave
City of Syracuse
Florence Avenue Bicycle/Pedestrian Access Analysis
CITGO
ADVANCE AUTO PARTS
S. Salina Street
W. Florence Ave
E. Florence Ave
S. Salina Street
Legend
Detectable Warning
Bench
Sign Location
0
37.5
75 Ft
North
These concepts are for presentation purposes only. The SMTC does not guarantee the accuracy of completeness of these concepts. Location and placement of signs, pavement markings, lighting, and other potential improvements would require review by a licensed engineer.
SMTC

Figure 6: Potential Intersection Crossing at Salina St/Florence Ave

City of Syracuse
Florence Avenue Bicycle/Pedestrian Access Analysis

Potential Crosswalk Locations

- **A** Recommended location. Not the most direct pedestrian path, but safer option. Enhance Florence Ave crosswalks.
- **B** Conflicts with left turns
- **C** Sight distance concerns

Legend

- Rectangular Rapid Flashing Beacon (RRFB)
- Pedestrian ahead warning sign
- Detectable Warning
- Bench
- Sign Location
- Double-sided sign

0 37.5 75 Ft

North

These concepts are for presentation purposes only. The SMTC does not guarantee the accuracy of completeness of these concepts. Location and placement of signs, pavement markings, lighting, and other potential improvements would require review by a licensed engineer.

SMTC

APPENDIX A

NYSDOT ADA RATING SCALE

Appendix A – Rating Scale

RATING SCALE FOR ACCESSIBILITY OF PEDESTRIAN FACILITY SEGMENTS OR POINTS ALONG STATE HIGHWAYS

Below are examples of the Rating Scale 1-5, with 5 being the best.

Rating 1 - NOT APPLICABLE - A facility or feature is not required to be accessible. If a feature is part of an accessible route, it is required to be accessible.

Rating 2 - NOT ACCESSIBLE - Accessibility for Persons with Disabilities is impossible or very difficult

Sidewalks, Multi-use trails -

- There are significant obstacles such as:
  - > 50' of unpaved walkway
  - Significant heaving or vertical displacement
  - Significant flooding
  - Vegetation growing over walkway
  - Steps within walkway
  - Less than 3' of width around obstacles (5' generally overall)

Intersections - curb ramps and crosswalks

- No curb ramps
- Street crown very steep,
- Crosswalk pavement severely cracked or distressed

Crosswalks

Curb Ramps

Rating 3 - PARTIALLY ACCESSIBLE Not to current standards. Accessibility is possible, but there are problems

Sidewalks, Multi-use trails -

- Small heaving or vertical displacement,
- No handrails on walkway ramps, etc.
- Major maintenance issues (gravel accumulation)

Intersections - curb ramps and crosswalks

- Problems with geometry,
- Generally less than 5' width
- No detectable warnings
- Curb ramps not compliant as per Standard Sheets
- Major maintenance issues (gravel accumulation)

Crosswalks

Curb Ramps

Rating 4 - ACCESSIBLE - May need additional improvements

Sidewalks, Multi-use trails -

- Generally minor maintenance problems
- Minor insufficient width

Intersections - curb ramps and crosswalks

- Generally minor maintenance problems
- Minor insufficient width

Crosswalks

Curb Ramps

Rating 5 -FULLY ACCESSIBLE TO CURRENT STANDARDS

Sidewalks, Multi-use trails -

Intersections - curb ramps and crosswalks

Crosswalks	Curb Ramps
	
	
	

APPENDIX B

CROSSWALK AND DETECTABLE WARNING STYLES

Crosswalk Styles

There are two styles of crosswalks in the study area. The transverse style crosswalk consists of two parallel solid white lines. The ladder style adds horizontal stripes to the transverse crosswalk, making the crosswalk more visible. Examples of each style are shown in the accompanying photos.

Transverse Style Crosswalk: Salina Street/East Florence Avenue crosswalk – east side of South Salina Street

Ladder Style Crosswalks: Valley Drive/Fish Avenue intersection

Detectable Warning Styles

Detectable warnings alert pedestrians with visual impairments about the sidewalk to street transition (https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/guidance-and-research/detectable-warnings-update). Truncated domes are the required type of detectable warning according to the American's with Disabilities Act (ADA), and are required to contrast visually with adjacent walking surfaces, either light-on-dark or dark-on-light (https://www.ada-compliance.com/ada-compliance/705-detectable-warnings).

The City of Syracuse is currently working to update curb ramps on city streets to comply with the ADA. As such, some intersections still have the "bear-claw" style of detectable warning, and/or truncated domes with no visual contrast. Different styles of detectable warnings (including bear-claw and truncated domes) found in the study area, are shown in the accompanying photos.

Bear-claw Style Detectable Warning, No Visual Contrast: Loomis Avenue/Fish Avenue, northwest corner

Concrete Truncated Domes, No Visual Contrast: Valley Drive/Fish Avenue, southwest corner

Plastic Truncated Domes with Visual Contrast: Valley Drive/Fish Avenue, southeast corner

Iron Truncated Domes with Visual Contrast: South Salina Street/East Florence Avenue, northeast corner

APPENDIX C

NYSDOT PSAP:

- **SYSTEMIC COUNTERMEASURE PACKAGES – CROSSWALKS AT UNCONTROLLED LOCATIONS**
- **PSAP/HIGHWAY DESIGN MANUAL EXHIBIT 18-19 CROSS REFERENCE**

V. APPENDICES

APPENDIX A: SYSTEMIC COUNTERMEASURE PACKAGES – CROSSWALKS AT UNCONTROLLED LOCATIONS

Basic and enhanced treatments are provided for uncontrolled marked pedestrian crosswalks. The basic treatment packages require minimal analysis and are applicable to and should be implemented at most eligible sites. However, it is recognized that every site is different; pedestrian safety improvements must be evaluated on a case-by-case basis and engineering judgment will be used at each site to determine which countermeasures are appropriate. Enhanced treatments require additional site by site analysis and should be implemented based upon a safety engineering evaluation, identified community need and department guidance.

UNCONTROLLED MARKED PEDESTRIAN CROSSWALKS

For the purposes of this plan, uncontrolled marked pedestrian crosswalks include locations where there is a marked mid-block crosswalk or an intersection with a marked crosswalk across the through street where the side street is controlled and the through street is not.

Systemic treatment packages have been created for crosswalks at uncontrolled crossings on state roads in urban areas. All treatment packages include the following countermeasures:

- High-visibility crosswalks.
- Pedestrian warning signs with a fluorescent yellow – green background.
- Retroreflective sign posts. The retroreflective sign posts are required to be the same color as the background color of the sign (fluorescent yellow – green for warning signs and white for regulatory signs). See the MUTCD section 2A.21.

Guidance

Guidance for the implementation of countermeasures is found in the following documents:

- Manual on Uniform Traffic Control Devices (MUTCD)
- New York State Supplement to the MUTCD
- NYSDOT Traffic Safety & Mobility Instructions (TSMI)
- NYSDOT Engineering Instructions (EI), Bulletins (EB) and Directives (ED)
- NYSDOT Traffic Engineering Directive (TED)

- NYSDOT Highway Design Manual

Treatment Packages – Uncontrolled Locations

See Appendix C: PSAP/Highway Design Manual Exhibit 18-19 Cross Reference for a cross reference between the countermeasure packages below and Exhibit 18-19 of the Highway Design Manual.

1. For Posted Speed Limit 30 and 35 mph		
Number of Lanes	Basic Treatment	Enhanced Treatment
2	**Basic Treatment Package B** • High-visibility crosswalk • Retroreflective sign posts (for pedestrian signs at crosswalk and in advance of crosswalk) <u>At crosswalk</u> • Double posted (back to back) fluorescent yellow-green Pedestrian Crossing signs (W11-2) or School signs (S1-1). Pedestrian on sign should always face the crosswalk. • Fluorescent yellow-green diagonal downward pointing arrow plaque (W16-7P) <u>In advance of crosswalk</u>. • Fluorescent yellow-green Pedestrian Crossing sign (W11-2) or School sign (S1-1). • Fluorescent yellow-green ahead plaque (W16-9P) See Table NY2C-4. Guidelines for Advance Placement of Warning Signs in the NYS Supplement to the MUTCD for	• Advance yield line (sharks teeth) with “Yield Here to Pedestrian” sign (R1-5) – midblock only • Restrict parking – midblock locations • In-street Pedestrian Crossings signs (R1-6) - up to and including 30 mph only • Rectangular Rapid Flashing Beacon (RRFB) - (Solar Powered)

1. For Posted Speed Limit 30 and 35 mph		
Number of Lanes	Basic Treatment	Enhanced Treatment
	guidance on advance posting distances.	

3 or more	**Basic Treatment Package B**
	• High-visibility crosswalk
	• Retroreflective sign posts (for pedestrian signs at crosswalk and in advance of crosswalk)
	<u>At crosswalk</u>
	• Double posted (back to back) fluorescent yellow-green Pedestrian Crossing signs (W11-2) or School signs (S1-1). Pedestrian on sign should always face the crosswalk.
	• Fluorescent yellow-green diagonal downward pointing arrow plaque (W16-7P)
	<u>In advance of crosswalk</u>
	• Fluorescent yellow-green Pedestrian Crossing sign (W11-2) or School sign (S1-1).
	• Fluorescent yellow-green ahead plaque (W16-9P)
	See Table NY2C-4. Guidelines for Advance Placement of Warning Signs in the NYS Supplement to the MUTCD for guidance on advance posting distances.
		• Advance yield line (sharks teeth) with "Yield Here to Pedestrian" sign (R1-5) – midblock only
		• Restrict parking – midblock locations
		• In-street Pedestrian Crossings signs (R1-6) - up to and including 30 mph only
		• Rectangular Rapid Flashing Beacon (RRFB) - (Solar Powered)
		• Raised pedestrian median refuge and/or corner island and/or curb extension
		• Signalize the Crossing
		  ○ If a 2 stage crossing can be implemented consider High-Intensity Activated crossWalK beacon (HAWK)
		  ○ If a 2 stage crossing is not possible and a crash history exists consider a 3 Color Traffic Signal

2. For Posted Speed Limits 40 and 45 mph

Number of Lanes	Basic Treatment	Enhanced Treatment
2	**Basic Treatment Package C** • High-visibility crosswalk • Retroreflective sign posts (for pedestrian signs at crosswalk and in advance of crosswalk) <u>At crosswalk</u> • Double posted (back to back) fluorescent yellow-green Pedestrian Crossing signs (W11-2) or School signs (S1-1). Pedestrian on sign should always face the crosswalk. • Fluorescent yellow-green diagonal downward pointing arrow plaque (W16-7P) <u>In advance of crosswalk</u> • Fluorescent yellow-green Pedestrian Crossing sign (W11-2) or School sign (S1-1). • Fluorescent yellow-green ahead plaque (W16-9P) • Advance yield line (sharks teeth) – midblock only • Yield Here to Pedestrian sign (R1-5) – midblock only See Table NY2C-4. Guidelines for Advance Placement of Warning Signs in the NYS Supplement to the MUTCD for guidance on advance posting	• Rectangular Rapid Flashing Beacon (RRFB) - (Solar Powered) • Restrict parking – midblock locations

2. For Posted Speed Limits 40 and 45 mph		
Number of Lanes	Basic Treatment	Enhanced Treatment
	distances.	
3 or more	**Basic Treatment Package C** • High-visibility crosswalk Retroreflective sign posts (for pedestrian signs at crosswalk and in advance of crosswalk) <u>At crosswalk</u> • Double posted (back to back) fluorescent yellow-green Pedestrian Crossing signs (W11-2) or School signs (S1-1). Pedestrian on sign should always face the crosswalk. • Fluorescent yellow-green diagonal downward pointing arrow plaque (W16-7P) <u>In advance of crosswalk</u> • Fluorescent yellow-green Pedestrian Crossing sign (W11-2) or School sign (S1-1). • Fluorescent yellow-green ahead plaque (W16-9P) • Advance yield line (sharks teeth) – midblock only • Yield Here to Pedestrian sign (R1-5) – midblock only • Restrict Parking between	• Rectangular Rapid Flashing Beacon (RRFB) - (Solar Powered) • Raised pedestrian median refuge and/or corner island and/or curb extension • Signalize the Crossing ○ If a 2 stage crossing can be implemented consider High-Intensity Activated crossWalK beacon (HAWK) ○ If a 2 stage crossing is not possible and a crash history exists consider a 3 Color Traffic Signal

2. For Posted Speed Limits 40 and 45 mph		
Number of Lanes	Basic Treatment	Enhanced Treatment
	yield line and crosswalk See Table NY2C-4. Guidelines for Advance Placement of Warning Signs in the NYS Supplement to the MUTCD for guidance on advance posting distances.	

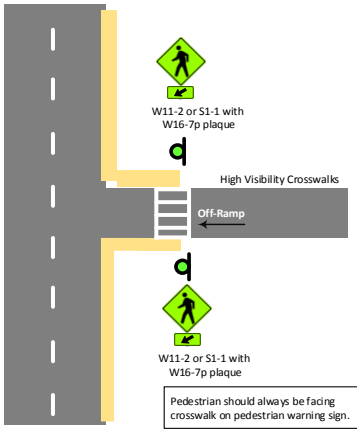
3. For Posted Speed Limits 50 mph and above		
Number of Lanes	Basic Treatment	Enhanced Treatment

All	Implement measures to reduce operational speeds and consider enhanced treatments	• Signs and marking upgrades consistent with basic packages with raised medians for pedestrian refuge and/or corner islands and/or curb extensions
		• Signalize the Crossing
		  ○ If a 2 stage crossing can be implemented consider High-Intensity Activated crossWalK beacon (HAWK)
		  ○ If a 2 stage crossing is not possible and a crash history exists consider a 3 Color Traffic Signal
		• Restrict parking

4. For Uncontrolled crosswalks on on-ramps or off-ramps		
Number of Lanes	Basic Treatment	Enhanced Treatment
All	**Basic Treatment Package A** • High-visibility crosswalk • Retroreflective sign posts <u>At crosswalk</u> • Double posted fluorescent yellow-green Pedestrian Crossing signs (W11-2) or School signs (S1-1). Pedestrian on sign should always face the crosswalk. • Fluorescent yellow-green diagonal downward pointing arrow plaque (W16-7P)	<u>In advance of crosswalk</u> • Advance yield line (sharks teeth) • Yield Here to Pedestrian sign (R1-5) <u>Additional advance warning signs. Posting distance as determined by NYS Supplement Table NY2C-4.</u> • Fluorescent yellow-green Pedestrian Crossing sign (W11-2) • Fluorescent yellow-green ahead plaque (W16-9P)

Systemic Improvements on Roads in Urban Areas

Uncontrolled Crosswalk (on-ramp or off-ramp)
Basic Package A



Pedestrian should always be facing crosswalk on pedestrian warning sign.

Enhanced Treatments
Enhanced treatments require a site by site analysis. Countermeasures selected depend on number of lanes, speed, AADT, pedestrian volumes and crash experience.

- Advance yield line (sharks teeth) with "Yield Here to Pedestrian" sign (R1-5)

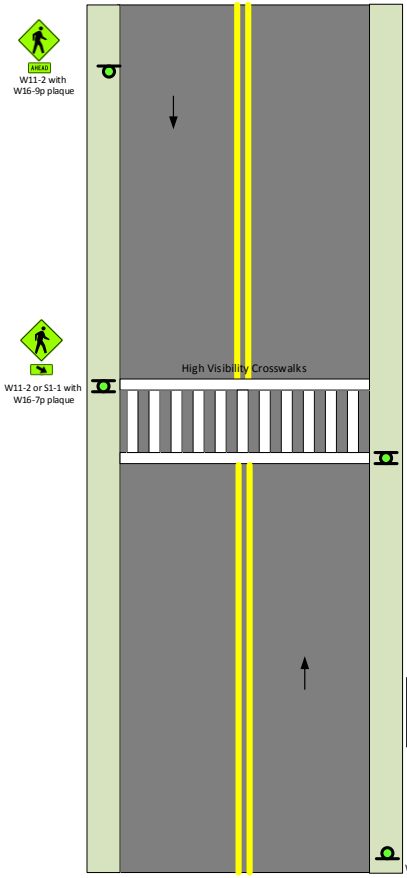
Advance warning signs. Posting distance as determined by NYS Supplement Table NY2C-4

- Fluorescent yellow-green Pedestrian Crossing sign (W11-2)
- Fluorescent yellow-green ahead plaque (W16-9P)

Guidance

- Office Traffic Safety and Mobility policies and guidance
- Highway Design Manual

Mid-block crosswalks (speed limit 30-35 mph)
Basic Package B



Enhanced Treatments
Enhanced treatments require a site by site analysis. Countermeasures selected depend on number of lanes, speed, AADT, pedestrian volumes and crash experience

- Advance yield line (sharks teeth) with "Yield Here to Pedestrian" sign (R1-5)
- Rectangular Rapid Flashing Beacon (RRFB) – solar powered
- Raised pedestrian refuge median and/or curb extensions
- Install HAWK beacon at crosswalk or 3-color signal at intersection
- Restrict parking

Guidance

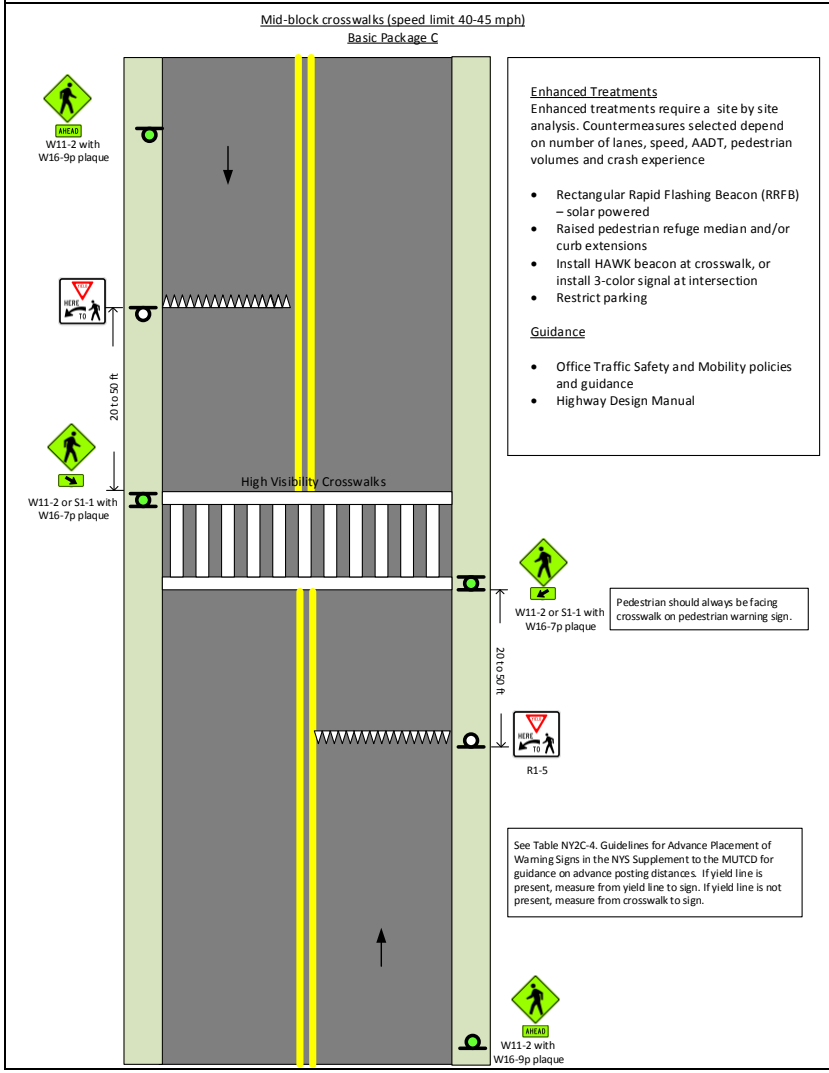
- Office Traffic Safety and Mobility policies and guidance
- Highway Design Manual

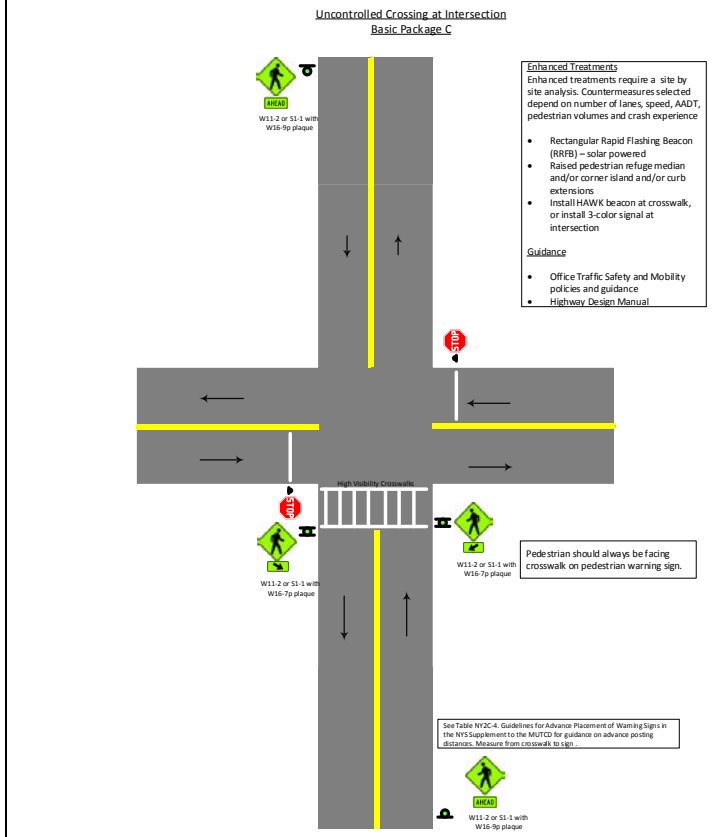
Pedestrian should always be facing crosswalk on pedestrian warning sign.

W11-2 or S1-1 with
W16-7p plaque

See Table NY2C-4. Guidelines for Advance Placement of Warning Signs in the NYS Supplement to the MUTCD for guidance on advance posting distances. If yield line is present, measure from yield line to sign. If yield line is not present, measure from crosswalk to sign.

Systemic Improvements on Roads in Urban Areas





APPENDIX C: PSAP/HIGHWAY DESIGN MANUAL EXHIBIT 18-19 CROSS REFERENCE

Treatment Packages at Uncontrolled Crosswalks

No. of Lanes and Median Type	Vehicle AADT < 9000					Vehicle AADT > 9000 to 12,000					Vehicle AADT > 12,000 to 15,000					Vehicle AADT > 15,000				
	Speed Limit																			
	30 mph	35 mph	40 mph	45 mph	>= 50 mph	30 mph	35 mph	40 mph	45 mph	>= 50 mph	30 mph	35 mph	40 mph	45 mph	>= 50 mph	30 mph	35 mph	40 mph	45 mph	>= 50 mph
	< 50 km/h	57 km/h	65 km/h	72 km/h	80 km/h	< 50 km/h	57 km/h	65 km/h	72 km/h	80 km/h	< 50 km/h	57 km/h	65 km/h	72 km/h	80 km/h	< 50 km/h	57 km/h	65 km/h	72 km/h	80 km/h
2 lanes			*	**	**			*	**	**			**	**	**		*	**	**	**
3 lanes			*	**	**		*	*	**	**	*	*	**	**	**	*	**	**	**	**
4 or more lanes with raised median			*	**	**		*	**	**	**	*	*	**	**	**	**	**	**	**	**
4 or more lanes without raised median		*	**	**	**	*	*	**	**	**	**	**	**	**	**	**	**	**	**	**

Install Basic Treatment Package B			*Consider Enhanced Treatments as per Appendix A
Install Basic Treatment Package C			**Enhanced Treatments should be used as per Appendix A
Consider measures to reduce operational speeds			If a speed reduction is not feasible, then Basic Treatment Package C and evaluate for Enhanced treatments