

Argyle Pedestrian Network Extension Study Village and Town of Argyle

Washington County, New York



Prepared for:

**Adirondack/Glens Falls
Transportation Council**

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Section 1: Introduction

The Argyle Pedestrian Network Extension Study was conducted to evaluate existing pedestrian infrastructure and accommodation along the NYS Route 197 corridor. The study limits are from the intersection of NYS Route 197 (Main Street) and NYS Route 40 (Sheridan Street) in the Village of Argyle north to the intersection of NYS Route 197, County Road 43 and Kinney Road in the Town of Argyle. The project study area is shown on Exhibit 1-1.

1-1 Study Purpose and Objectives

The purpose of the study is to identify opportunities for improvements to the pedestrian network. This involves rehabilitation of the existing network, as well as the potential creation of new sidewalks and crosswalks. Specifically, the goal of this study is to improve pedestrian access to the Dollar General store located just north of the Village of Argyle on NYS Route 197. The objective is to provide reasonable recommendations based on feasibility and cost effectiveness.

1-2 Study Approach

The Argyle Pedestrian Network Extension Study involved a series of tasks to document existing conditions of the transportation system, including pedestrian accommodations, identify and characterize existing pedestrian conflicts and safety issues, and to identify potential improvement strategies.

The major elements of the study are as follows:

Initial Document Review: Existing studies and plans were reviewed to identify the context of transportation issues and planned initiatives. This review provided a baseline for understanding the community context and vision for considering potential transportation improvement strategies. The document review included the following:

- NYS Route 197 Record Plans
- AGFTC Regional Bicycle/Pedestrian Plan

Data Collection: Data collection activities for the project involved research and compilation of existing information about the transportation system to document existing conditions and to provide the basis for the technical analyses and development of recommendations. This data compilation included GIS data (Aerial Imagery, Property and Right-of-Way) and published traffic volume data. Data collection activities also included the compilation of existing crash history data, and collecting motor vehicle, pedestrian and bicycle volume data.

Exhibit 1-1: Study Location Map

Image Source: Google Maps, 2018

Site visits were conducted to confirm existing physical conditions and environmental resources of the study area, and to note features that may contribute to safety issues.

Technical Analysis: Various technical analyses and evaluations were conducted to assess pedestrian mobility, access and safety considerations of the study area.

Roadway Geometry: The existing physical conditions of the roadway network within the study area were reviewed for consistency with industry design standards and best practices. This included lane and shoulder widths, horizontal and vertical curves, curbed shoulders and sidewalks, and drainage structures.

Traffic Safety: Crash records were compiled and reviewed for the most recent 3-years of data to identify accident frequencies, accident clusters, severity, crash type and other applicable factors. This data was used to identify safety issues and potential countermeasures.

Traffic Characteristics: The collected and compiled traffic data were reviewed to identify daily and peak-hour traffic characteristics, including: directional volume, percentage of heavy vehicles, and vehicle speed.

Pedestrian Accommodations: Existing pedestrian facilities were evaluated to identify the current condition of these facilities, connectivity considerations and consistency with industry standards and best practices.

Concept Development: Improvement strategies were developed to address the identified safety and/or pedestrian accommodation issues. The process considered applicable design standards as well as best practices for context sensitive design and accommodation of a varied range of users. These concepts considered the applicable standards of the Manual on Uniform Traffic Control Devices (MUTCD), NYS Highway Design Manual and the Public Rights-of-Way Accessibility Guidelines (PROWAG), as well as “Complete Streets” best-practices guidance. The improvement strategies were developed to a schematic level based on available aerial mapping. Planning-level cost estimates were also developed for the locations of physical improvements.

Section 2: Existing Conditions

As noted in Section 1-2, the data collection activities for the project involved research and compilation of existing information, site visits, and included collection of traffic and pedestrian counts and crash history records.

2-1 Roadway Features

Within the Village, NYS Route 197 provides two 11-foot travel lanes and 5-foot shoulders. The shoulder on the west side of NYS Route 197 is expanded to 12 feet in the vicinity of the intersection of NYS Routes 197/40 to provide on-street parking. North of the Village, NYS Route 197 has an overall pavement width of 30 feet, providing for 11-foot travel lanes and variable 3-5 foot shoulders.

Curbed shoulders are limited to the area of existing sidewalks on the west side of NYS Route 197, between NY Route 40 and the Argyle Laundromat. Curb inlet drainage structures are located along the curb shoulder areas on the west side of NYS Route 197. On the east side of NYS Route 197, drainage is handled using a combination of a concrete swale and drainage structures. The concrete swale begins approximately 400 feet north of NYS Route 40 and ends approximately 300 feet south of the Argyle Laundromat. The study area also includes one bridge that spans the Moses Kill.

The posted speed limit along NYS Route 197 in the Village of Argyle is 30 mph. This village speed limit was established by local law in 1995. The



NYS Route 197 at Moses Kill Bridge: View looking south

speed limit changes to 55 mph at the Village/Town boundary, approximately 350 feet south of the Dollar General site driveway. Corridor-wide, NYS Route 197 is an east-west road, but locally the existing road alignment is north-south, meaning northbound is NYS Route 197 West and southbound is NYS Route 197 East for the context of this study.

The roadway layout is generally straight through the study area, but there is a 90° horizontal curve near County Route 43 and Kinney Road at the north end of the study area. This curve is signed with advance curve warning signs and a 35-mph advisory speed. Chevron signs are also installed along the limits of the curve.

The surrounding terrain consists of rolling hills. The roadway is generally flat throughout the study area. However, there is a crest vertical curve that peaks near the Argyle Laundromat, which limits sight distance. The nature of this crest curve is discussed further in Section 3-1.

Existing street lighting consists of cobra-head fixtures mounted overhead on utility poles. These fixtures are located on the west side of NYS Route 197 from Barkley Avenue (south of the study area) to Mill Street, approximately 800 feet north of NYS Route 40. Lighting then continues along the east side of NYS Route 197 and ends about 175 feet south of the Argyle Laundromat. There is no street lighting along the segment of NYS Route 197 north of the Village, except for a single fixture at the intersection of NYS Route 197 and CR 43.



NYS Route 197: View of Crest Vertical Curve approaching from the North

NYS Route 197 and 40

The intersection of NYS Route 197 and NYS Route 40 is a T-intersection with one lane in each direction. NYS Route 40 forms the south and east legs of the intersection, and NYS Route 197 forms the north leg. The westbound approach (east leg) is the stop-controlled approach. This intersection is located at the center of the Village of Argyle.



NYS Route 197 and NYS Route 40 Intersection: View Looking East

NYS 197 & Mill Street

The intersection of NYS Route 197 and Mill Street is a T-intersection with one lane in each direction. The eastbound approach on Mill Street is the stop-controlled approach. This intersection is located next to the Moses Kill Bridge (north side) and is approximately 800 feet north of the NYS Routes 197/40 intersection.



NYS Route 197 and Mill Street Intersection: View Looking South

NYS 197 and CR 43/Kinney Rd

The intersection at NYS Route 197 and County Route 43/Kinney Road is a non-conventional configuration of several stop-controlled intersections located in the Town of Argyle, north of the Village. This grouping of intersections is along a horizontal curve of NYS Route 197, which forms the eastbound and northbound approaches. All of the roadway approaches to this collective intersection consist of a single travel lane.



NYS Route 197 and CR43/Kinney Road Intersection: Aerial View

Image source: Google Maps, 2018

2-2 Pedestrian Accommodations

There is a sidewalk on the west side of NYS Route 197, beginning at the NYS Route 40 intersection and ending near the Argyle Laundromat (a distance of about 1,400 feet). This existing sidewalk is concrete, except for a 200-foot segment south of the Moses Kill that is constructed of asphalt. The width of the existing sidewalk varies from 4 feet to 12 feet. The sidewalk width is 12 feet in front of the Glens Falls National Bank, near the intersection with NYS Route 40. Continuing north, the sidewalk is 10 feet wide for approximately 150 feet. From there, the sidewalk is 5 feet wide, except for the asphalt section, which is 4 feet wide.

There are sidewalks on both sides of NYS Route 40 from the junction with NYS Route 197 to the US Post Office (south of Barkley Avenue). Sidewalks are also provided on both sides of NYS Route 40 from NYS Route 197 to East Street, and then on the north side only from East Street to the Argyle Central School campus. The segment of sidewalk on the north side of NYS Route 40 from the Public Library to the school campus was reconstructed sometime after 2014. There are segments of new sidewalk in the northeast quadrant of the NYS Route 197/NYS Route 40 intersection adjacent to the Stewart's Shop convenience/fuel services store.

As part of the field visit, it was noted that the existing sidewalk was experiencing deformation and cracking in multiple areas. Locations of sidewalks in poor condition include the following, which are also shown on Exhibit 2-1:

- West side of NYS Route 197 - from the Argyle Hardware store to the Moses Kill
- Southeast quadrant of the intersection of NYS Route 197 and NYS Route 40

There are no ADA-compliant pedestrian ramps within the study area, except at the intersection of NYS Route 197 and Mill Street. The ramps at that location also have condition issues that are described in Section 3.

Currently, there are no marked pedestrian crossing opportunities along NYS 197 in the study area, including none at the intersection of NYS Route 197 (Main Street) and NYS Route 40 (Sheridan Street).



Sidewalk at southeast corner of NY Route 197 and NY Route 40: poor condition and not ADA accessible

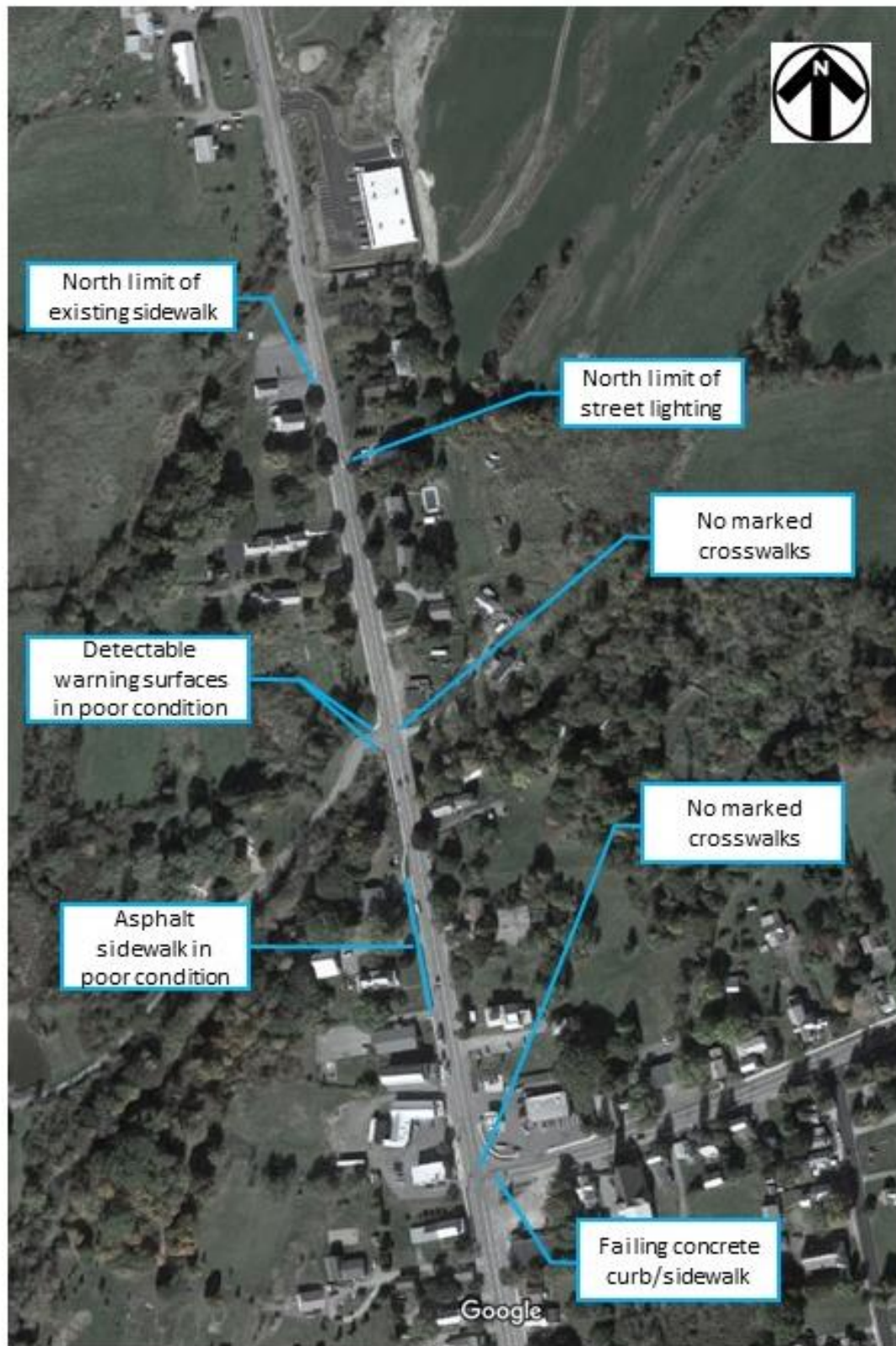
Exhibit 2-1: Existing Roadway Characteristics

Image source: Google Maps, 2018

2-3 Land Use and Pedestrian Generators

The Town of Argyle is rural, while the Village features mixed-use development at higher density typical of Village settings. Development around the intersection of NYS Route 197 and NYS Route 40 is predominantly commercial/retail, including a Stewart's Shop convenience/fuel services store and the Glens Falls National Bank. Other commercial uses extend north along NYS Route 197, interspersed with residential homes lining the corridor. A Dollar General store is located on the east side of NYS Route 197, just outside the Village boundary. This retail store is located less than ½-mile from the NYS Routes 40/197 intersection.

The Argyle Central School campus is located approximately ½-mile east of the study corridor on NYS Route 40 (Sheridan Street).

The compact development form of the Village, and the mix of uses within accessible walking distances are conducive to supporting active transportation to corridor destinations.

2-4 Traffic Characteristics

Traffic volume data was compiled from NYSDOT's Highway Data Services Bureau for NYS Route 197 and NYS Route 40. Traffic data was also collected by CHA in June 2018 to obtain current information about traffic flow and travel speed patterns. The data was collected using Automatic Traffic Recorders (ATRs) at the following locations along NYS Route 197:

- NYS Route 197 near DeLaval Dairy Service (Town of Argyle)
- NYS Route 197 near Mill Street (Village of Argyle)

The counts were recorded in 15-minute intervals and included directional volume, vehicle classification and speed information. The traffic data is provided in Appendix A.

2-4.1 Traffic Volumes

The data recorded in June 2018 shows that the Average Weekday Daily Traffic (AWDT) volume on NYS Route 197 was 5,035. Adjusting for seasonal variations of traffic using NYSDOT factor data, it is estimated that the current Annual Average Daily Traffic (AADT) is approximately 4,530. This represents a decrease from the 2011 AADT reported by NYSDOT.

The weekday AM peak hour was found to occur from 7-8 AM and has an average volume of 410. The AM directional distribution is 58% northbound and 42% southbound. The PM peak hour was found to be from 3-4 PM with an average volume of 430. The PM directional distribution is 48% northbound and 52% southbound.

Analysis of the traffic volume classification data shows that trucks comprise 15% of the current daily traffic on NYS Route 197, compared to 7.85% in 2011.

NYS Route 197 Traffic Characteristics

2011 AADT: 4,630
 2018 AADT: 4,530 (estimated)
 Heavy Vehicles: 15%
 Peak Hour Volumes:
 AM- 410
 PM- 430

2-4.2 Pedestrian Volumes

Pedestrian volumes along NYS Route 197 were documented using video recorders. Two video recorders were installed in the study area: one located south of the Dollar General facing north, and one located north of the Dollar General facing south. Data was collected on two weekdays and a Saturday. The video data was captured on Tuesday June 12 (9 am to 9 pm), Wednesday June 13 (7 AM to 9 PM), Saturday June 16 (north of Dollar General, 7 AM to 9 PM) and Saturday June 23 (south of Dollar General, 7 AM to 9 PM). Pedestrian volumes on this section of the corridor were found to be low, with no more than five total pedestrians recorded during each of the 14-hour periods. Most of the pedestrian traffic observed during the video recordings originated south of the Dollar General store and crossed NYS Route 197 between the Argyle Laundromat and the south end of the Dollar General store.

It is noted that the data collection was conducted in June during the final week of school. Although this data shows low pedestrian activity, anecdotal evidence suggests that the Dollar General store is an important pedestrian destination for Village residents. Others have also commented that the NYS Route 197 corridor within the study area is also used by residents and students as part of a running/jogging route.

It is further noted that low pedestrian counts are not necessarily a justification for not providing sidewalks or marked crossings, in part because the lack of appropriate infrastructure may be discouraging pedestrian travel. The NYSDOT Highway Design Manual (HDM)¹ notes that counts may not reflect the demand for pedestrian facilities and there are no established pedestrian volume warrants for providing sidewalks along streets and highways. Guidance provided in the HDM also states that sidewalks are generally recommended along roadways in developed or developing areas, even where pedestrian activity may appear light.

2-4.3 Vehicle Speed

Speed data was collected within the 55-mph speed zone in the Town of Argyle and within the 30-mph speed zone of the Village of Argyle. This data shows that the 85th percentile speeds in the 55-mph zone are 54 mph northbound and 56 mph southbound. The 85th percentile speeds in the 30-mph zone are 43 mph northbound and 39 mph southbound. The 85th percentile speed represents the speed at or below which 85% of all vehicles travel under free-flow conditions and is often used as a consideration in roadway design.

The recorded 85th percentile speeds in the Village are consistent with data collected in the Village by NYSDOT in 2011, which reported 85th percentile speeds of 40 mph northbound and 39 mph southbound.

This speed data indicates that speed enforcement and/or driver speed feedback signing should be considered to achieve better compliance in the 30-mph zone. Driver speed feedback signs measure the speed of an



Driver Speed Feedback Sign

¹ *Highway Design Manual*, Section 18.6.4, New York State Department of Transportation, 2017

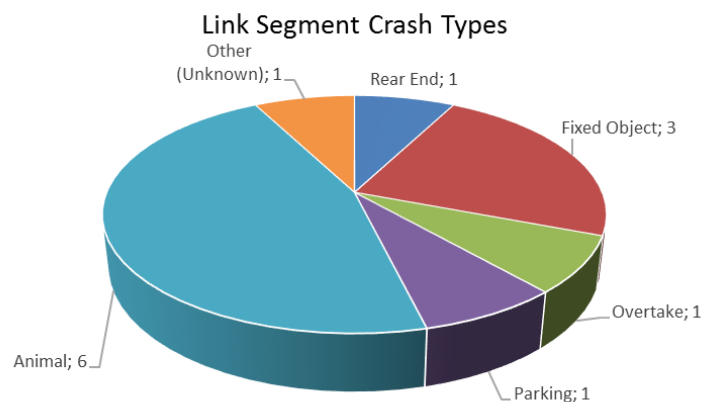
approaching vehicle and alerts the driver if he/she is traveling above the posted speed limit. These devices may display the actual travel speed of vehicles, and/or show a message such as 'SLOW DOWN' when the speed limit is exceeded. These devices are effective in improving compliance with speed-zone regulations by increasing driver awareness of the speed zone and their actual driving speed. These devices can be either temporary or permanent installations.

The concept for providing a transitional speed zone between the 55-mph and 30-mph zones was also considered. This technique has been found to be generally ineffective for improving speed limit compliance and consequently is not a recommended strategy for this location.

2-5 Crash History Data

Crash history data was obtained through NYSDOT's Records Access Office for the study area for the 3-year period from March 1, 2015 through February 28, 2018 (most recent available data). This data included crashes occurring at intersections and along the roadway segments between intersections. The crash history data is provided in Appendix B. These records identified a total of 16 crashes occurring within the study area over the 3-year period. Two of these crashes occurred at the intersection of NYS Route 197 and NYS Route 40, and one occurred on CR 43 at NYS 197. All these intersection crashes were rear end crashes involving traffic on the stop-controlled approach, with only minor damage and no injury.

Almost half the crashes on NYS Route 197 involved crashes with deer (6). Contributing factors for the three fixed object crashes involved alcohol impairment and/or slippery road conditions on the horizontal curve. Three of the link crashes resulted in personal injury.



The crash rate for the study segment of NYS Route 197 was calculated and compared to NYSDOT's statewide average rates for comparable roadways. These crash rates consider the frequency of crashes in the context of traffic volume and length of roadway, and are expressed in terms of accidents per million vehicle miles (acc/mvm). The crash rate calculated for the study segment of NYS Route 197 is 2.80 acc/mvm. This is higher than the applicable statewide average rate of 2.61 acc/mvm. A statistical analysis of this data indicates that the exceedance of the crash rate can be attributable to random chance and is therefore not considered to be indicative of a safety issue related to the design of the roadway.

It is noted that there have been no crashes within this recent 3-year period involving pedestrians or bicyclists. However, there was a fatal pedestrian crash that occurred in December 2014 on NYS Route 197 in the Town of Argyle near Saunders Transmission Service (in the northern segment of the study area). This crash involved two persons walking along the east side of the road appropriately facing oncoming (northbound) traffic who were struck from behind by a motor vehicle traveling southbound and legally passing another vehicle. One pedestrian was killed and the other severely injured. The driver was not cited.

Section 3: Evaluations

3-1 Identified Issues

The site investigations conducted for this study identified several issues related to condition and accessibility of the existing pedestrian facilities in the study area. NYSDOT has developed a *Complete Streets Checklist* as a tool in identifying access and mobility issues and opportunities to support an integrated multimodal approach to corridor planning and capital projects. The existing conditions in the corridor were reviewed in the context of this checklist and considering NYSDOT and ADA design standards for pedestrian accommodations.

3-1.1 Sidewalk Extents

The Dollar General store is located on the east side of NYS Route 197 in the Town of Argyle (outside of the Village), approximately 0.5 miles north of the intersection of NYS Route 197 and NYS Route 40. The existing sidewalk on the west side of NYS Route 197 ends near the Argyle Laundromat, approximately 500 feet south of the Dollar General store driveway access. The Dollar General store is an important resource for the community and many store patrons reportedly walk to/from the store. The current extent of the sidewalk requires that these pedestrians walk along the roadway shoulder for part of their trip.

3-1.2 Sidewalk Condition

Several sections of the existing sidewalk along the west side of NYS Route 197 are in poor physical condition. These include the 200-foot segment of asphalt sidewalk between 102 Main Street and 109 Main Street (residential properties), and the 75-foot segment of concrete sidewalk in front of 95 Main Street, a commercial property. The existing 100-foot segment of sidewalk on the south side of NYS Route 40 at the intersection with NYS Route 197 is also in poor condition, as noted in Section 2.



Asphalt Sidewalk Section in poor condition and narrow width



Sidewalk in front of 95 Main Street in poor condition

The tripping hazards associated with these conditions presents a potential safety risk for all pedestrians, but particularly for the elderly and persons with disabilities.

Portions of the sidewalk near the Glens Falls National Bank exceed the maximum cross slope requirements of the PROWAG. This steeper cross-slope makes it difficult for many persons to traverse, particularly those in wheelchairs or using walkers.

The 200-foot segment of asphalt sidewalk is 4 feet wide. While this is less than the preferred minimum 5-ft width, it is consistent with current acceptable design practices of PROWAG and FHWA for this limited distance². However, widening this segment of sidewalk should be considered as part of any capital project to address the noted condition issues, to provide a consistent 5-foot width in the corridor unless there are physical or right-of-way constraints.

3-1.3 Pedestrian Accessibility

The sidewalk conditions noted above limit accessibility for pedestrians because of the uneven surfaces and cross-slope conditions. Additionally, there are no ADA-compliant pedestrian ramps at the intersection of NYS Route 197 and NYS Route 40 or along the NYS Route 197 sidewalk route within the

² *Highway Design Manual*, Section 18.6.5, New York State Department of Transportation, 2017

study area, except at the intersection of NYS Route 197 and Mill Street. This general absence of ADA-compliant ramps further restricts pedestrian mobility and accessibility.



Missing ADA Ramp at commercial



Detectable Warning Surface in poor condition

The existing sidewalk ramps located at Mill Street exceed the maximum recommended grade and cross slopes. Accumulated sediment was also observed on the sidewalk ramp landing. This could be caused by insufficient drainage that allows runoff from the surrounding area to collect at the sidewalk ramp landing. It was also noted that sidewalk ramps at multiple driveways were in poor condition or not provided. These conditions make it difficult for elderly and disabled pedestrians to navigate through this intersection, which reduces accessibility of the pedestrian network.

3-1.4 Crosswalks

Residential and commercial land uses along both sides of NYS Route 197 within the Village, along with nearby churches, public library and school along NYS Route 40 east side of the corridor, have the potential to generate pedestrian activity on NYS Route 197. Sidewalks are provided on both sides of NYS Route 40, but a sidewalk is currently provided on only the west side of NYS Route 197. There are no existing marked crosswalks at the intersection of NYS Route 197 and NYS Route 40, nor are there any other midblock crossing opportunities for pedestrians to access the sidewalk from the east side of the road. The location of the Dollar General Store on the east side of NYS Route 197 requires some pedestrians to cross NYS Route 197 twice to access this store because many of the pedestrian sources are also on the east side, while the sidewalk is on the west side. These conditions may induce pedestrians to cross at locations where drivers of vehicles do not expect them. Further, pedestrian activity in the corridor is light and sporadic, such that their presence in the roadway environment may

not be readily anticipated by a motorist. The provision of marked and signed crosswalks would enhance pedestrian safety by increasing driver awareness of pedestrians, which would be particularly beneficial in these conditions where pedestrian activity is more random.

3-2 Opportunities/Constraints

The following are factors that were considered in evaluating improvement options and the development of improvement concepts.

3-2.1 Sight Distance

There is a crest vertical curve near the Argyle Laundromat that affects the considerations for potential midblock pedestrian crossings due to available sight distance. This curve is located within the 30-mph speed limit zone but is near the transition to the 55-mph speed zone. The speed data collected on NYS Route 197 notes that the design vehicle speeds in this area are between 45 mph and 55 mph. Based on these speed conditions, the limiting stopping sight distance for considering potential crossing locations is 500 feet, based on the criteria of the NYSDOT Highway Design Manual and AASHTO's *A Policy on Geometric Design of Highways and Streets*.

3-2.2 Physical/Environmental Considerations

NYS Route 197 crosses the Moses Kill near the intersection of Mill Street. The bridge includes a sidewalk on the west side only. The existing bridge width is not sufficient to accommodate an additional sidewalk on the east side while maintaining existing travel lane and shoulder widths. Considerations for providing sidewalks on the east side of NYS Route 197 would consequently involve bridge reconstruction or a separate adjacent structure for the pedestrian crossing. These considerations would involve structural design and environmental permitting and would likely involve right-of-way acquisitions and NY State Historic Preservation Office (SHPO) coordination.

There is a raised embankment along the east side of NYS Route 197 at 130 Main Street, generally opposite the Argyle Laundromat. Options for providing a sidewalk in this area would involve construction of a retaining wall or extensive grading of private property.

Other considerations along the east side of NYS Route 197 include utility impacts, existing drainage system, and existing grades along the shoulder.

Section 4: Improvement Concepts

Sidewalk improvement concepts were identified to address the existing conditions and lack of formal crossing opportunities in the corridor. These improvement concepts also identified alternatives to extend the sidewalk infrastructure along NYS Route 197 to improve pedestrian access to the Dollar General store.

From the video documentation it was identified that pedestrians tend to use the existing sidewalk on the west side of NYS Route 197. Once they reached the end of the existing sidewalk, pedestrians walked along the shoulder and randomly crossed to the east side when the gaps in traffic presented an opportunity and walked across the lawn of the Dollar General site. As part of this corridor study,

concepts were developed to improve the pedestrian accessibility in this area, consistent with ADA standards.

The improvement costs identified in this section for each concept include planning-level considerations for engineering design, construction, and construction administration/inspection. These costs also assume federal funding participation, and so include consideration for the associated engineering, NEPA assessments, and inspection requirements.

4-1 Maintenance/Upgrade Concept

This concept addresses the existing condition problems only and is provided as a baseline of improvements to maintain the existing pedestrian network in a state of good repair and to provide ADA accessibility. The work involved in this concept includes the following:

- reconstruct the asphalt segment of sidewalk with new 5-foot wide concrete sidewalk
- reconstruct the concrete sidewalk in the area in front of 95 Main Street and the bank to address condition and cross-slope issues
- provide sidewalk ramps with detectable warnings at driveways and cross streets
- regrade the area around the existing sidewalk ramps at Mill Street so sediment does not collect on the detectable warning surface of the sidewalk ramp.

This concept would not address the pedestrian accessibility issues for access to the Dollar General store or address pedestrian crossings of NYS Route 197. The estimated cost for this Maintenance/Upgrade concept is \$165,000.

4-2 NYS Route 197/NYS Route 40 Crossing

The intersection of NYS Route 197 and NYS Route 40 is at the Village center and is a focus of community activity. Currently there are no marked crosswalks the intersection nor are there ADA-compliant ramps. Marked and signed crosswalks are recommended to be provided at this location to cross all three legs of the intersection. This would also involve construction of pedestrian ramps with detectable warnings at the northeast and southeast corners, and at two locations on the west side of NYS Route 197. This concept is shown in Appendix C. As part of the new crossings, the existing sidewalk on the south side of NYS Route 40 should be reconstructed to address condition issues and to meet current standards. Appropriate advanced warning signs would be placed at the crosswalks and along NYS Route 197 to further enhance the safety of the crossings. The estimated cost for these intersection improvements is \$90,000, assuming basic pavement striping and signage.

4-3 Sidewalk Extensions

Three basic concepts have been developed to extend sidewalk connectivity to the Dollar General store. These concepts are primarily related to the considerations for potential locations for a midblock pedestrian crossing. These concepts are as follows:

- Concept 1: Argyle Laundromat Crossing
- Concept 2: Mill Street Crossing
- Concept 3: Eastside Sidewalk

For each of these concepts, the typical section for new sidewalk is assumed to consist of a 4-foot shoulder, a 6-inch curb reveal, and 5-foot concrete sidewalk, consistent with the typical configuration of the existing sidewalk on the west side. Impacted driveways will be reconstructed to accommodate the new sidewalk and conform to current NYSDOT standards for driveway access. The crosswalks are assumed to consist of basic pavement striping and signage consistent with the Manual on Uniform Traffic Control Devices and NYSDOT standards. The concepts also include ADA-compliant ramps and detectable warning surfaces at the crosswalks and major driveways.

All of these concepts include providing a sidewalk across the Dollar General store site to connect the proposed sidewalk along NYS Route 197 to the store frontage at the southwest building frontage. Site grading modifications will be required to maintain a maximum 5% sidewalk grade per ADA, which would involve a sizable cut section and possible retaining walls to connect to NYS Route 197. The issues of negotiation with the owners of the Dollar General store for funding participation, ownership, maintenance responsibility and construction easements for this sidewalk connection have not been considered by this study but will be a necessary component to advancing any of the concepts.

Based on available GIS-based right-of-way information, it is anticipated that there will be some locations where right-of way may be needed along the east side of NYS Route 197 to accommodate the sidewalk. These concepts would also need participation/consent for improvements on the private property of the Dollar General store site, as noted above. The extent of acquisitions for permanent rights-of-way or temporary easements will need to be determined from a detailed survey during a design process. The costs presented in this section for the various sidewalk extension concepts do not include costs associated with the Maintenance/Upgrade or the NYS Routes 197/40 Crossing improvements described above. These costs also do not reflect the potential costs for ROW or easements.

4-3.1 Concept 1: Argyle Laundromat Crossing

This concept provides a marked crosswalk near the Argyle Laundromat, with new sidewalk provided along the east side of NYS Route 197 from the crosswalk to the Dollar General store. The laundromat features a wide commercial driveway opening (50 ft) with a fence that separates the commercial driveway from the adjacent residential driveway to the south. This creates a small space near the road where a fire hydrant and protective bollards are located. There are three potential crosswalk locations that have been identified as part of this general concept:

Option 1a: places the crosswalk on the north side of the Laundromat driveway.

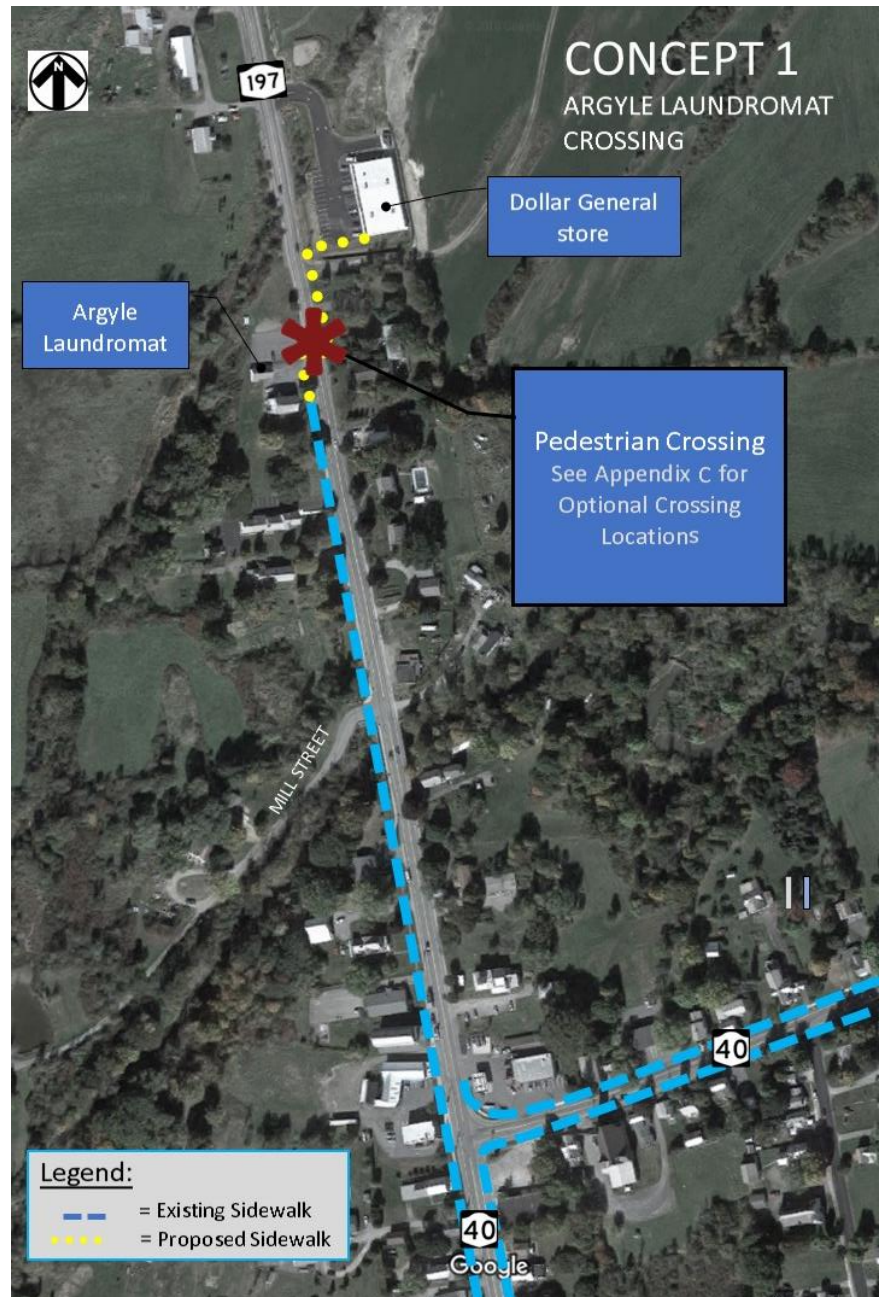
Option 1b: places the crosswalk between the two driveways, near the fire hydrant.

Option 1c: places the crosswalk on the south side of the residential driveway, where the existing sidewalk ends.

In any of these options, Concept 1 involves construction of approximately 250-300 feet of new sidewalk along NYS Route 197, plus the sidewalk connection on the

Dollar General property. Existing street lighting ends about 175 feet south of the Argyle Laundromat. This street lighting should be extended to the crosswalk location in Concept 1 to improve nighttime visibility. Illustrations of these optional crossing concepts are provided in Appendix C.

Concept 1 places the pedestrian crossing near the point of transition from the 55-mph speed zone to the 30-mph speed zone. This is not an ideal location for providing a midblock pedestrian crossing because of the higher vehicle speeds. However, this is a location of existing pedestrian activity and so the options are presented as a short-term strategy to improve the safety of this crossing.



Option 1a: Crosswalk North Side of Driveways

In this option the sidewalk on the west side of NYS Route 197 would be extended to the north side of the Argyle Laundromat driveway. The laundromat driveway width would also be reduced to be consistent with NYSDOT standards to make room for the pedestrian ramp and level landing. A marked crosswalk will be provided at this location to cross over to the east side of NYS Route 197. This configuration reduces the interactions of pedestrians with turning movements at the driveways. It also positions the pedestrian in a driver's natural line of sight for traffic exiting the driveways, which enhances driver awareness of the pedestrian presence. This is the safest location for the crosswalk in relation to the driveways. Driver's sight distance approaching this crosswalk location from the north is more than 500 feet, which exceeds the recommended minimum. However, the sight distance is only about 275 feet for drivers approaching from the south, limited by the vertical curve of the roadway. While this distance is adequate for the posted 30 mph speed limit, it is less than recommended in consideration of the higher prevailing vehicle speeds in this area, as vehicles are transitioning from the 30-mph zone to the 55-mph zone. Rectangular Rapid Flashing Beacons (RRFBs) could be used to enhance the conspicuity of the crossing to address these sight distance conditions. Although there are currently no national warranting criteria for the installation of RRFBs, NYSDOT provides some guidance on factors to be considered for their use³. These factors include considerations of vehicle volume and speed, pedestrian volume and age, sight distance, roadway width, posted speed limits, and availability of other protected crossings. Not all of the criteria need to be satisfied for an RRFB to be appropriate for any given location. The preliminary assessment of conditions for this planning study indicate that use of RRFBs at this location may satisfy the warranting guidance, but this will need to be confirmed by further engineering analysis during a design process. The estimated cost of this option, including the RRFBs is \$175,000.



Pedestrian Crossing Signage with Rectangular Rapid Flashing Beacon (RRFB)

Image source:
<https://mutcd.fhwa.dot.gov>

Option 1b: Crosswalk Between Driveways

In this option, the crossing would be located between the laundromat and residential driveways. Providing the crossing at this location provides the greatest amount of sight distance in both the northbound and southbound directions, which exceeds the 500 feet distance recommended for the higher prevailing vehicle speeds in this area. However, providing a crossing between the driveways does increase the conflict risk for pedestrians interacting with vehicle traffic entering/exiting the driveways. Right-turn drivers leaving the laundromat driveway will tend to focus their attention on mainline traffic approaching from their left, and consequently may be less aware of a pedestrian crossing the road to their right. This concept includes modifications of the driveways to reduce the width to enable creation of a pedestrian buffer area between the driveways to accommodate the pedestrian ramp and level landing, and to address these issues. This improvement will increase the safety and comfort for a pedestrian waiting there to cross and will also enhance pedestrian visibility to motorists. Because the

³ Traffic Safety & Mobility Instruction: Rectangular Rapid Flashing Beacons, TSMI 18-02, New York State Department of Transportation, April 2018.

crossing is located in a speed-zone transition area, this option is preferred for Concept 1 because it maximizes the visibility of the crossing for approaching motorists on NYS Route 197. This option will extend the length of sidewalk to be constructed on the east side of NYS Route 197 by approximately 65 feet. Although the available sight distance for this option exceeds the recommended minimum stopping distance, RRFBs are recommended to be provided to enhance driver awareness of crossing activity. The estimated cost of this option, including RRFBs, is \$170,000.

Option 1c: Crosswalk South Side of Driveways

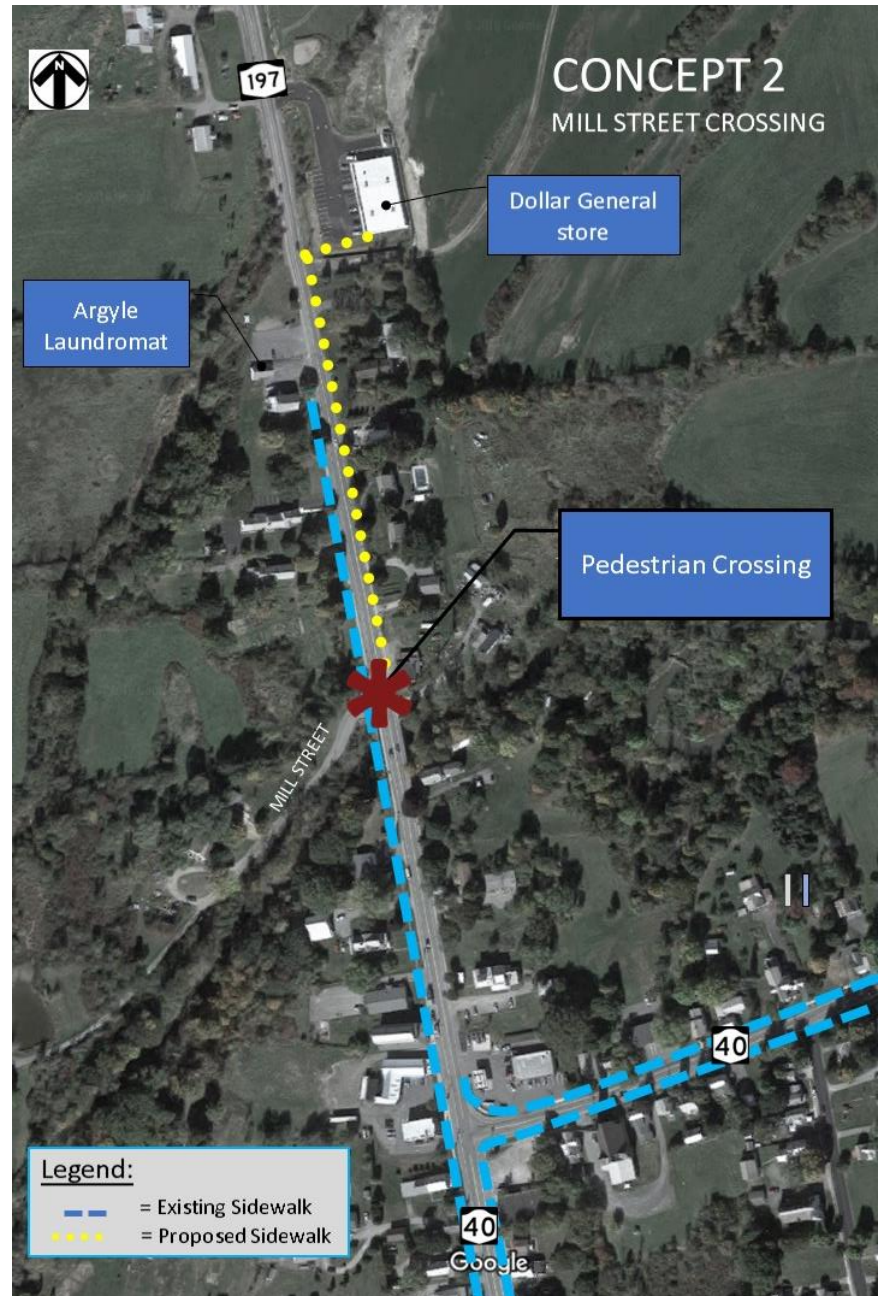
This option places the crosswalk to the south side of the two driveways, where the existing westside sidewalk ends. New sidewalk would be provided along the east side from this point, and no additional sidewalk would need to be constructed along the west side. This option would require a retaining wall along the east side to accommodate the sidewalk because of the existing steep back slope. This concept locates the pedestrian crossing further from the commercial driveway, which may reduce driver awareness of pedestrians in the crossing. At this location, sight distance for traffic approaching from the south will exceed the 500-ft recommended minimum distance, but the sight distance for traffic approaching from the north will be limited by the vertical curve and will be less than the distance recommended for the prevailing traffic speeds but will exceed the distance for the posted speed limit. RRFBs could be used to enhance the conspicuity of the crossing. The cost of this option, including the RRFBs, is estimated to be \$200,000.

4-3.2 Concept 2: Mill Street Crossing

In this concept, the pedestrian crossing would be located at the Mill Street intersection, north of the Moses Kill Bridge. This would involve construction of approximately 825 feet of new sidewalk along the east side of NYS Route 197

The preferred crossing at this location would be across the north leg of the intersection to avoid complications of providing a sidewalk ramp and landing on the east side near the bridge. This location also has similar benefits to those noted in Concept 1 relating to the higher pedestrian visibility because of their physical orientation to turning vehicle traffic. The sight distances along NYS Route 197 at this crossing location exceed 500 feet in both directions. This location is also further from the transition from the 55-mph to 30-mph zone, so speeds are slower. There is a street light at this intersection, which will also would enhance nighttime visibility of pedestrians in the crossing. Because of these factors, Concept 2 is preferred compared to Concept 1.

For the purposes of this study, a sidewalk along the east side of NYS Route 197 is presumed to be configured to be curbed to match the existing sidewalk on the west side, and to reduce the right-of-way needed. This concept would involve reconfiguration of the existing drainage gutter and catch basins and could have potential utility impacts. Right-of-way acquisitions and/or temporary easements would also be likely to address grading and driveway tie-ins. This concept increases the pedestrian accessibility in the corridor by extending the sidewalk to more properties along the east side of the road. Another benefit of this concept is that it provides additional distinction of the transition from the rural character of the Town to the developed character of the Village, which can help to induce better compliance of the Village speed limit. The cost of this concept is estimated to be \$355,000.



4-3.3 Concept 3: East side sidewalk

This concept considers the construction of a new sidewalk on the east side of NYS Route 197 from NYS Route 40 to the Dollar General store, a distance of approximately 1,600 feet. A major constraint of this concept is considerations for crossing the Moses Kill. The existing bridge is not wide enough to accommodate a sidewalk on the east side, while maintaining existing shoulder widths. Reconstruction of the bridge is not considered to be a feasible strategy to be included in this concept.

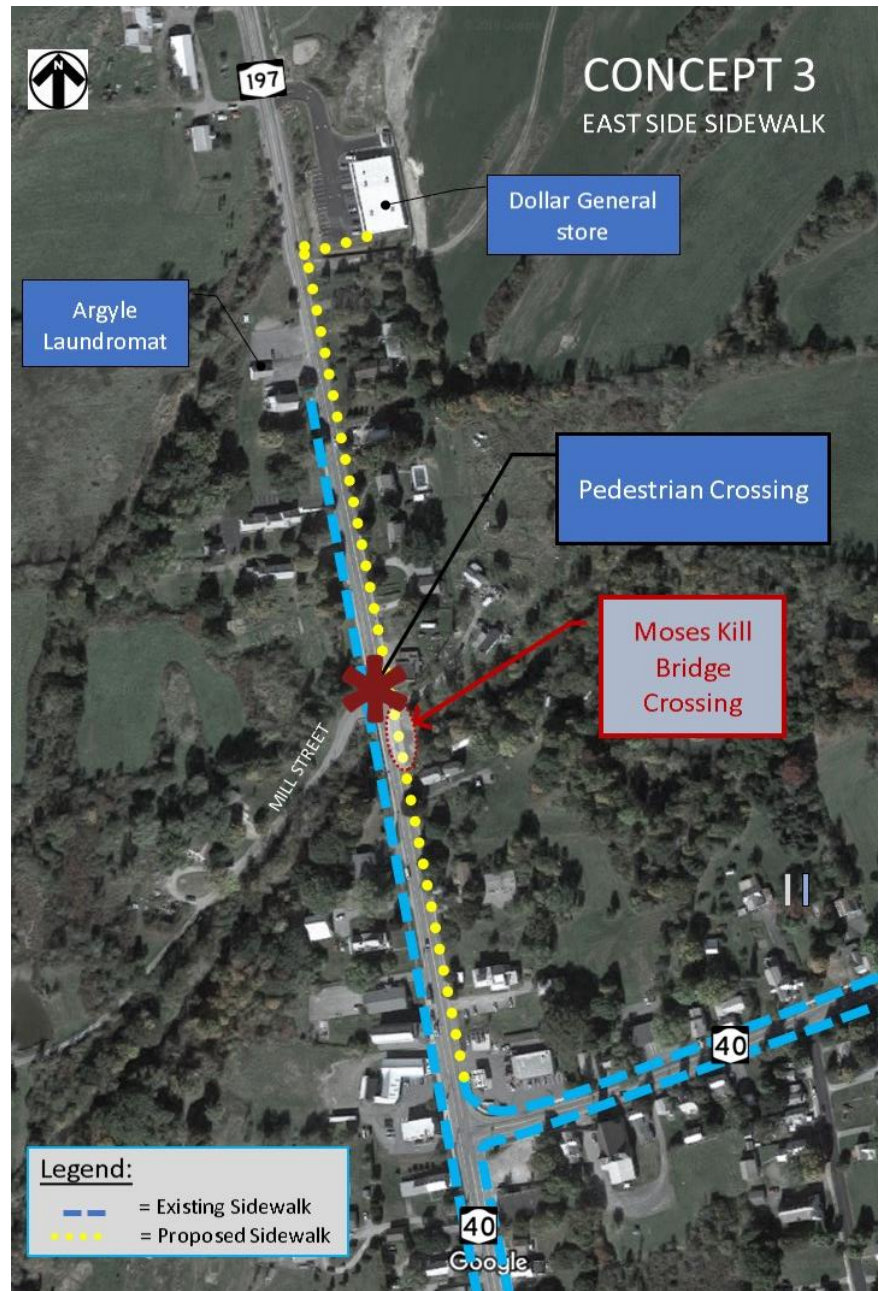
The effective clear width of the existing shoulder on the east side of NYS Route 197 across the bridge is more than 5 feet. This shoulder is wide enough to allow pedestrians to use it to safely walk in either direction across the bridge (a distance less than 150 feet). The sidewalks on either side of the bridge would be designed to provide a ramp transition from the sidewalk to the shoulder.

Another possible option is to reduce the shoulder widths on the bridge to accommodate a 4-foot wide sidewalk on the east side. In this case, the shoulders would be approximately 3½- to 4 feet wide. Structural analysis would be needed during design to confirm that the load of the additional

sidewalk can be accommodated by the existing bridge. This option would also be compliant with ADA standards. A trade-off of this option is that bicyclists would be required to share space with motor vehicles to cross the bridge rather than sharing space with pedestrians.

Otherwise, the pedestrian accommodation would need to be provided via a separate pedestrian bridge, which may not be feasible considering nearby land uses and features. This would involve structural design, environmental permitting, possible right-of-way acquisition and SHPO coordination.

Like Concept 2, a sidewalk along the east side of NYS Route 197 in this concept is presumed to be configured to be curbed to match the existing sidewalk on the west side, and to reduce the right-of-way



needed. This concept would involve reconfiguration of the existing drainage gutter and catch basins and could have potential utility impacts. Right-of-way acquisitions and/or temporary easements are also likely to be needed to address grading and driveway tie-ins. A pedestrian crosswalk at Mill Street should also be considered for this concept to maximize the accessibility benefit of having sidewalks on both sides of NYS Route 197. The estimated cost for the sidewalk component of this option, without consideration for the potential costs to provide a bridged crossing of the Moses Kill, is approximately \$555,000.

4-4 Shoulder Improvements

Considering the rural context of the section of NYS Route 197 north of the Village, providing a sidewalk or other dedicated pedestrian accommodation along the segment between the Village and Kinney Road is not considered to be warranted. The overall 30-foot wide pavement section allows for 11-foot travel lanes and 4-ft shoulders, consistent with NYSDOT design criteria⁴ for the traffic conditions and roadway's functional characteristics. The actual delineated shoulder widths are variable between 3 and 5 feet due to variations of the pavement striping. While improvements are not required for this section of the study area, future roadway maintenance investments along NYS Route 197 should consider widening the shoulders in the Town to 5 feet to better accommodate bicycle travel, as this route is part of the region's Priority Bike Network⁵. This shoulder improvement would also enhance pedestrian accommodation.

⁴ *Highway Design Manual*, Exhibit 2-5, New York State Department of Transportation, 2018

⁵ *Regional Bicycle/Pedestrian Plan*, A/GFTC, 2014, Map 2, Page 7.

Section 5: Safety Education

In addition to the physical improvements for pedestrian accommodation identified in this study, public safety education programs in local schools and at community events should be implemented to highlight pedestrian traffic safety. Elements of this program should encourage safe pedestrian practices such as wearing high-visibility clothing and carrying a flashlight when walking at night, using marked crosswalks where available, and awareness of your environment, particularly staying clear of travel lanes when walking along a roadway without sidewalks and being alert to the possibility of traffic approaching from behind in passing zones. More information about New York State's Pedestrian Safety Campaign is available through the Governor's Traffic Safety Committee, at <http://safeny.ny.gov/peds-ndx.htm>.

Section 6: Summary

The Argyle Pedestrian Network Extension Study identifies opportunities for improvements to the existing pedestrian facilities along the NYS Route 197 corridor in the Village and Town of Argyle. A specific objective of this planning study is to identify options to provide pedestrian access to the Dollar General store located just north of the Village of Argyle on NYS Route 197.

The strategies identified in this study include capital improvements to address the physical condition and ADA accessibility of existing pedestrian facilities, and to extend this network to improve pedestrian accessibility to the Dollar General store. The strategies also identify an educational component to enhance community awareness of traffic safety best practices for pedestrians and motorists.

The following improvements were identified to address existing sidewalk condition and accessibility issues. These improvements should be considered for near-term implementation to maintain a safe and accessible pedestrian route consistent with PROWAG standards.

- reconstruct the asphalt segment of sidewalk with new 5-foot wide concrete sidewalk
- reconstruct the concrete sidewalk in the area in front of 95 Main Street and the bank to address condition and cross-slope issues
- provide sidewalk ramps with detectable warnings at commercial driveways and cross streets
- regrade the area around the existing sidewalk ramps at Mill Street so sediment does not collect on the detectable warning surface of the sidewalk ramp.



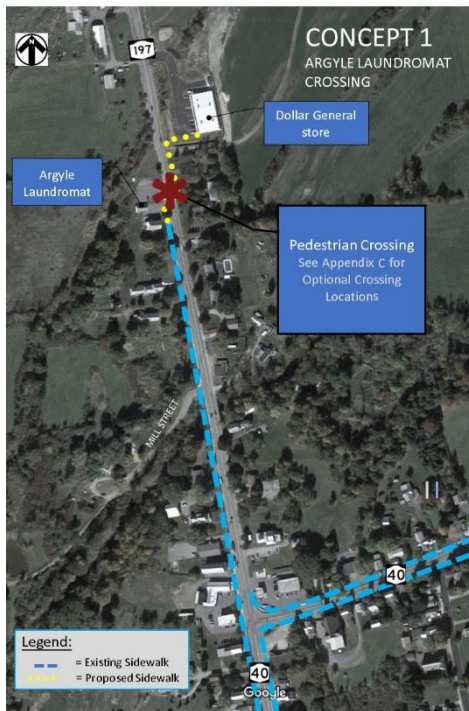
*New York State Pedestrian Safety Campaign,
<https://www.ny.gov/programs/pedestrian-safety-action-plan>*

The estimated cost of these improvements is \$165,000.

There are currently no marked pedestrian crossings in the study area. The intersection of NYS Route 197 and NYS Route 40 is at the heart of the Village, and marked crossings are recommended to be provided to cross all three legs of this 'T' intersection. This concept involves installing pavement markings and signing, as well as providing ADA-compliant ramps and detectable warnings. Replacement of the sidewalk in the southeast quadrant of the intersection is also recommended to address condition issues. These improvements should also be considered for near-term implementation, in addition to the maintenance improvements described above, to maintain a safe and accessible pedestrian route consistent with PROWAG standards. The estimated cost of these intersection improvements is \$90,000.

Three basic concepts were identified to extend sidewalk connectivity from the NYS Routes 197/40 intersection to the Dollar General store. These concepts are primarily related to the considerations for potential locations for a midblock pedestrian crossing. These concepts are as follows:

- Concept 1: Argyle Laundromat Crossing
- Concept 2: Mill Street Crossing
- Concept 3: Eastside Sidewalk



Concept 1 represents the lowest cost alternative, as it represents the shortest amount of new sidewalk and is the closest crossing opportunity to the Dollar General store. There are three potential crossing locations near the Argyle Laundromat that were identified (see below and Appendix C). Each location has different advantages and disadvantages related to pedestrian/driveway traffic interactions and sight distance because of the vertical curve of the roadway. The estimated construction cost of this concept ranges from \$170,000 to \$200,000, depending on which crosswalk location is selected. Crossing Option 1B is the preferred option for a crossing in the area of the Laundromat because this location maximizes the available sight distance. This option is also estimated to be the least cost (\$170,000), including RRFBs.



Concept 2 provides a new sidewalk along the east side of NYS Route 197 for about half of the distance between the Dollar General store and the NYS Routes 197/40 intersection, with a crosswalk at Mill Street. This concept is preferred over Concept 1. The advantages of this concept are that it places the pedestrian crossing further into the Village so that vehicle speeds are lower and sight distance conditions are better than at the Laundromat site. This concept also expands the pedestrian network for better accessibility to properties along both sides of the street. Another benefit of this concept is that it provides additional distinction of the transition from the rural character of the Town to the developed character of the Village, which can help to induce better compliance of the Village speed limit. The estimated construction cost of this concept is \$355,000.

Concept 3 provides a new sidewalk along the east side of NYS Route 197 for the entire distance between the Dollar General store and the NYS Routes 197/40 intersection. This concept would also provide for a pedestrian crosswalk at Mill Street. A major constraint of this option is the Moses Kill bridge, which does not have available width to accommodate an east-side sidewalk while maintaining existing shoulder widths. Two potential alternatives were identified to accommodate pedestrians across the bridge on the east side:

- reduce the shoulder widths on the bridge and provide a 4-ft sidewalk on the east side, or
- accommodate pedestrians on the existing shoulder across the bridge

Structural analysis would be needed during design to confirm that the load of the additional sidewalk can be accommodated by the existing bridge. Both of these options would be compliant with ADA standards. A trade-off of the option to provide an east-side sidewalk is that bicyclists would be required to share space with motor vehicles to cross the bridge rather than sharing space with pedestrians. The estimated construction cost of this concept is \$555,000.

Concepts 1, 2 and 3 are not mutually exclusive, and could be advanced as part of a long-term staged-construction program to achieve sidewalk access on both sides of NYS Route 197 throughout the Village based on funding availability. In this approach, Concept 1 (Option 1B preferred) could be advanced as the initial short-term project in conjunction with the sidewalk maintenance and NY 197/40 crossing improvements. Concept 2 could be advanced as a second phase, followed by a future final phase to complete the east-side sidewalk represented by Concept 3.

The study presents the estimated costs for each improvement concept if advanced separately. For example, Concept 3 includes costs that are also associated with the Concept 2 improvements. Additional cost savings could also be realized by bundling the maintenance and intersection crossing improvements with either the Concept 1, 2 or 3 improvements. These cost savings would be associated with efficiencies in the design, NEPA processing and construction administration/inspection efforts. Further cost savings and/or financing opportunities may be realized if the sidewalk enhancements are partnered with NYSDOT's roadway pavement preservation program cycle for general maintenance/resurfacing of NYS Route 197.

Future maintenance investments for the segment of NYS Route 197 in the Town should consider widening the shoulders to 5 feet to better accommodate bicycle travel since this route is on A/GFTC's Priority Bike Network. This shoulder improvement would also enhance pedestrian accommodation along the road.