Memorandum

TO: Mary Sennett, Village of Skaneateles Trustee
Martin Hubbard, Village of Skaneateles Mayor

FROM: Kevan Busa, SMTC Transportation Planner

DATE: August 9th, 2018

RE: Village of Skaneateles new sidewalk prioritization assessment document

Introduction

In response to the Syracuse Metropolitan Transportation Council (SMTC)'s project solicitation for the 2018-2019 Unified Planning Work Program (UPWP), the Village of Skaneateles submitted a proposal for a "New Sidewalk Safety Assessment" to prioritize locations for construction of new sidewalks. The SMTC agreed to complete the requested work as a technical analysis within our general "Bicycle/Pedestrian Planning" task in the 2018-2019 UPWP. This memo summarizes the results of this analysis.

This was a planning-level assessment only. The SMTC is not able to create engineering-level designs for any of the sidewalks or other infrastructure recommendations. 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. The Village of Skaneateles Board of Trustees and the Village of Skaneateles Mayor's office participated in the working group.

Existing Conditions

Sidewalks

The Village of Skaneateles has a good amount of existing sidewalk infrastructure. The major pedestrian routes within the village along Route 20, Fennell Street, Jordan Street, and State Street all have adequate pedestrian infrastructure (see Figure 1 – Study Area). There are 15.6 miles of existing sidewalk, which covers about half of the village, most being in the core.

The SMTC's recent Sustainable Streets project created a pedestrian demand model based on a combination of factors such as proximity to schools, parks, and grocery stores, as well as population density, employment density, and demographic characteristics. The pedestrian demand model was used to identify "pedestrian priority zones" throughout our planning area, including one in the Village of Skaneateles. Figure 1 shows the Skaneateles Pedestrian Priority Zone, which extends along Route 20 from Onondaga Street to Fuller Street. It encompasses the downtown core, school, and commercial areas within the village. Based on the model output, this is where there is a high importance for complete sidewalk infrastructure.

Road Ownership

Figure 2 shows Road Ownership by entity. East Lake Street (State Route 41) and Kane Avenue (State Route 41A) are State-owned facilities. Onondaga Street (County Road 41) has dual ownership: the County owns and maintains the asphalt, while the village owns and maintains everything else within the right-of-way. The remaining roads within the village are village-owned roads.

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. Figure 3 shows the total estimated AADT by road segment in the Village. The Route 20 corridor through the village has the highest volume of traffic, with about 10,000-11,000 vehicles per day. State Street carries a moderate volume of daily traffic, with about 6,800 vehicles per day. Jordan Street and East Lake Road each carry about 3,000 vehicles per day. Kane Avenue, and West/East Elizabeth Street have even lower volumes, with about 1,100-1,400 vehicles per day. No traffic volume data are available for the remainder of the local roads within the village (though these likely have even lower volumes). All available data was provided by New York State Department of Transportation for the 2016 year.

Accident Information

The SMTC examined data from the NYSDOT's Accident Location Identification System (ALIS) database for all roads available within the Village of Skaneateles for the most recent ten-year period (2008-2017). Accidents are shown for study area roads only, over the past ten years, on Figure 4. There were 681 total collisions, 564 of them between two or more vehicles. There were 13 pedestrian accidents and three bicycle accidents with motor vehicles. Table 1 shows the number of collisions by type and severity.

Table 1: Vehicle Accidents within the Village of Skaneateles, 2008 - 2017

Collision Type	Severity					Total Events
	Fatal Event	Injury Event	Property Damage Event	Property Damage & Injury Event	Non-Reportable Event	
Other Collision	1	21	299	56	288	665
Collision w/ Pedestrian	0	12	0	1	0	13
Collision w/ Bicyclist	0	2	0	1	0	3
Total Collisions	1	35	299	58	288	681

Source: NYSDOT ALIS

Assessment Methodology

Overview

This field inventory identified, through a planning-level visual inspection conducted by SMTC staff, existing physical features that are likely to present constraints to new sidewalk construction on each segment of road, by individual side of the road, that does not currently have sidewalks. The physical features that were identified as potential constraints to new sidewalk construction were:

- Trees/landscaping
- Roadside topography (slope)
- Utility poles
- Buildings or other structures located close to the road.

The location of these features were generalized by segments (i.e. features ***were not*** individually mapped using GPS).

Roads without sidewalk were divided into individual segments. Segments were generally determined by selecting the road segment between two cross streets. Some long segments were split into smaller segments if, upon field review, the roadside features varied substantially within that segment or the characteristic changed at all during the field observations.

For each segment of potential sidewalk, SMTC staff assigned a rating for each of the physical features noted above. Ratings were in three categories:

- No issues - There were no apparent issues presented by this particular feature
- Some issues - There were limited areas within the segment where this feature presents issues
- Significant issues - There are multiple properties along this segment where this feature presents major obstructions, and these would be expensive/difficult to mitigate.

Examples of these physical features and the ratings are described on the following pages.

Trees/landscaping

Trees and significant residential landscaping are a potential obstacle for the addition of a sidewalk to a street. During this inventory, large trees and bushes that would hinder the construction of sidewalks were observed in a few segments. It would be expensive to remove some large caliber trees and root systems for the sidewalk and, therefore, these segments ranked as having "significant issues" due to the amount of work/cost that it would take to clear them. Both tree size and quantity were taken into account when assigning a rating.

Examples of ratings based on trees/landscaping.

Roadside topography (slope)

Staff observed the grade of the area adjacent to the road during the field inventory. The assessment did not consider the running (linear) slope of the road, but rather the cross-slope (or side slope, perpendicular to the road) of the land immediately adjacent to the road. A steep side slope could require a significant amount of cut and/or fill to achieve the necessary cross-slope of the sidewalk, and could potentially necessitate a retaining wall in some locations. This sort of earthwork would add significantly to the cost of a new sidewalk. Where roadside topography was observed to be an issue, the slope typically rose away from the road.

Examples of ratings based on roadside topography.

Utility poles

Utility poles usually exist within the right-of-way of roads and are a potential obstacle when building new sidewalks. They are very difficult, and potentially expensive, to move. Sidewalks could be located around the poles if adequate space is available. The village would also have to coordinate with the utility company that owns the poles and lines.

Examples of ratings based on utility poles.

Buildings or other structures

Electric boxes, streetlights, fences, and houses/garages present obstacles to sidewalk construction. Removing or relocating these could add significantly to the cost of a sidewalk installation, and would require coordination with private property owners.

Examples of ratings based on buildings or other structures.

Assessment Results

Table 2 shows the rating for each physical feature (i.e. potential constraint) for each individual road segment in the study area. Based on this information, a installation difficulty category was assigned to each segment. Installation difficulty categories were assigned as follows:

- Installation difficulty 1 - all physical features rated as "no issues" (these segments could be built now with no apparent constraints).
- Installation difficulty 2 - one or more physical features was rated as having "some issues"; no features rated as "significant issues" (these segments could be built with very minor site work).
- Installation difficulty 3 - at least one physical feature was rated as having "significant issues" (these segments would require a considerable amount of site work).
- Installation difficulty 4 - all physical features had at least "some issues", with the majority rating as having "significant issues" (these segments would be very difficult to construct).

Figure 5 shows the locations of the study area segments by installation difficulty category.

SMTC staff also noted a few locations on Fennell Street and Hannum Street where there are gaps in the existing sidewalk at large commercial driveways. Ideally, the sidewalk should be continuous through the driveway. These locations were not rated, nor were they assigned a installation difficulty category. These locations are also shown on Figure 5.

Table 2: Assessment Results

KEY ● **Significant Issues** ● **Some Issues** ○ No Issues

Installation Difficulty 1 segments are highlighted in green.

Segment	Physical Features				Installation Difficulty*	Street Name	Ownership	Traffic Volume	Pedestrian Priority Zone	Fills Gap in Existing Sidewalk	Notes
	Trees	Slope	Poles	Structures							
1	●	○	○	○	2	State St.	NYSDOT	6,824	Yes	No	small/med trees on some properties
2	●	●	○	○	3	E. Elizabeth St.	Village	1,094	Yes	Yes	group of large trees on varying slopes
3	●	○	○	●	3	Palmer Pl.	Village	N/A	Yes	No	road is lined with fence, high end landscaping
4	●	○	○	○	2	E. Elizabeth St.	Village	1,094	Yes	Yes	1 tree, and some bushes, sidewalks could be moved due to poles
5	●	●	●	●	2	East St.	Village	N/A	Yes	No	some, trees, cross slope, and stone pillars, poles are close to road
6	●	●	●	○	3	East St.	Village	N/A	Yes	No	multiple large trees and poles close to road, steep side slope
7	●	●	●	○	3	East St.	Village	N/A	Yes	No	big trees, stone landscaping, steep slope in areas, poles near road
8	○	○	○	○	1	Ramble Wood Dr.	Village	N/A	Yes	Yes	some small bushes, slight elevation slope
9	●	○	○	○	3	Onondaga St.	OCDOT	N/A	No	No	landscaping, trees by curb
10	○	○	○	○	1	Lakeview Cir.	Village	N/A	No	No	1 or 2 trees
11	●	●	○	○	2	Lakeview Cir.	Village	N/A	No	No	some veg on properties, large cross slope
12	●	○	○	○	2	Lakeview Cir.	Village	N/A	No	No	few trees and bushes
13	●	●	○	●	2	Woodmere Ln.	Village	N/A	No	No	landscaping, some cross slope, aesthetic items
14	○	○	○	○	1	E. Lake Rd.	NYSDOT	3,412	No	No	small amount of veg
15	●	●	●	○	3	E. Lake Rd.	NYSDOT	3,412	No	No	large trees, poles near rd, properties with a steep cross slope
16	○	○	●	○	3	E. Lake Rd.	NYSDOT	3,412	No	No	small amounts of veg
17	○	○	○	○	1	Sachem Dr.	Village	N/A	No	No	small amounts of veg
18	○	○	○	○	1	Gayle Rd.	Village	N/A	No	No	small amounts of veg
19	○	○	●	○	2	Onondaga St.	Village	N/A	No	No	some poles in the way
20	○	○	○	○	1	Teasel Ln.	Village	N/A	No	No	none
21	○	○	○	○	1	Goodspeed Pl.	Village	N/A	No	No	some signs in way
22	○	○	○	○	1	Route 20	NYSDOT	7,247	No	No	some signs in way, small amount of cross slope
23	○	○	○	○	1	W. Lake Rd.	Village	N/A	No	No	none
24	●	●	●	○	3	W. Lake Rd.	Village	N/A	No	No	not enough room due to landscaping and poles
25	●	●	●	●	4	Kane Ave.	NYSDOT	1,409	No	Yes (Combined with Segment 26)	many trees, heavy slope

Table 2, continued: Assessment Results

Segment	Physical Features				Installation Difficulty*	Street Name	Ownership	Traffic Volume	Pedestrian Priority Zone	Fills Gap in Existing Sidewalk	Notes
	Trees	Slope	Poles	Structures							
26	○	○	○	○	1	Kane Ave.	NYSDOT	1,409	No	Yes (Combined with Segment 25)	cutting into shoulder
27	●	●	●	●	4	Kane Ave.	NYSDOT	1,409	No	No	ditch with heavy brush
28	●	◔	●	●	4	Heritage Woods Rd.	Village	N/A	No	No	lots of obstructions, a varying slope
29	◔	○	○	◔	2	Wicklow Dr.	Village	N/A	No	No	tree, small structure, and mailbox obstruction
30	◔	●	○	○	3	Kane Ave.	NYSDOT	N/A	No	No	bushes, shoulder/drainage issues
31	○	◔	○	○	2	Kane Ave.	NYSDOT	N/A	No	No	some slope
32	●	○	◔	◔	3	Prentiss Dr.	Village	N/A	No	No	some trees, mail and electrical boxes in way
33	◔	●	◔	◔	3	Kane Ave.	NYSDOT	N/A	No	No	extreme cross slope and mailbox obstruction
34	◔	○	○	○	2	Jordan St.	Village	2,970	Yes	No	trees and poles near rd, could still be done?
35	◔	●	◔	○	3	Fennell St.	Village	N/A	Yes	Yes	medium trees and big slope
36	◔	○	◔	○	2	W. Elizabeth St.	Village	N/A	Yes	Yes	trees and poles near rd, could still be done?
37	◔	○	○	○	2	W. Elizabeth St.	Village	N/A	Yes	No	none
38	○	○	○	○	1	W. Elizabeth St.	Village	N/A	Yes	No	none
39	●	●	○	○	3	W. Elizabeth St.	Village	N/A	Yes	No	very steep slopes and large trees
40	◔	◔	○	○	2	Franklin St.	Village	1,526	Yes	No	none
41	●	○	◔	○	3	Orchard Rd.	Village	N/A	Yes	Yes (Combined with Segment 42)	large trees close to road
42	◔	○	◔	○	2	Orchard Rd.	Village	N/A	Yes	Yes (Combined with Segment 41)	none
43	◔	○	◔	◔	2	Highland St.	Village	N/A	Yes	No	none
44	●	●	○	○	3	Griffin St.	Village	N/A	Yes	Yes	major construction required
45	◔	◔	◔	○	2	Hannum St.	Village	N/A	Yes	No	some brush, poles are close to rd
46	●	●	●	●	4	Kelley St.	Village	1,601	Yes	Yes	no space because of bridge
47	●	◔	○	●	3	N/A	Village	N/A	Yes	Yes (From sidewalk to public parking lot)	fence, large tree, not much space

Note: Does not include existing sidewalk gaps across commercial driveways.

*Installation Difficulty descriptions can be found on page 9.

Cost Estimates

The SMTC determined a planning-level cost estimate for each installation difficulty category of sidewalk (excluding right-of-way acquisition and earthwork).

The total length of all segments that were evaluated for potential new sidewalks is 10.05 miles, or about 53,000 feet.

Table 3 shows cost estimates for each installation difficulty category. Costs are for concrete sidewalk construction (4" thick, 5'wide), based on the NYSDOT Quick estimator reference for Upstate New York, which indicates a unit cost of $145.00 per linear foot of sidewalk. The estimates shown in Table 3 include the excavation, subbase material, compaction, and the construction of the new sidewalk. Material and labor required to perform these tasks is included. This ***does not*** include required adjustments to utilities, removal of any of the physical features, right-of-way acquisition, curb ramps, crosswalks, or other intersection modifications.

Table 3: Sidewalk Cost Estimates by Category

Category	Miles	Linear Feet	Cost (Millions)
Installation difficulty 1	2.19	11,563	$1.68
Installation difficulty 2	3.71	19,589	$2.84
Installation difficulty 3	3.28	17,318	$2.51
Installation difficulty 4	0.76	4,013	$0.58
Continue across driveways	0.11	581	$0.08
Total	**10.05**	**53,064**	**$7.69**

Next Steps

The village will need to decide on its preferred approach for connecting the sidewalk infrastructure. These are not in any particular order of importance and the Village of Skaneateles will have to choose which approach they would like to take. Some options are outlined below:

- *Focus on missing connections within the existing sidewalk network.* This approach would look to complete gaps in the existing network and create new connections to the existing network, primarily at the edges of the village. For example, there are two segments of existing sidewalk on Kane

Avenue, but they are on opposite sides of the road and there is a gap in between with no sidewalk. In this case, our assessment indicates that a new sidewalk on the west side of the road would be less difficult to build (segment 26). There are also a few other gaps that fall into the Installation difficulty 2 category, such as segment 36 on West Elizabeth Street, and segments 41-42 on Highland Street and Orchard Road. Completing sidewalks at these locations would connect additional residential areas at the edge of the village to the existing sidewalk network in the village core.

- *Complete sidewalk infrastructure within the pedestrian priority zone*. SMTC's Pedestrian Priority Zones identify areas that are most likely to have a high demand for pedestrian facilities. As shown on Figure 5, most of the roads within the Village of Skaneateles' Pedestrian Priority Zone already have sidewalks. One approach the village could take is to focus on completing the sidewalk network within this zone. Specifically, segments that were determined "Installation difficulty 1" (could be built right now with no apparent constraints) within the priority zone would be a logical first step. However, there are only two Installation difficulty 1 segments within the pedestrian zone (segments 8 and 38). There are a number of Installation difficulty 2 segments within this zone, though. With this approach, some of the Installation difficulty 1 locations might be bypassed in favor of some Installation difficulty 2 locations that are within the Pedestrian Priority Zone.

- *Complete sidewalks in order of easiest (installation difficulty 1) to hardest (installation difficulty 4)*. Using the findings of this assessment, the village could set a goal to build all the sidewalks that were identified as "Installation difficulty 1" and then progress through the other categories. This would focus on the sidewalks that are likely to be easiest to construct, without explicitly accounting for where the sidewalks are most likely to be used.

The goal is to have complete streets in the Village of Skaneateles with sidewalks on both sides of the street providing safe travel routes for pedestrians. The Village of Skaneateles can use the information provided in this assessment to make better-informed decisions about the expansion of its sidewalk network.

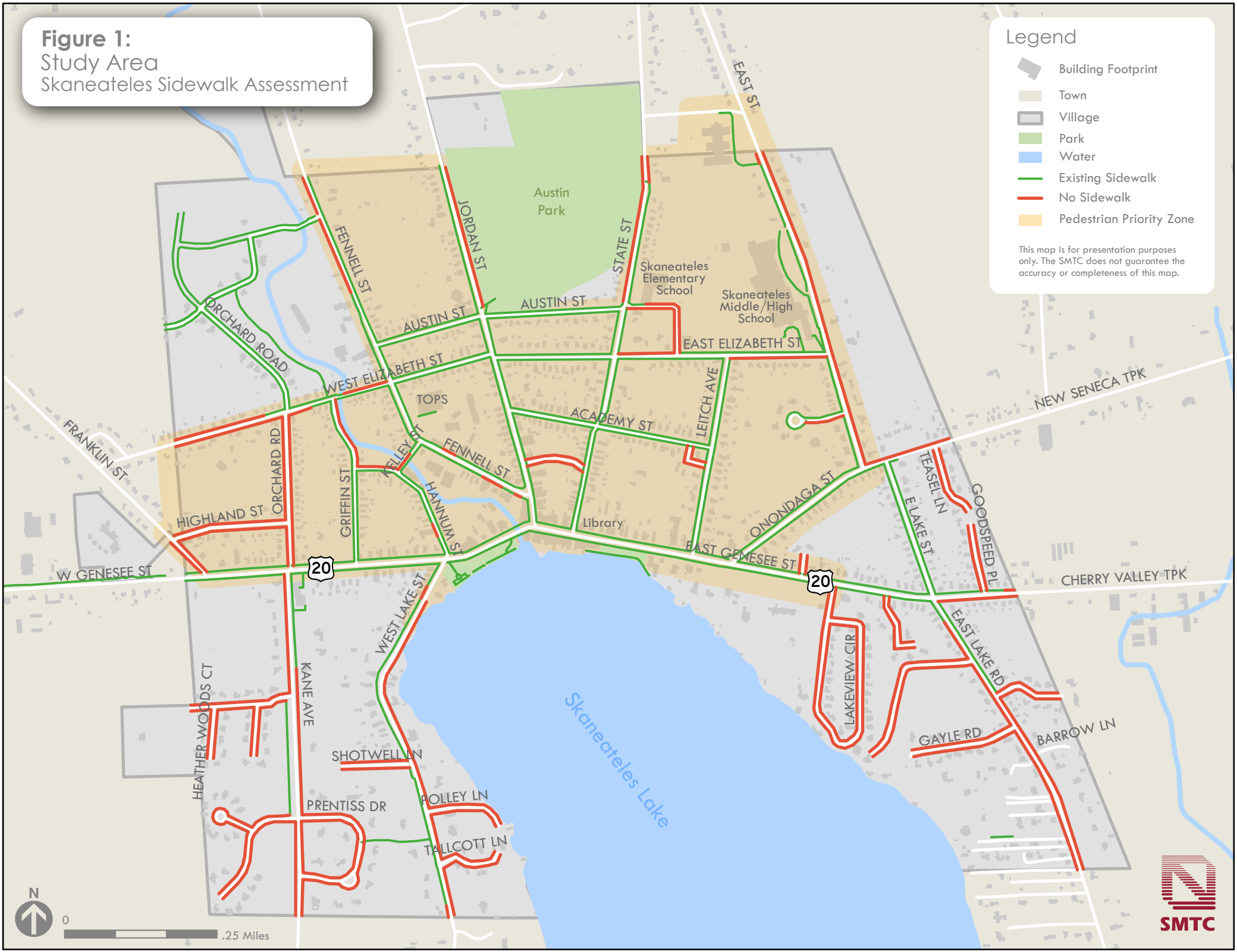
Figure 1:
Study Area
Skaneateles Sidewalk Assessment
Legend
Building Footprint
Town
Village
Park
Water
Existing Sidewalk
No Sidewalk
Pedestrian Priority Zone
This map is for presentation purposes only. The SMTC does not guarantee the accuracy or completeness of this map.
Austin Park
Skaneateles Elementary School
Skaneateles Middle/High School
Library
TOPS
Skaneateles Lake
EAST ST
JORDAN ST
STATE ST
FENNELL ST
AUSTIN ST
EAST ELIZABETH ST
WEST ELIZABETH ST
ORCHARD ROAD
ACADEMY ST
LEITCH AVE
NEW SENECA TPK
FRANKLIN ST
ORCHARD RD
GRIFFIN ST
KELLEY ST
HANNUM ST
HIGHLAND ST
ONONDAGA ST
TEASEL LN
E LAKE ST
GOODSPEED PL
W GENESEE ST
EAST GENESEE ST
CHERRY VALLEY TPK
20
WEST LAKE ST
KANE AVE
HEATHER WOODS CT
SHOTWELL LN
POLLEY LN
PRENTISS DR
TALLCOTT LN
LAKEVIEW CIR
EAST LAKE RD
GAYLE RD
BARROW LN
N
0
.25 Miles
SMTC

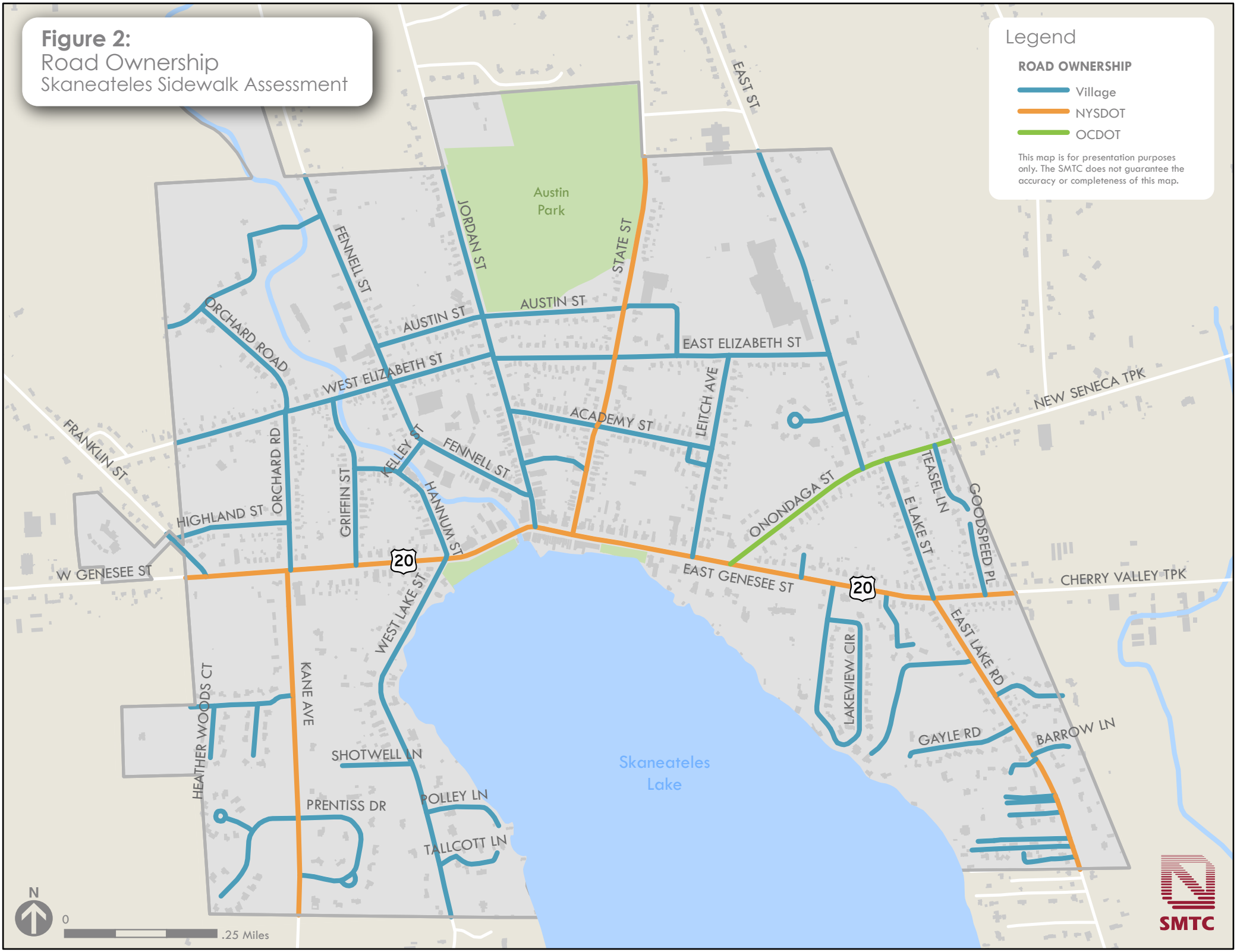
Figure 2:
Road Ownership
Skaneateles Sidewalk Assessment
Legend
ROAD OWNERSHIP
Village
NYSDOT
OCDOT
This map is for presentation purposes only. The SMTC does not guarantee the accuracy or completeness of this map.
Austin Park
Skaneateles Lake
EAST ST
JORDAN ST
STATE ST
FENNELL ST
AUSTIN ST
ORCHARD ROAD
EAST ELIZABETH ST
WEST ELIZABETH ST
ACADEMY ST
LEITCH AVE
NEW SENECA TPK
FRANKLIN ST
ORCHARD RD
GRIFFIN ST
KELLEY ST
HANNUM ST
HIGHLAND ST
ONONDAGA ST
TEASEL LN
E LAKE ST
GOODSPEED PL
W GENESEE ST
20
EAST GENESEE ST
CHERRY VALLEY TPK
WEST LAKE ST
EAST LAKE RD
LAKEVIEW CIR
HEATHER WOODS CT
KANE AVE
SHOTWELL LN
GAYLE RD
BARROW LN
PRENTISS DR
POLLEY LN
TALLCOTT LN
N
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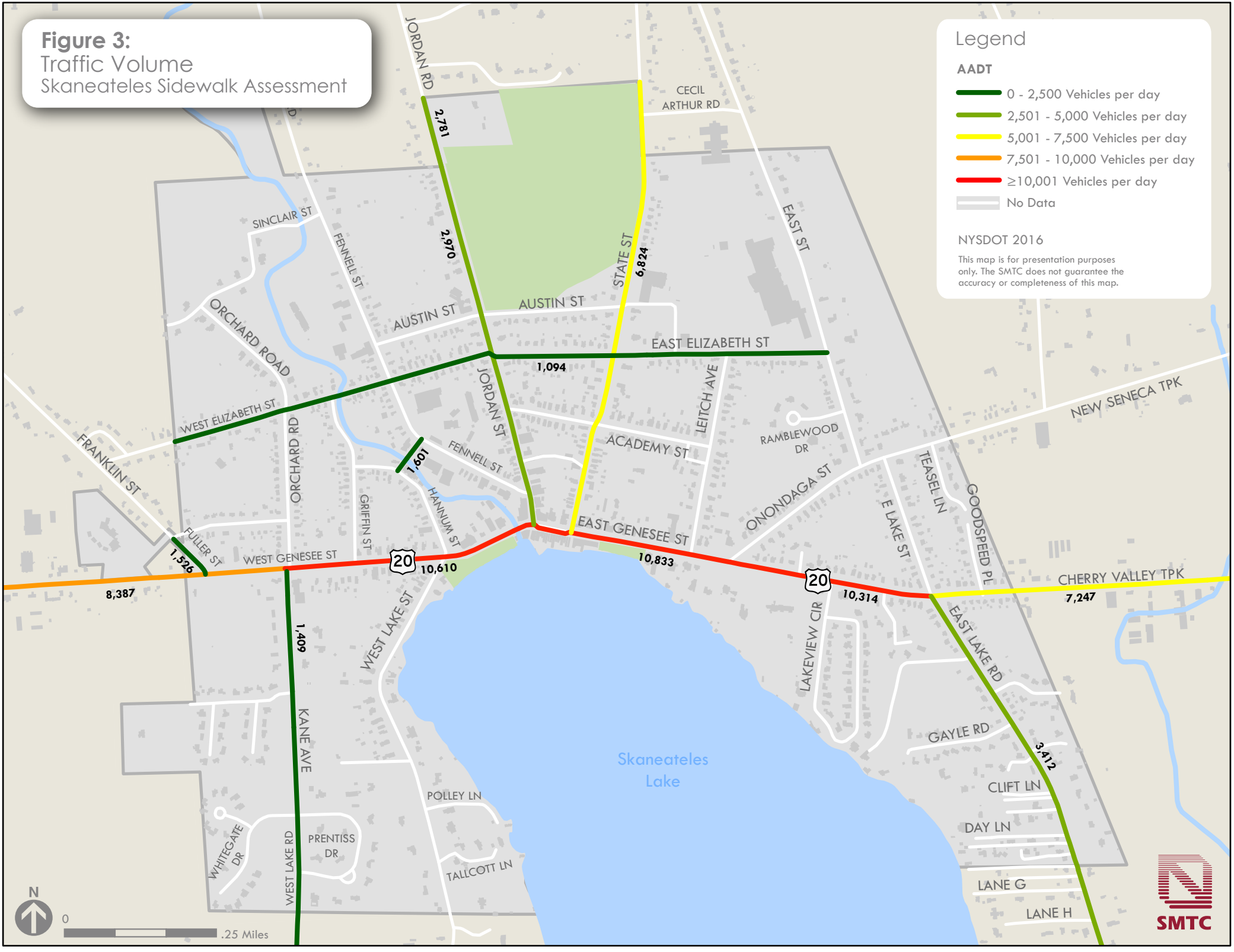
.25 Miles
SMTC

Figure 3:
Traffic Volume
Skaneateles Sidewalk Assessment



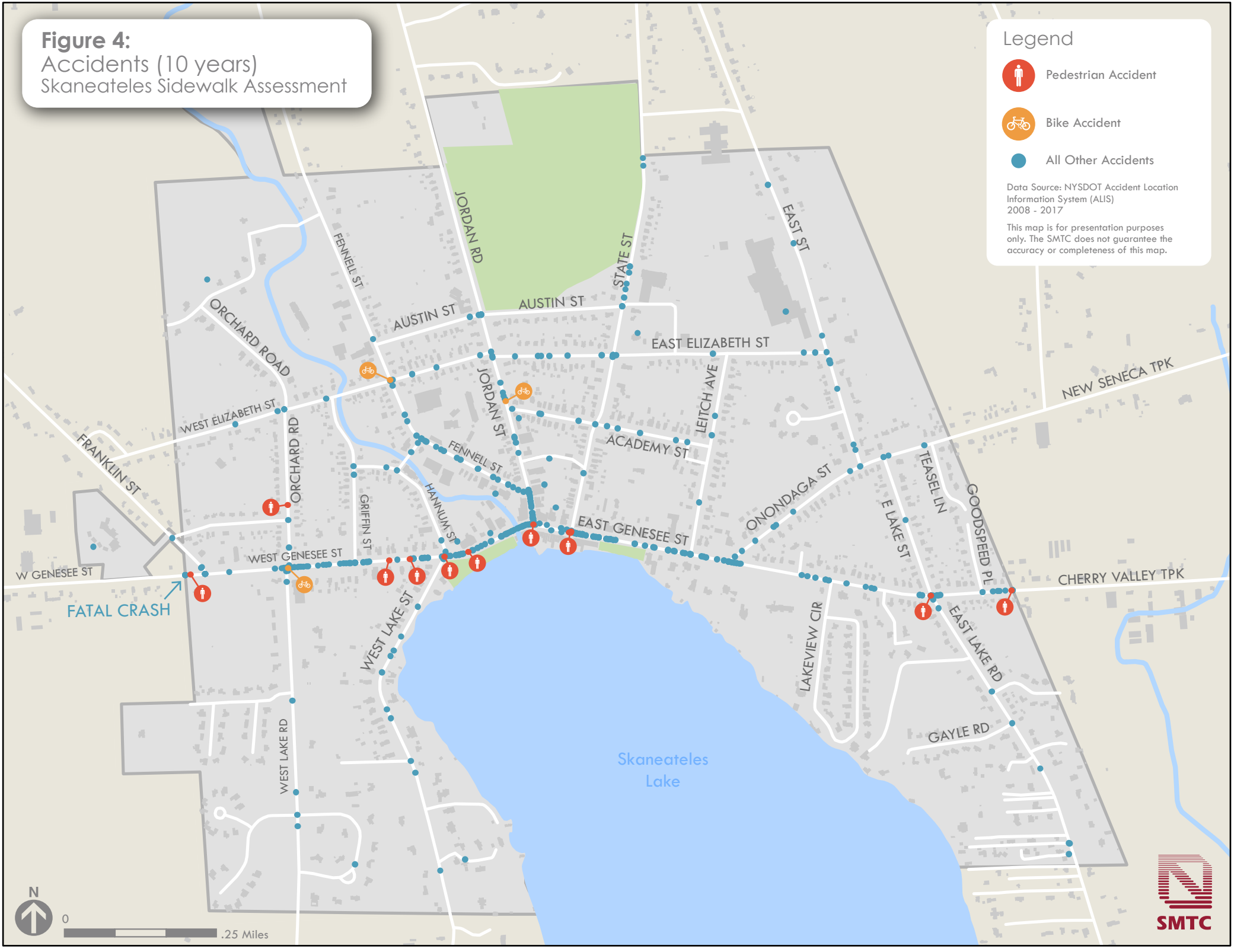


Figure 4:
Accidents (10 years)
Skaneateles Sidewalk Assessment
Legend
Pedestrian Accident
Bike Accident
All Other Accidents
Data Source: NYSDOT Accident Location Information System (ALIS)
2008 - 2017
This map is for presentation purposes only. The SMTC does not guarantee the accuracy or completeness of this map.
JORDAN RD
FENNELL ST
STATE ST
EAST ST
AUSTIN ST
AUSTIN ST
ORCHARD ROAD
EAST ELIZABETH ST
NEW SENECA TPK
WEST ELIZABETH ST
JORDAN ST
LEITCH AVE
ACADEMY ST
FRANKLIN ST
ORCHARD RD
FENNELL ST
GRIFFIN ST
HANNUM ST
ONONDAGA ST
TEASEL LN
GOODSPEED PL
EAST GENESEE ST
E LAKE ST
W GENESEE ST
WEST GENESEE ST
CHERRY VALLEY TPK
FATAL CRASH
WEST LAKE ST
LAKEVIEW CIR
EAST LAKE RD
GAYLE RD
WEST LAKE RD
Skaneateles Lake
N
0
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SMTC

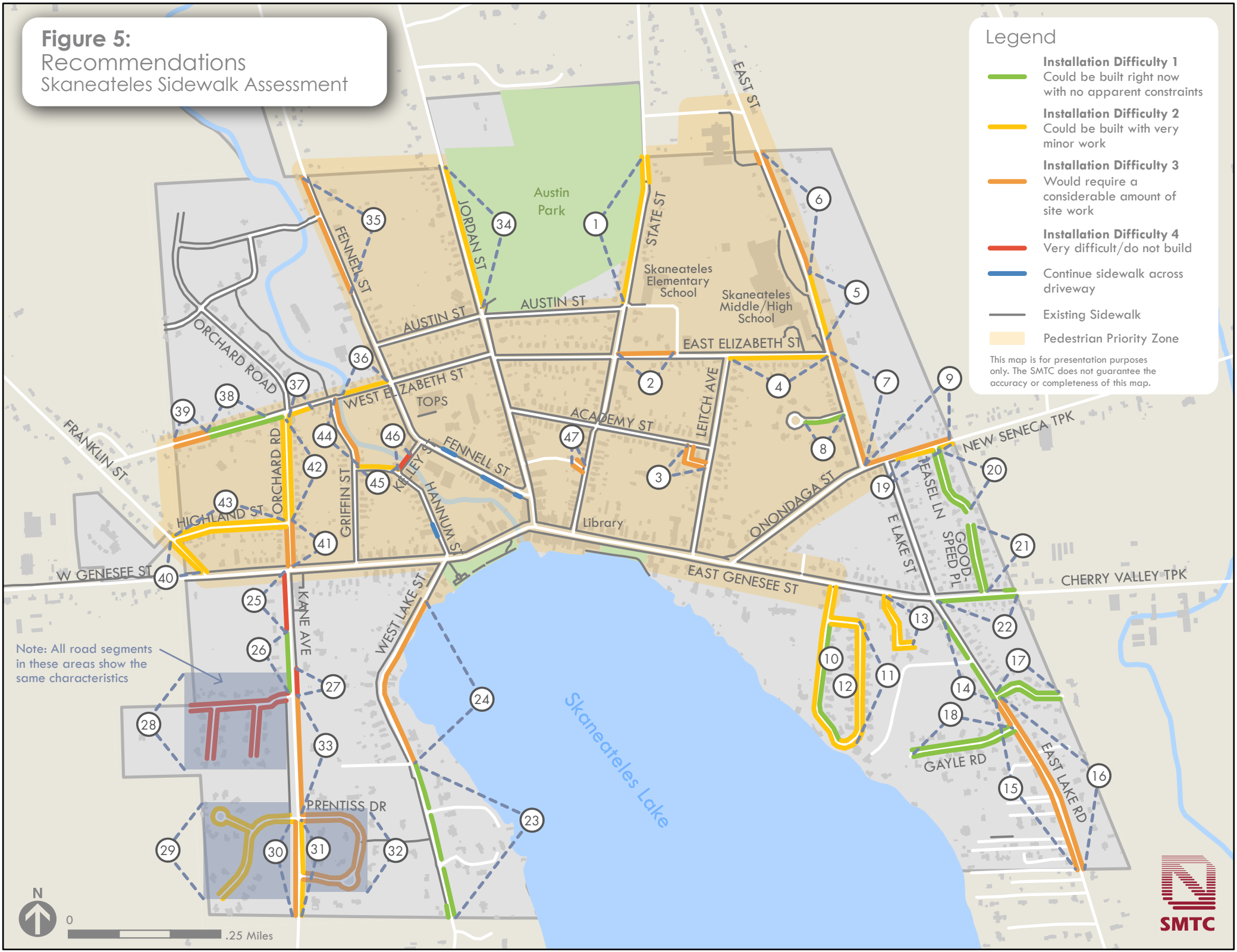
Figure 5:
Recommendations
Skaneateles Sidewalk Assessment
Legend
Installation Difficulty 1
Could be built right now with no apparent constraints
Installation Difficulty 2
Could be built with very minor work
Installation Difficulty 3
Would require a considerable amount of site work
Installation Difficulty 4
Very difficult/do not build
Continue sidewalk across driveway
Existing Sidewalk
Pedestrian Priority Zone
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Austin Park
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ORCHARD RD
GRIFFIN ST
KELLEY ST
HANNUM ST
HIGHLAND ST
NEW SENECA TPK
ONONDAGA ST
TEASEL LN
GOOD-SPEED PL
E LAKE ST
W GENESEE ST
EAST GENESEE ST
CHERRY VALLEY TPK
KANE AVE
WEST LAKE ST
PRENTISS DR
GAYLE RD
EAST LAKE RD
Note: All road segments in these areas show the same characteristics
N
0
.25 Miles
SMTC