

Niagara Falls Boulevard
Pedestrian Road Safety Audit
Ridge Lea Road to East Robinson Road
Town of Tonawanda and Town of Amherst
June 25, 2018



Figure 1 Wheelchair pedestrian crossing south of Roger Chaffee Dr. 6/25/2018

Conducted by:

Town of Tonawanda
Office of the Town Engineer
2919 Delaware Avenue
Kenmore, NY 14217
Tel:(716) 877.8805

Town of Amherst
Engineering Department
1100 North Forest Road
Williamsville, NY 14221
Tel:(716) 631.7415

Introduction

The towns of Tonawanda and Amherst, NY share their jurisdictional border at the centerline of Niagara Falls Boulevard. Niagara Falls Boulevard is US Route 62 and is owned by the State of New York and assigned to the NY State Department of Transportation to operate and maintain. Each respective town is responsible for land use, zoning, sidewalks and street lighting along the corridor.

On May 11, 2018, another car/pedestrian fatality occurred north of Greenhaven Terrace. This was the 6th fatality within a 5-year period which prompted local and state officials to convene on May, 25, 2018 to review what additional actions could be taken to improve pedestrian safety and mobility. As a result of that conference, the Town Engineering Departments were assigned the task of conducting an independent walk audit of the Niagara Falls Boulevard corridor within the area of concern from Ridge Lea Road/Koenig Road intersection north to East Robinson Road, approximately 2.4 centerline miles.

This report provides a summary of observations recorded using prompt lists from the Federal Highway Administration [Pedestrian Road Safety Audit \(RSA\) Guidelines and Prompts List](#), J FHWA-SA-07-007, July 2007. The form of observations were recorded using a GIS mobile application developed the Town Engineering Departments. The walk audit was conducted on Monday, June 25, 2018 by the assembled RSA team

Niaqara Falls Boulevard – Corridor Background

The subject corridor study area includes the intersection of Ridge Lea Road (Amherst side) and Koenig Road (Tonawanda side) to East Robinson Road. Niagara Falls Boulevard generally has a 100’ right-of-way width and has an Annual Average Daily Traffic up to 53,000 vehicles per day. Generally, sidewalks are constructed on both the west and east sides. The sidewalk width is 5 feet. Sidewalks were mainly installed by NYSDOT under HC-140 agreements to each town primarily under NYSDOT project D251784 in 1986. Two related highway projects with limits of Irvington to East Robinson and another at I-290 were more recent. Maintenance of the sidewalk is then relegated to abutting property owners by respective town codes. A two-way center turn lane is present for the entire section except at signalized intersections where it is transitioned to designated left turn lanes. The northerly boundary of the Town of Tonawanda is the centerline of Creekside Drive. The corridor is wholly in Amherst from Creekside Drive the East Robinson Road.

The Town of Amherst has been provided Highway Safety Improvement Program funding to install street lighting along Niagara Falls Boulevard from Inn Keepers Lane to the north boundary line of Amherst with Niagara County. Amherst has partnered with the Town of Tonawanda to design street lighting on the west side in conjunction with their project as existing wooden utility poles owned by National Grid are available to add street lighting. Construction is anticipated in 2019 to install 4,000k level LED street lighting within the study area under PIN 5762.37.

Table 1 Summary of characteristics related to pedestrian activity.

Segment	Posted Speed	Number of Lanes	Pavement Width (Ft.)*	Zoning West	Zoning East	No. Driveways West	No. Driveways East	Avg. Segment Length (Ft.) **	Street Lighting
Ridge Lea/Koenig to I-290 Eastbound Ramp	40 MPH	8	98	General Business	General Business	1	0	535	Yes
I-290 Eastbound Ramp to I-290 Westbound Ramp	40 MPH	6	80-98 with median	N/A	N/A	4	4	956	Yes

Segment	Posted Speed	Number of Lanes	Pavement Width (Ft.)*	Zoning West	Zoning East	No. Driveways West	No. Driveways East	Avg. Segment Length (Ft.) **	Street Lighting
I-290 Westbound Ramp to Inn Keepers Lane (A)	45 MPH	6	85	General Business	General Business	3	1	405	No
Inn Keepers Lane (A) to Greenhaven Terr (T)	45 MPH	7	90	General Business	General Business	3	1	333	No
Green Haven Terr (T) to Home Depot Driveway (A)	45 MPH	7 - 8	90 - 100	General Business	General Business	6	3	1,048	No
Home Depot Driveway (A) to Dexter Terr (T)	45 MPH	7	90	General Business	General Business	3	2	406	No
Dexter Terr (T) to Willow Ridge Dr (A)	45 MPH	7	90	General Business	General Business	2	4	356	No
Willow Ridge Dr (A) to Faragut Ave (T)/Draden Ln (A)	45 MPH	5 - 7	66 - 90	General Business	General Business & Multifamily	11	7	912	No
Faragut Ave (T)/Draden Ln (A) to Vinson Ave (T)/Edward White Dr (A)	45 MPH	5	66	General Business	General Business	10	2	683	No
Vinson Ave (T)/Edward White Dr (A) to Thistle Ave (T)/Roger Chaffee Dr (A)	45 MPH	5	66	General Business	General Business	2	7	691	No
Thistle Ave (T)/Roger Chaffee Dr (A) to Forbes Ave (T)	45 MPH	5	66	General Business	General Business	8	3	693	No
Forbes Ave (T) to South Ellicott Creek Rd	45 MPH	5	66	General Business	General Business	15	13	1,330	No
South Ellicott Creek Rd to Ellicott Creek Park Ent. (T)/North Ellicott Creek Rd (A)	45 MPH	5	66	General Business	General Business	0	0	312	No
Ellicott Creek Park Ent. (T)/North Ellicott Creek Rd (A) to Irwin Rd (A)	45 MPH	5	66	General Business	General Business	0	0	371	No
Irwin Rd (A) to Irvington Dr	45 MPH	5	66	General Business	General Business & Commercial Service	3	6	686	No
Irvington Dr to Hennepin Rd (A)	45 MPH	5	66	General Business	General Business	3	2	386	No
Hennepin Rd (A) to Creekside Dr	45 MPH	5	66	General Business	General Business	3	3	706	No

Segment	Posted Speed	Number of Lanes	Pavement Width (Ft.)*	Zoning West	Zoning East	No. Driveways West	No. Driveways East	Avg. Segment Length (Ft.)**	Street Lighting
<i>Creekside Dr to North French Rd</i>	45 MPH	5	66	General Business & Motor Service	General Business & Motor Service	6	5	705	No
<i>North French Rd to E. Robinson Rd.</i>	45 MPH	5	66	General Business & Motor Service	General Business & Motor Service	1	5	640	No

Intersection in *italics* is un-signalized

* Scaled from 2017 GIS Orthography

** Scaled Intersection Centerline to Centerline from 2017 GIS Orthography

Pedestrian Road Safety Audit – Background

The Town of Amherst created a Niagara Falls Boulevard Charter in May 2018 to partner with the Town of Tonawanda in establishing a framework of issues, goals and objectives related to the complex of the corridor in its entire length. The framework focuses on all modes of transportation, land use, environmental and zoning characteristics that influence the Boulevard now and how planning future use can provide a stronger and safer community. One of the foremost elements of the charter is pedestrian safety and walkability and addressing the crash history of the study segments.

The towns established a Pedestrian Road Safety Audit Team based on the aforementioned FHWA RSA guide in June 2018. Team members included Brian Kulpa AIA, Amherst Town Supervisor, James Jones, P.E., Tonawanda Town Engineer, Chris Schregel LSIT, Amherst Principal Engineer Assistant, Jennifer Michniewicz, P.E., P.T.O.E., Amherst Traffic and Safety Board and Kelly Dixon, GBNRTC.

A mobile GIS application was developed by the engineering departments of the towns to collect field data based on the recommended prompts list of the RSA guide. The prompts are grouped into four RSA zones of Streets, Street Crossings, Parking Areas/Adjacent Development and Transit Areas. The GIS application has the capability of collecting point data for all zones, topics, sub-topics and individual prompts along with comment and multi-media support attachments such as video and photographs. The resulting GIS data can be found here: <https://arcg.is/OfDfT9>.

The audit was conducted on Monday, June 25, 2018 from 7:00 am to 3:00 pm. Three members of the NYSDOT Region 5 administration and the Town of Tonawanda Supervisor Joseph Emminger accompanied the team for the first two hours of the audit and Amherst Supervisor Brian Kulpa accompanied the team for several hours and the morning and afternoon. The weather was clear with high temperature of 78°.

A total of 131 observation points made by the audit team were intended to provide independent assessments of the pedestrian experience as they relate to the RSA prompts, pedestrian generators and pedestrian desire lines. The audit segments are categorized and summarized by common segment characteristics as several unique land use patterns exist. They include segments Ridge Lea to the westbound I-290 ramps, westbound I-290 ramps to the Home Depot driveway, the Home Depot driveway to Faragut Avenue/Draden Lane, Faragut Avenue/Draden Lane to Forbes Avenue, Forbes Avenue to North Ellicott Road, North Ellicott Road to Hennepin Road, Hennepin Road to North French Road and North French Road to East Robinson Road.

Ridge Lea to the Westbound I-290 ramps – Figure 2

This segment is dominated by the Interstate highway function however some retail frontage exists on the west side outside of the I-290 ROW. The primary observations in addition to the summaries shown in Figure 2 relate

to pedestrian crossings distances which are lengthened by the eastbound right turn lane, southbound dual left turn lane and wide curb radii at the Koenig/Ridge Lea intersection. Raised medians do not extend into intersection to provide pedestrian refuge. Push button activation for crossing clearance were excessive due to existing signal phasing and cycle lengths.

The mountable curb southbound near the transit stop poses a loss to any pedestrian insulation when boarding operations are not occurring.

Sidewalks in vicinity of ramps lack any vertical separation or barrier such as curbing. Poor drainage and siltation on walkways reduces effective clear width of the pedestrian access route. Significant sedimentation exists on sidewalks under the bridges between the jersey barrier and abutment slope and is indicative of poor drainage. Lack of under bridge lighting was noted. The skew and super-elevation of the highway ramps favor higher vehicular speeds and thus diminished comfortable gaps in traffic flow to be negotiated by pedestrians and are excessive to ADA slope compliance. Detectable warning plates at sidewalk ramps were incorrectly oriented.

Bicyclists were observed using sidewalks as no significant bicycle accommodations are provided on the road (Figure 2a).



Figure 2a Bicyclist at I-290 EB On Ramp

Crosswalks are not provided across the north and south legs of the signalized intersection of the Westbound Off-Ramp.

Transit stops do not have shelter nor seating. Loading areas and surfaces are substandard.

The Town of Tonawanda Youth, Parks & Recreation Department performs snow removal on the sidewalk segment within the I-290 ROW.

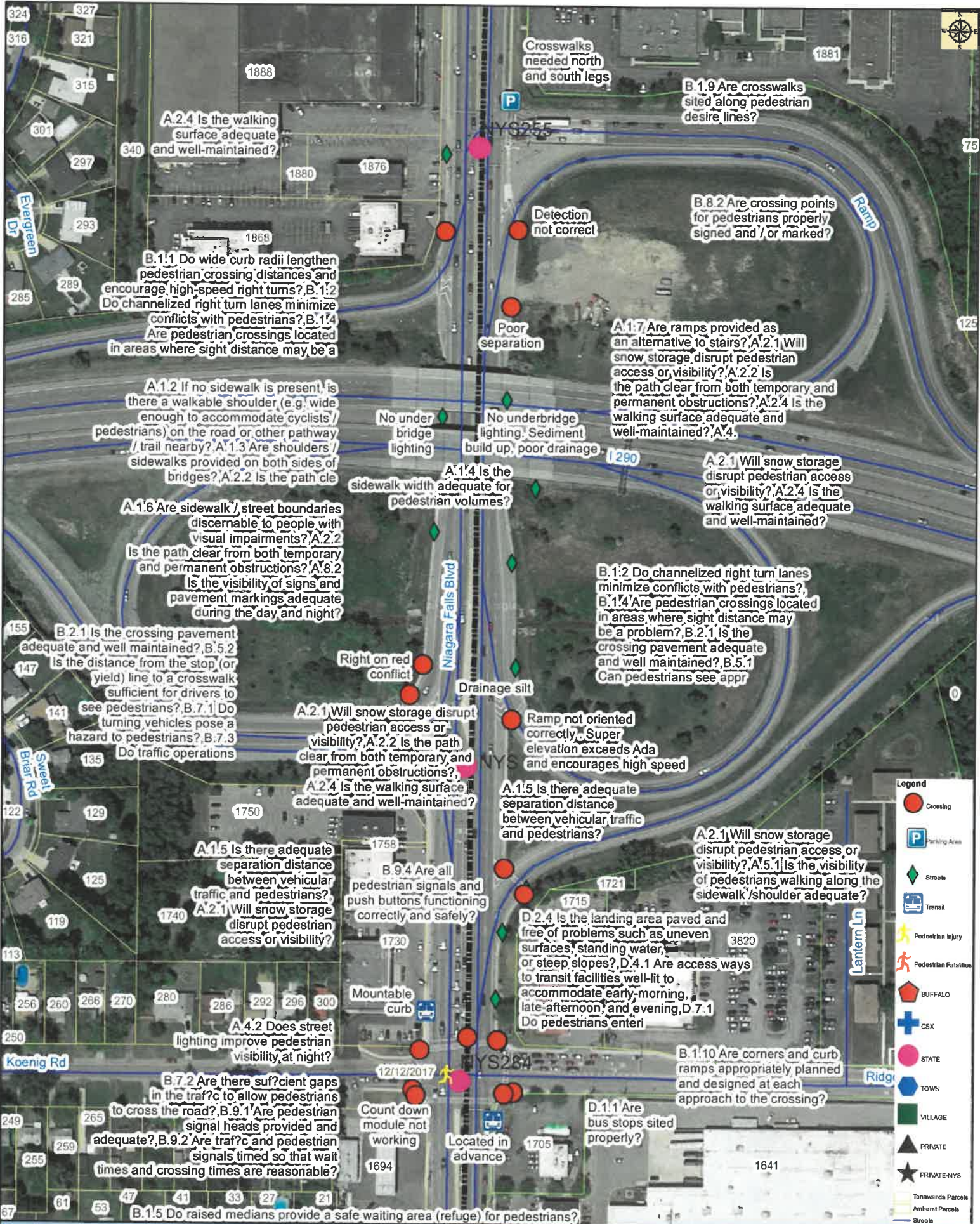
One pedestrian injury crash is reported in this segment.

Westbound I-290 ramps to the Home Depot driveway – Figure 3

The majority of the west side of the road is commercial with some retail in character. The east side is mixed commercial with motels beyond the frontage parcels. A new auto resale facility is being constructed at 1881 Niagara Falls Boulevard and both sides are traversed by a wide overhead utility corridor crossing. It is unclear if that section is maintained in the winter. Long distances of parking lot edges abut the sidewalk. Driveway locations are too close to crosswalks. The driveway at 1980 Niagara Falls Blvd has excessive width and its construction compromises the walking surface of the sidewalk (Figure 3a). Separation between the curb and sidewalk are less than desirable.

Sidewalk sections are missing on the north side of Inn Keepers Lane. The segment of the Boulevard does not have municipal street lighting. Excessive cross slopes of sidewalks were noted. Large curb radii increase pedestrian crossing distance and complicate proper placement of detectable warning plates at the curb ramps.

Figure 3a 1980 Niagara Falls Blvd



Full GIS Map Data Available at:
<https://arcg.is/0Fdft9>

Figure 2
 Ridge Lea to the Westbound I-290 ramps

100 50 0 100
 Feet

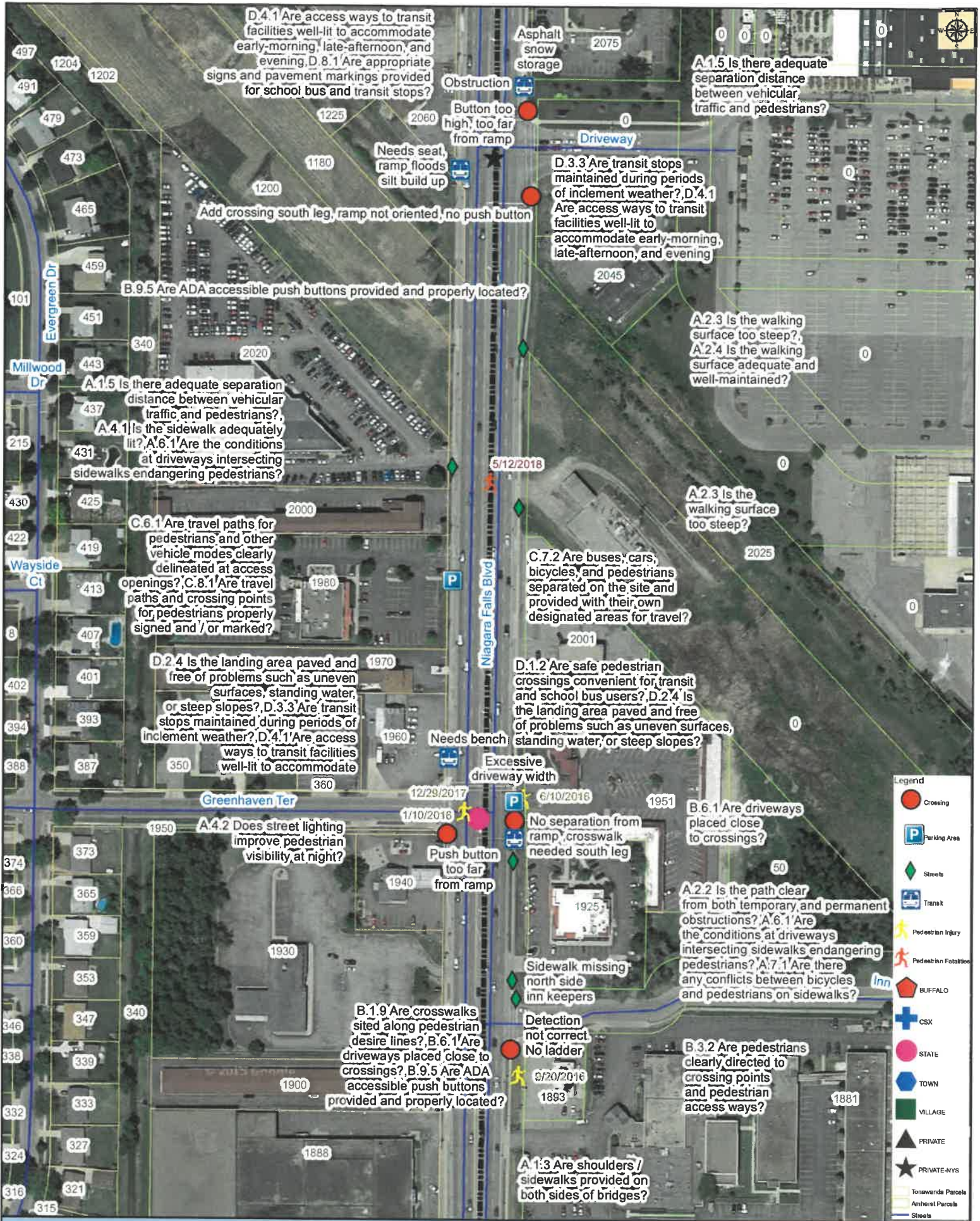


Figure 3
 Westbound I-290 ramps to the Home Depot driveway

There are no crosswalks on the south legs at Greenhaven Terrace and Home Depot driveway to cross the Boulevard. The exclusive north bound right turn lane into the Home Depot driveway increases crossing distance by 15% across the 100 feet of pavement. There are no raised medians to provide pedestrian refuge at the intersection, particularly at the east leg of the intersection where a raised median exists but does not extend into the existing crosswalk. ADA devices are improperly located.

Glendale Elementary School is located to the west accessible to Niagara Falls Boulevard by an 8 minute walk (0.34 mi) via Greenhaven Terrace.

Bicyclists were noted using sidewalks as no significant bicycle accommodations are provided on the road.

Transit stops do not have shelter nor seating. Two northbound and two southbound bus stops exist in this segment. Loading areas and surfaces are substandard.

One pedestrian fatality and four injury crashes are reported in this segment three of which were reported at the Greenhaven Terrace intersection.



Home Depot driveway to Faragut Avenue/Draden Lane – Figure 4



Figure 4a 2088 Niagara Falls Blvd

Smaller commercial/retail businesses occur on the both sides of the corridor within this segment however the lots on the east side have longer, parallel frontages and includes a large auto dealership car storage lot. Several walking surface deficiencies were noted included utility patches, excessive vertical deflections (Figure 4a) and substandard surfaces.

The intersection at Willow Ridge Drive does not have a crosswalk on the south leg. The westbound lane has an exclusive left turn lane and a shared left right turn lane but through traffic into the plaza on the opposite site is not restricted. The location of the driveway north of Willow Ridge is too close to the crosswalk.

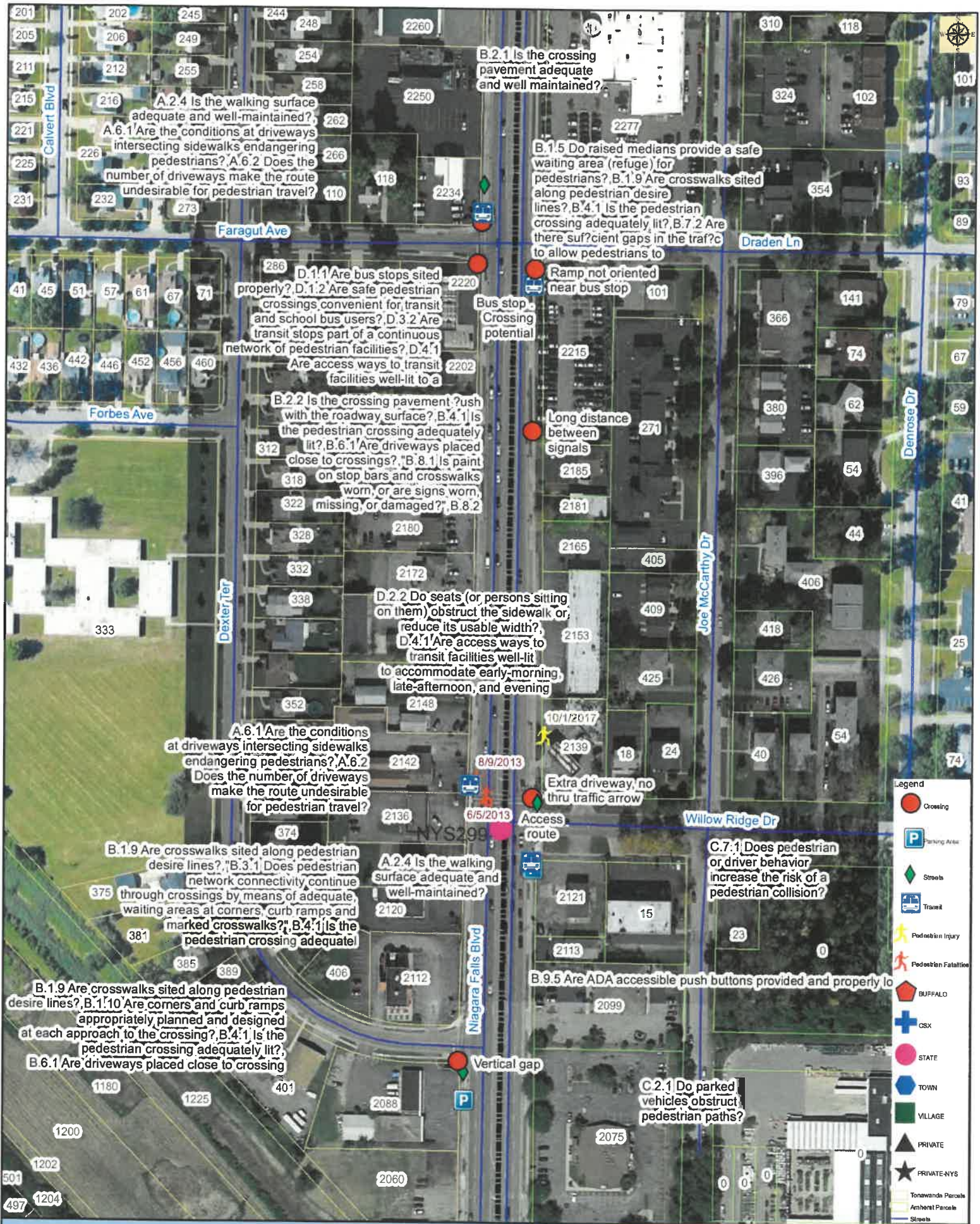
The intersection of Faragut/Draden is unsignalized. Transit stops exist on both sides of the boulevard indicating potential pedestrian desire lines to access stops. The nearest signalized intersection is 634 feet to the north.

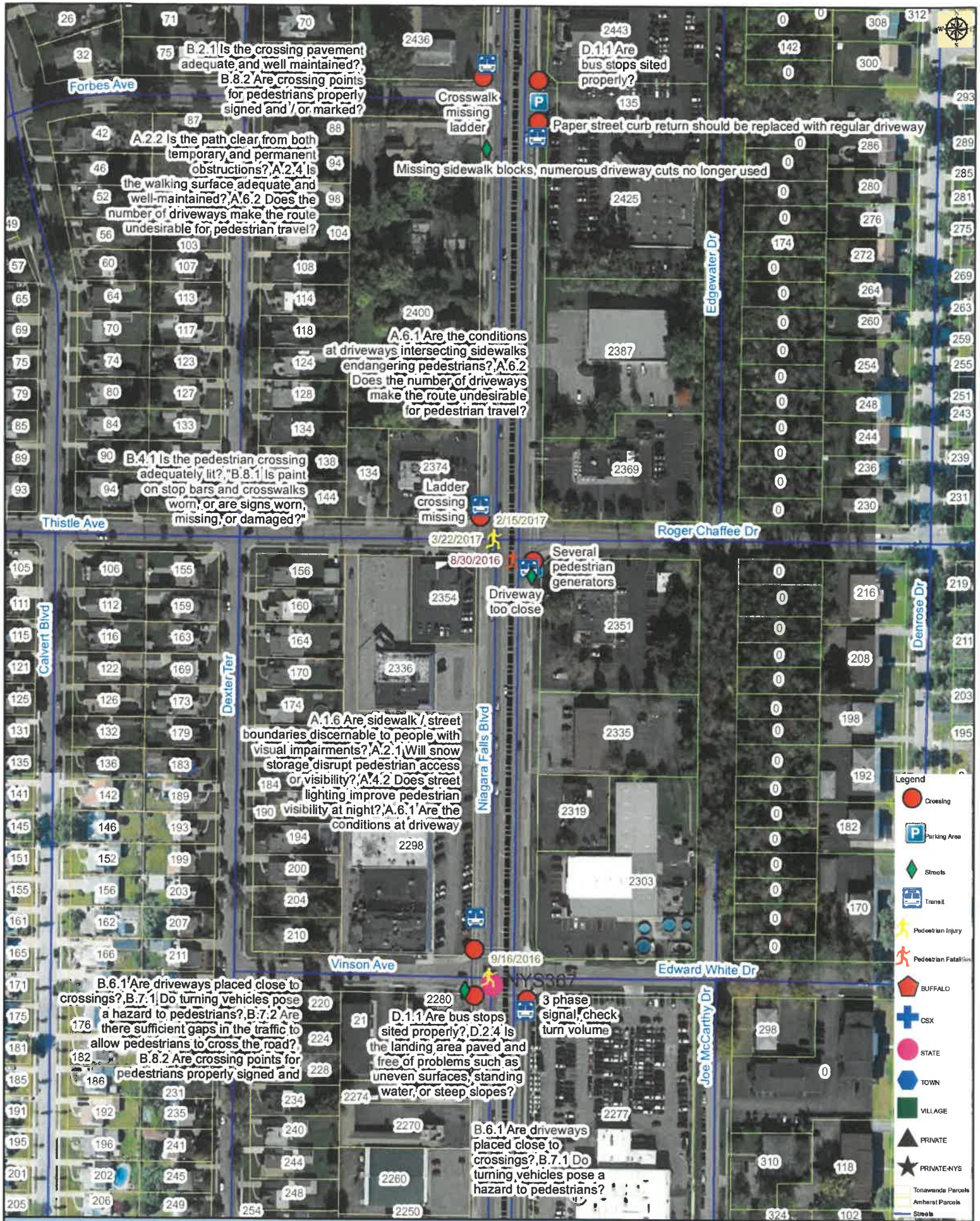
Transit stops do not have shelter nor seating. A make shift seat exists at the Willow Ridge south bound transit stop. Two northbound and two southbound bus stops exist in this segment. Loading areas and surfaces are substandard.

Three pedestrian fatalities and one injury crashes are reported in this segment each within the vicinity of the Willow Ridge intersection.

Faragut Avenue/Draden Lane to Forbes Avenue – Figure 5

Commercial/retail businesses occur on the both sides of the corridor within this segment. A large auto dealership occupies the entire block from Draden Lane to Edward White Drive. Holiday Inn Express is under construction at 2400 Niagara Falls Boulevard and Classic V Banquet facility is directly across the boulevard.





The signalized intersection at Vinson/Edward White has a left turn only phase for north/south bound boulevard traffic which increases pedestrian wait time unnecessarily base on turning movement demand noted in 7/7/2016 counts performed by the Greater Buffalo Niagara Regional Transportation Council (GBNRTC).

The northerly driveway at Ted’s Hot Dogs is too close to the un-signalized intersection at Roger Chaffee Drive and complicates boardings at the northbound transit stop which is within the southeast curb radii adjacent to the ADA ramp. Three of the four intersection quadrants have fast food eateries and transit stops are located in the NW and SE corners between driveways and cross streets. The nearest signal is 691 feet to the south. Curb radii are 40 feet.

The intersection of Forbes Avenue is opposite the driveway at Classic V Banquet. The driveway for the banquet facility is constructed with curb radii without a concrete driveway apron nor ADA ramps functioning as a paper street. There is improper sight distance for egress. Transit stops are located in the NW and SE quadrants.

There are three northbound and three southbound transit stops within this segment. Transit stops do not have shelter nor seating. Loading areas and surfaces are substandard.

One pedestrian fatality and three injury crashes are reported in this segment. Two of the injury and the fatality crashes were noted at the Thistle/Roger Chaffee intersection. Note: report cover photo is approximately 100 feet south of this intersection.

Forbes Avenue to North Ellicott Road – Figure 6

This segment continues to have similar commercial/retail land use, however there are four residences on the Tonawanda side. Ellicott Creek Park is located on the west side of the corridor.

Parking lots were noted to be paved right to the back edge of sidewalks, typical along the study corridor. This effects adequate pedestrian buffer from parked vehicles and snow storage. A sidewalk encroachment was noted at the building at 2545 Niagara Falls Boulevard.

The eastbound right turn slip ramp increases pedestrian crossing distance and does not provide pedestrian refuge. The eastbound approach is at a 30° skew from perpendicular (Figure 6a). There is no crosswalk on the south leg of either Ellicott Creek road intersections. ADA push buttons and detectable warning plates are improperly located or missing.



Figure 6a Eastbound South Ellicott Creek Road

The signals at south and north Ellicott Creek Road are 312 feet apart and are interconnected to avoid queuing into each other’s intersections during left turn phases from Ellicott Creek roads. Northbound and southbound left turn only phases get called without detection which increase overall cycle length and pedestrian crossing wait times.



Full GIS Map Data Available at:
<https://arcg.is/0fDfT9>

Figure 6
 Forbes Avenue to North Ellicott Road



The Ellicott Creek bridge has 5 foot wide sidewalks with a 5 foot travel edge offset. Erie County parks is responsible for snow removal on the west side sidewalk of the bridge.

The Ellicott Creek Trailway crosses Niagara Falls Boulevard on the north leg of North Ellicott Creek Road. The 10 foot wide trail approach in the northeast corner is at 90° to the north crosswalk which is only 6 feet wide. The entrance to Ellicott Creek Park constitutes the west leg of the intersection. There is a kayak launch in the southwest quadrant at South Ellicott Creek Road.

There are two northbound and two southbound transit stops within this segment. Transit stops do not have shelter nor seating. Loading areas and surfaces are substandard.

Two pedestrian injury crashes are reported in this segment.

North Ellicott Road to Hennepin Road – Figure 7

Notable land use within this segment includes another 150 foot wide overhead utility corridor. St. Christopher’s RC Church and Elementary school affronts a majority of the segment and Irvington Park is within a four minute walk (0.24 mi) on the west side. Three vacant parcels are on the east side where sidewalk surface defects were noted. One residence and Ellicott Park Court Motel are on the west side.

Bicycles were observed on the sidewalk. There are no sidewalks on Irwin Road nor Hennepin Road and sidewalk is missing on the south side of Irvington Drive (Figure 7a).

A 35 MPH school zone speed reduction is in place 7:00 – 8:30 AM and 2:00– 3:30 PM school days for St. Christopher’s elementary school.

Excessive curb cuts were noted for driveways to businesses on the east side. There are no transit stops within this segment.

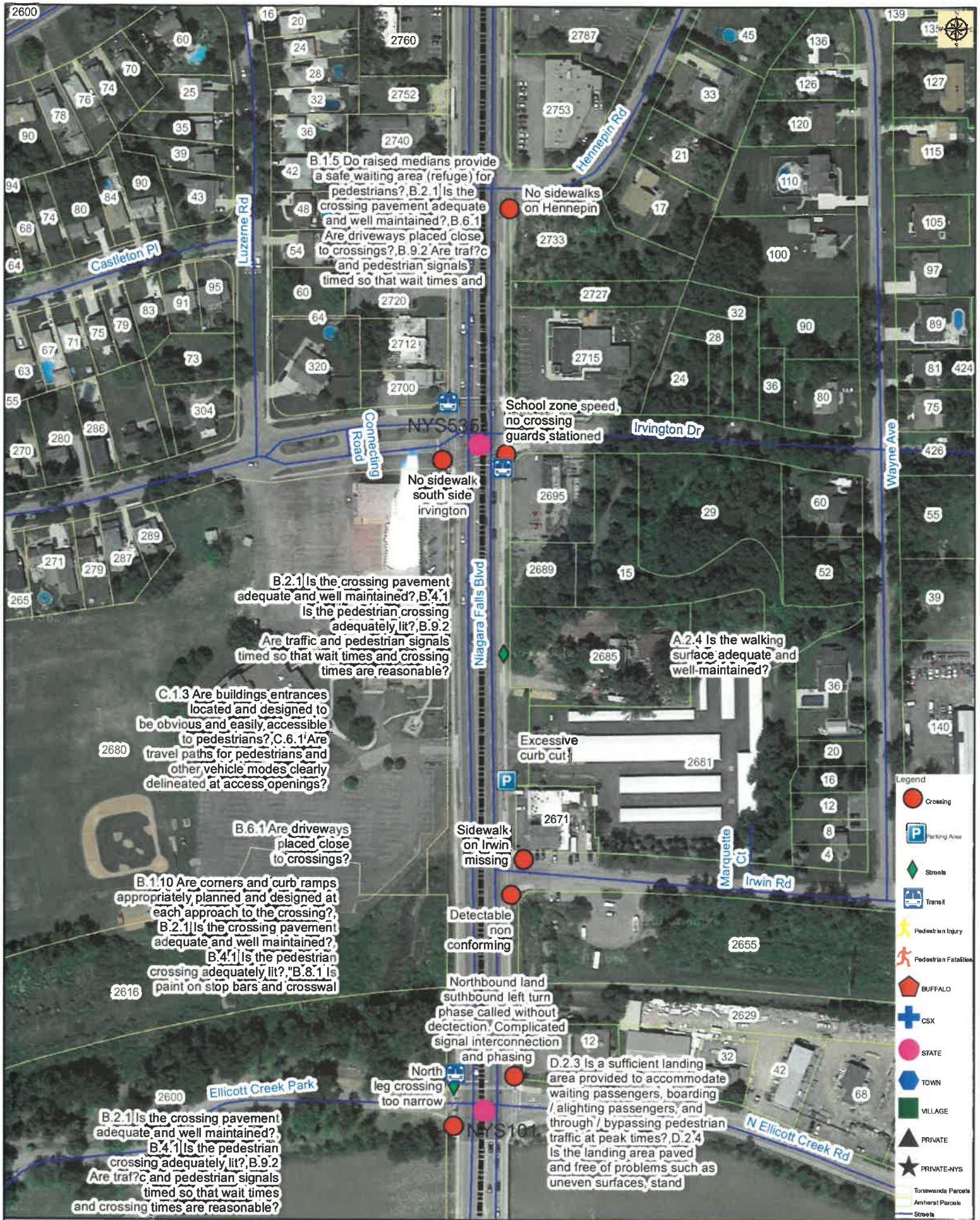
No pedestrian crashes were reported within this segment.

Hennepin Road to North French Road – Figure 8

The segment includes commercial and retail. Ellicott Creek Park Island and the Canalway Trail are located on the west side at Creekside Drive and along Old Niagara Falls Boulevard respectively. The centerline of Creekside Drive forms the northern boundary of the Town of Tonawanda. The Town of Amherst is north of Creekside Drive on both sides of the corridor.



Figure 7a South side of Irvington Drive



Full GIS Map Data Available at:
<https://arcg.is/0fdft9>

Figure 7
 North Ellicott Road to Hennepin Road



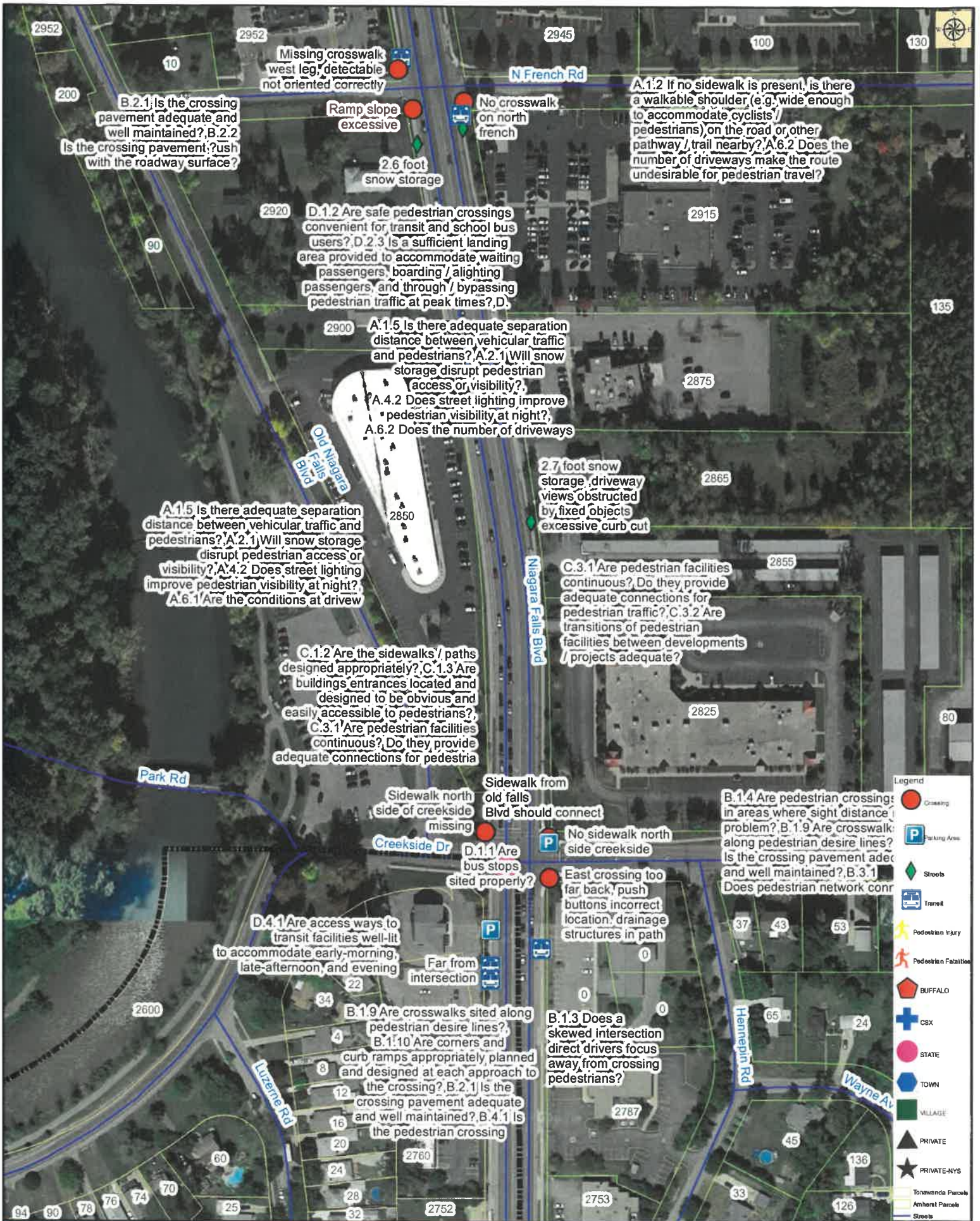


Figure 8
Hennepin Road to North French Road

Full GIS Map Data Available at:
<https://arcgis.com/OfDfT9>

100 50 0 100
Feet



Figure 8a Northbound Transit Stop at Creekside Dr.

There is handrail along the sidewalk on the west side along 2850 Niagara Falls Boulevard due to the vertical elevation drop at the parcel.

Sidewalk is missing on the north side of Creekside Road west of the Boulevard leading to the park parking lot. There are no sidewalks on North French Road west of the boulevard. Crosswalks were not marked on North French Road and ADA detectable ramps were improperly oriented. Sidewalk offsets less than three feet from the curbline were noted on both sides.

There one northbound and two southbound transit stops within this segment. The southbound stop is approximately 160 feet south of the southwest corner

of the intersection of Creekside Drive. Transit stops do not have shelter nor seating (Figure 8a). Loading areas and surfaces are substandard.

No pedestrian crashes were reported within this segment.

North French Road to East Robinson Road – Figure 9

The segment has suburban commercial/office land use. Gas stations are in the northeast and southeast corners at East Robinson Road. A large shopping center is also in the north east corner. The driveway to the gas station in the northeast corner is too close to the crosswalk.

The sidewalk on the east side north of East Robinson Road has no separation from the curb. The crosswalks are too far back from the sidewalk pedestrian desire lines. There is no pedestrian refuge at the intersection.

There are no transit stops within this segment.

One pedestrian fatality crash was reported in this segment.

General Corridor Observations

- Parking lots tended to be paved into the corridor ROW up to the back edge of sidewalks.
- Businesses lacked sufficient pedestrian connectivity to the corridor sidewalk.
- Many bicyclists were observed riding on the sidewalks. The audit team interviewed a bicyclist at the I-290 eastbound on ramp. That interview is available at <https://youtu.be/iqQvn9Bsugo> . Note vehicles not yielding to pedestrian in crosswalk.
- Several pedestrian crossings were observed outside of marked crosswalks.
- Bus stops lacked seating and proper loading surfaces.
- Detectable warning plates at curb ramps were improperly oriented. Curb radii greater than 30 feet.
- Pedestrian crossing wait times for crossing are excessive due to long cycle lengths at traffic signals.
- Pedestrian crossing times at signalized intersections are improperly timed.
- Long distances between signalized intersections compete with pedestrian generators and desire lines. An example of a handicapped pedestrian crossing midblock can be viewed at <https://youtu.be/ooU310I024E> . Note pedestrian gets trapped in the center two way turn lane.

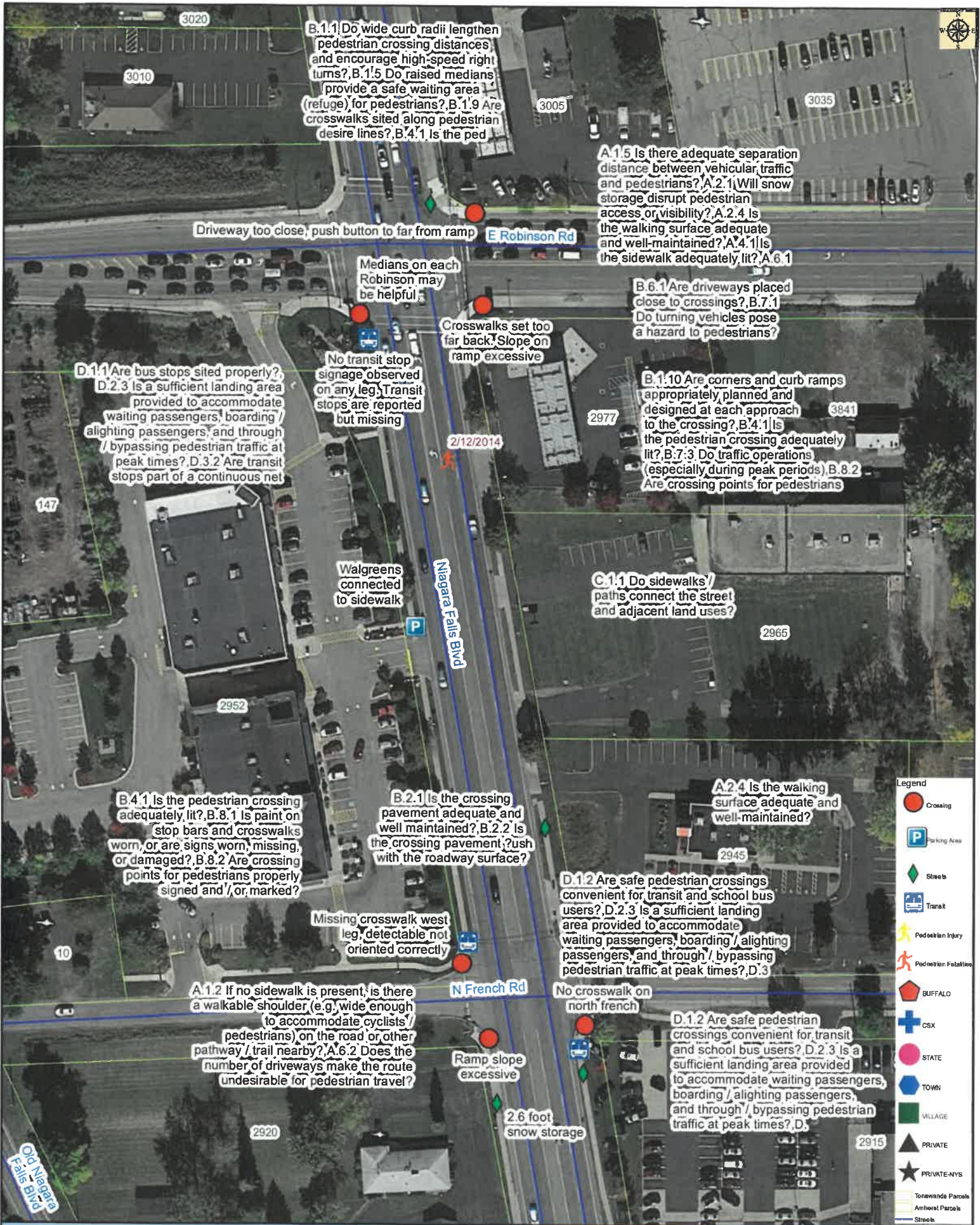


Table 2 Pedestrian Crossing Intervals along Niagara Falls Boulevard that do not meet minimum crossing time

Intersection	Leg	Field Measure	Calculated (3.5/sec)
Ridge Lea	North Leg	28 sec	38 sec
	South Leg	28 sec	37 sec
Edward White	North Leg	24 sec	28 sec
	South Leg	24 sec	28 sec
	East Leg	19 sec	24 sec
	West Leg	21 sec	24 sec
Home Depot	North Leg	28 sec	36 sec

Table 3 ADA Accessible Ramp and Signal Push Button Deficiencies

Intersection	Corner	Push Button distance to curbline exceeds maximum distance	Push Button distance to clear ground space exceeds 10 inches	Push Button mounting height is too high or low
Ridge Lea Road	SE			
	NE	X		
	NW	X	X	
	SW	X		
EB I-290 Off-Ramp / Half Signal	NE	X	X	X
	NW	X		
Greenhaven Terrace	NE			
	NW			
	SW	X		
Home Depot Plaza	NE	X	X	X
	NW	X		
Willowridge Drive	SE			
	NE			
	NW	X		
Edward White Drive	SE	X		
	NE			
	NW			
	SW	X		
S. Ellicott Creek Road	SE	X	X	
	NE	X	X	
	NW	X	X	
N. Ellicott Creek Road	SE		X	
	NE	X	X	
	NW			

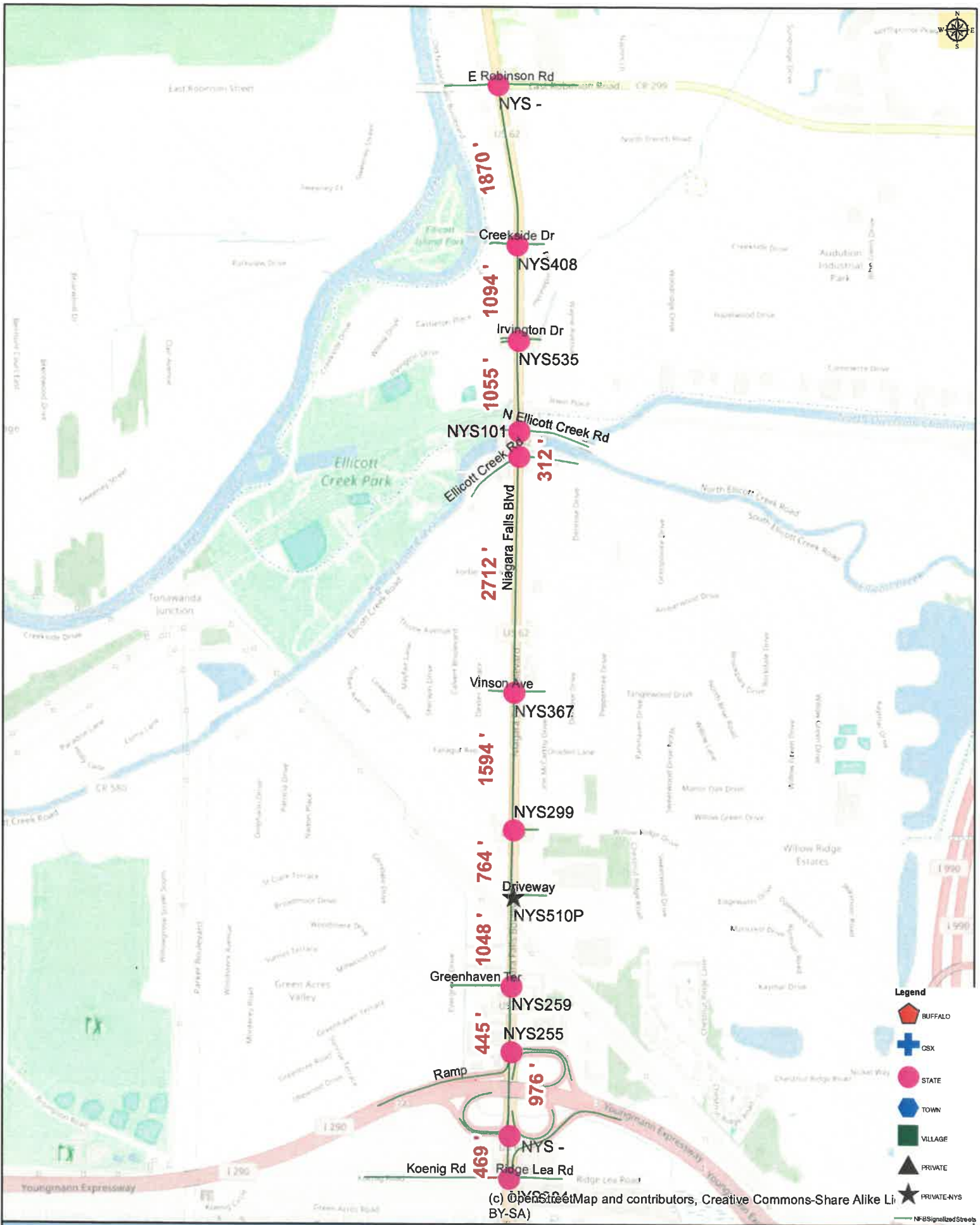


Figure 10
Signalized Intersection Spacing



Intersection	Corner	Push Button distance to curbline exceeds maximum distance	Push Button distance to clear ground space exceeds 10 inches	Push Button mounting height is too high or low
Irvington Drive	SE			
	NE			
	NW			
	SW			
Creekside Drive	SE		X	
	NE	X	X	
	NW	X		
	SW	X		
E. Robinson Road	SE	X		
	NE	X		
	NW			
	SW			

Conclusions

Low profile development patterns along the corridor over the past few decades have not complemented available transportation features which have been primarily design to accommodate the movement of motorized traffic. Auto dependent commercial businesses has not encouraged safe and efficient pedestrian activity. Limited pedestrian activity is further diminished by lack of supporting pedestrian design elements such as pedestrian refuge, vegetative buffering, shorter crossing distances, pedestrian friendly businesses, infrequent and uncoordinated street crossing points.

Respectfully submitted:

James B. Jones, PE, CFM, Town Engineer Town of Tonawanda Office of the Town Engineer 2919 Delaware Ave. Kenmore, NY 14217 (716) 877-8805 jjones@tonawanda.ny.us	Christopher Schregel, LSIT Principal Engineer Assistant Town of Amherst Engineering Dept. 1100 N. Forest Road, Williamsville 14221 716-631-7154 cschregel@amherst.ny.us
---	--



Figure 11 Pedestrian crossing midblock north of Forbes Ave.