

2015 Safe Routes to School Walk Audit Findings Report

*Alfred Welles Hammer Elementary School
Wethersfield, CT*

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INTRODUCTION

A walk audit was performed by CTDOT's "Safe Route to School" (SRTS) consultant, VN Engineers, Inc. and AECOM for Alfred Welles Hanmer Elementary School (Alfred W. Hanmer Elementary School) in Wethersfield on May 15, 2015. Alfred W. Hanmer Elementary School serves 411 students from pre-kindergarten through 6th grade. The purpose of a SRTS walk audit is to assess the existing conditions of the walking and biking routes to school and to identify the issues that may discourage or prevent walking and bicycling. SRTS audits are performed by transportation professionals experienced in traffic, pedestrian, and bicycle operations and design. These professionals assess and review factors that can promote or obstruct safe walking and bicycling routes to school. Some of these factors include social aspects, traffic volumes and speeds, topography or presence/absence of sidewalks and/or bicycle lanes.

The aforementioned SRTS Walk Audit Report is an objective review intended for the School's Safe Routes Committee used to help assess the existing conditions surrounding the school. This document is an innovative planning tool to help identify bicycle, pedestrian and non-motorized transportation needs that encourage walking and bicycling to the school, as well as assists in developing recommendations to improve existing conditions. The contents of this report are not intended to be legally binding, but rather offer recommendations to improve safety in the vicinity of the school and create a more appealing transportation alternative.

The audit for Alfred W. Hanmer Elementary School followed standard walk audit protocol. Before the site visit was conducted, the CTDOT SRTS team analyzed the area topography and the routes surrounding the school. Available on-line imagery was used to study and assess the most prevalent routes, adjacent land use; sight distance issues; sidewalk locations; on-street parking; and other site-specific issues.

Following the initial review, the CTDOT SRTS team visited the site to observe arrival and dismissal operations. During class sessions, the team walked throughout the surrounding neighborhoods to evaluate pedestrian walking and biking routes. Measurements and photographs were taken of the focus area and school officials were interviewed by the SRTS team to document current perceptions and conditions surrounding school transportation.

The SRTS audit team found that the area around Alfred W. Hanmer Elementary School and the various walking routes are in generally good condition with some of the appropriate safety amenities in place. The team did find a few infrastructure issues that could be addressed in the short and long-term. However, the main issue is pedestrian safety, which is a function of high-speed traffic; parking lot circulation; misaligned and faded crosswalks; and ignoring rules of the road. The percentage of walking/biking students at Hanmer Elementary School as reported by the school is 20%. The remaining means of transportation reported by the school was 50% by school bus, 25% by family vehicle and 5% by carpool. The school utilized a combination of 11 large buses, mini-buses and vans on the day of the assessment. If the district wishes to increase the number of students safely walking and biking to school, they could initiate pedestrian and bicycling educational and encouragement campaigns.

The following subjects are discussed below:

- Existing Features and Walking Routes
- School Parent Drop-off and Bus Drop-off Area
- Assessments of Various Pedestrian and Bike Routes
- Recommendations

Figure 1 shows an overview of the Alfred W. Hanmer Elementary School study area. **Figure 2** shows the existing parking lot layout.

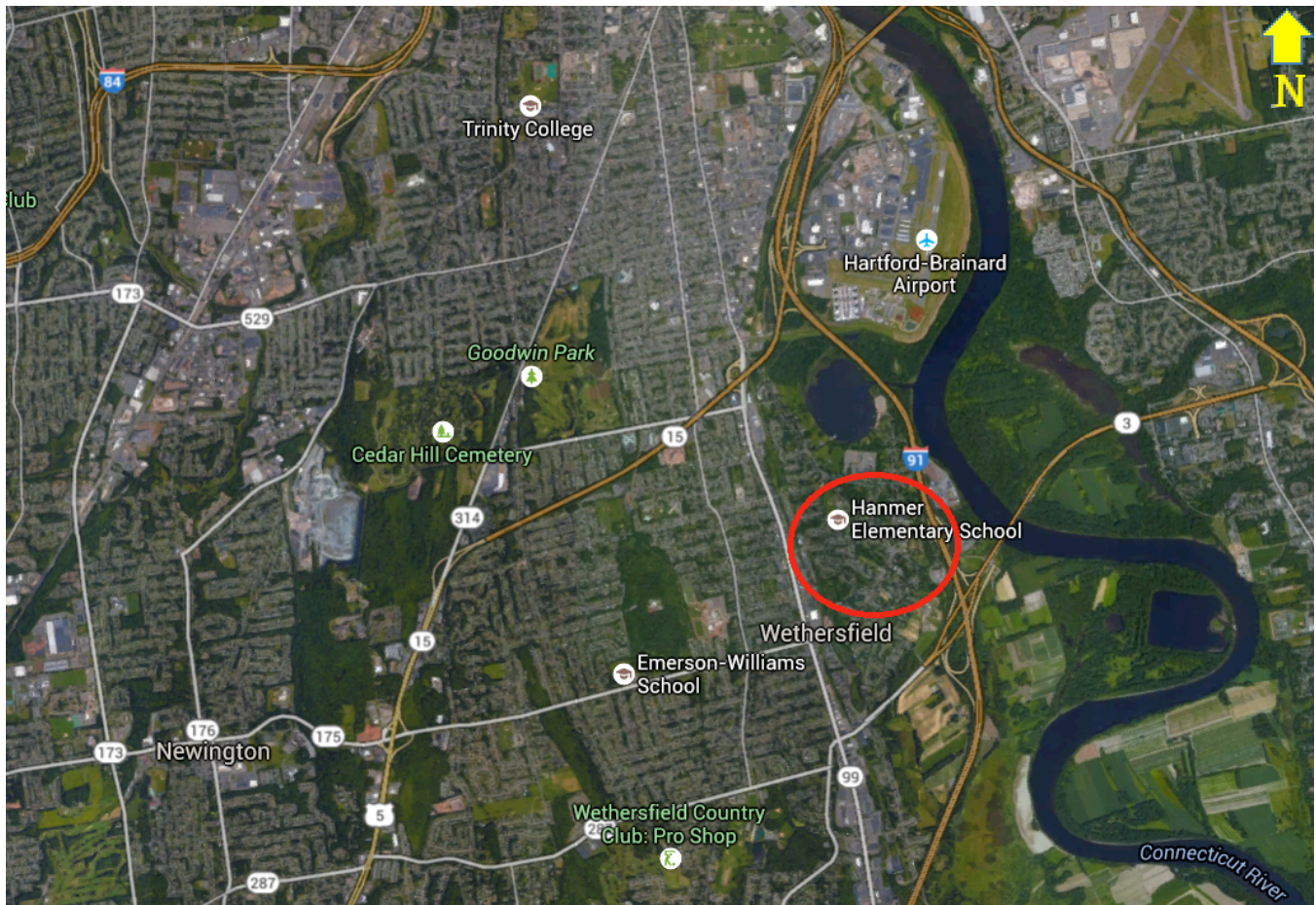


Figure 1: Alfred W. Hanmer Elementary School



Figure 2: Existing Parking Lot Layout at Alfred W. Hanmer Elementary School

1 EXISTING FEATURES AND WALKING ROUTES

The SRTS Committee members identified that the following four routes were used by most of the pedestrian students attending Alfred W. Hanmer Elementary School:

- **Route 1:** Avalon Place, Hartford Avenue, Garden Street, Nott Street and Francis Street, northwest of the school;
- **Route 2:** Main Street, Garden Street, Church Street and Francis Street, southwest of the school;
- **Route 3:** Main Street, Hartford Avenue and Francis Street, northeast of the school; and
- **Route 4:** Main Street, Church Street and Rosedale Street southeast of the school.

The principal of Alfred W. Hanmer Elementary School noted there was a particular concern with safety within the school parking lot and with children passing between buses within the drop-off area. This study examines these routes, along with all other potential walking routes within a 0.5 mile radius of Alfred W. Hanmer Elementary School.

1.1 Alfred W. Hanmer Elementary School Surrounding Area

Alfred W. Hanmer Elementary School is situated in a suburban Wethersfield neighborhood. School begins at 8:55 a.m., but students are allowed to enter the building starting at 8:35 a.m. through the side entrance in the school parking lot accessed by Rosedale Street. Parents/adults are not allowed to enter through the side entrance, they are only allowed through the front door. Walkers and bikers tend to arrive around 8:35 a.m., while bussed students typically arrive around 8:40 a.m. While student drop-offs both by car and walking with parents started around 8:35 a.m., the highest concentration of students arrive from 8:45-8:55 a.m., as shown in **Figure 3**.



Figure 3: Drop-off Process on Rosedale Street

Some parents dropped their children off in the middle of the school parking lot southwest of the school building. **Figure 2** shows the existing parking lot layout at Alfred W. Hanmer Elementary School, with the teacher parking to the south east, and the general parking to the southwest. The entrance is from the south on Rosedale Street and the exit is to the north east on Francis Street and through the circulation of the southwest general parking lot. The decision to drop students off in the parking lot creates conflicts with students crossing between parked buses. During the morning drop-off, eight full-sized buses, one mini-bus and two vans arrived at the school parking lot drop-off area. This entrance on Rosedale Street is used for morning drop-offs because it is located at the side of the school, and exits onto Garden Street. Signs towards the side entrance direct buses while parents are directed into the left parking lot by two unconventional signs (**Figure 4**). Parents also drop off students at the Board of Education building parking lot on Francis Street.



Figure 4: Sign to direct Parents in School Parking Lot

The Town of Wethersfield has assigned four crossing guards dedicated to students walking to and from Alfred W. Hanmer Elementary School. These four crossing guards are stationed at the following key intersections:

- Church Street and Rosedale Street
- Church Street and Main Street
- Hartford Avenue and Francis Street
- Garden Street and Francis Street

In addition to the four crossing guards, the principal informed SRTS that even though when one was not present on the day of the assessment, one teacher typically stands at the drop-off area to ensure that students safely enter the side entrance to the school.

In general, the drop-off process functions rather well, with buses lining up along the side entrance and waiting for the first bell to ring to let the students off the buses. Some parents dropping off children were using the bus drop-off areas for parking, which had signs prohibiting parking in these areas (**Figure 5**). Some parents were also walking their children between the buses from the west parking lot to the school. Parents cause further congestion in the parking lot by preventing the buses from pulling into their drop-off areas.



Figure 5: Parents parking in prohibited bus drop-off areas

The school day at Alfred W. Hanmer Elementary School ends at 3:10 p.m. Hanmer's dismissal is staggered by grades, with bus dismissal and student pickup beginning at 3:10 p.m. The bus dismissal uses the side entrance to the school, while the student pickup occurs in the west parking lot and the sidewalk north of Rosedale Street south of the bus drop-off. Teachers park in both the east and west parking lot. During dismissals, students are escorted from the school to the bus pickup area by teachers. Some students were dropped-off/picked-up in the Board of Education building parking lot east of the school on Francis Street, as shown in **Figure 6**. While an adult escorted most students who walked home, there were isolated cases where students biked home alone or traveled in groups without an adult. During the assessment, a teacher was not seen assisting children across the drop-off/pickup area where vehicles are traveling along Rosedale Street, and in the two parking lots. This is not an ideal situation because the circulation of the parking lots creates potential conflicts.



Figure 6: Student Pickup Dismissal Process

Table 1 provides an overview of key characteristics for major streets within the immediate area.

Figure 7 shows a plan map of the pedestrian routes to Alfred W. Hanmer Elementary School. The walkable areas to Alfred W. Hanmer Elementary School are shown within the blue line. This area is bounded by Avalon Place, State Street, Main Street, Garden Street, and Silas Deane Hwy. Since there is a high concentration of homes throughout, this area is assessed using three zones: (1) west, (2) northeast, and (3) southeast.

Table 1: Alfred W. Hanmer Elementary School Street Inventory

Street Name	Street Width	Direction of Travel	Existing Sidewalk	Sidewalk Width	Sidewalk Condition	Curb Ramps	Curb	Parking Observed on Sidewalk	Sidewalk Buffer	Crime Area
Hartford Ave	32-62 ft	Two-way traffic	YES	3-4 ft (both sides)	Good	YES, not ADA compliant	YES	NO	YES	NO
Main St	32-82 ft	Two-way traffic	YES	4-5 ft (both sides)	Good (brick pavers)	YES, with no detectable warning strips (Missing some at intersection with Church Street)	YES	NO	YES	NO
Church St	34 ft	Two-way traffic	YES	4 ft (both sides)	Fair (broken pavement at Woodland St)	YES, but no detectable warning strips.	YES	NO	YES	NO
Avalon Pl	29 ft	Two-way traffic	YES	3 ft (both sides)	Fair (broken pavement at Hartford Ave)	YES, not ADA compliant	YES	NO	YES	NO
Garden St	25-27 ft	Two-way traffic	YES	3.5-4 ft (both sides)	Good (new in Park on east side)	YES, but only detectable warning strip at Francis St	YES	NO	YES	NO
Francis St	23-30 ft	Two-way traffic	YES	4 ft (both sides west of school, north side east of school)	Good	YES, but no detectable warning strips	YES	NO	YES	NO
Rosedale St	20 ft	Two-way traffic	YES	4 ft (both sides)	Fair	NO, and one crossing Church St is in driveway	YES	NO (no parking on west side on school days)	YES	NO

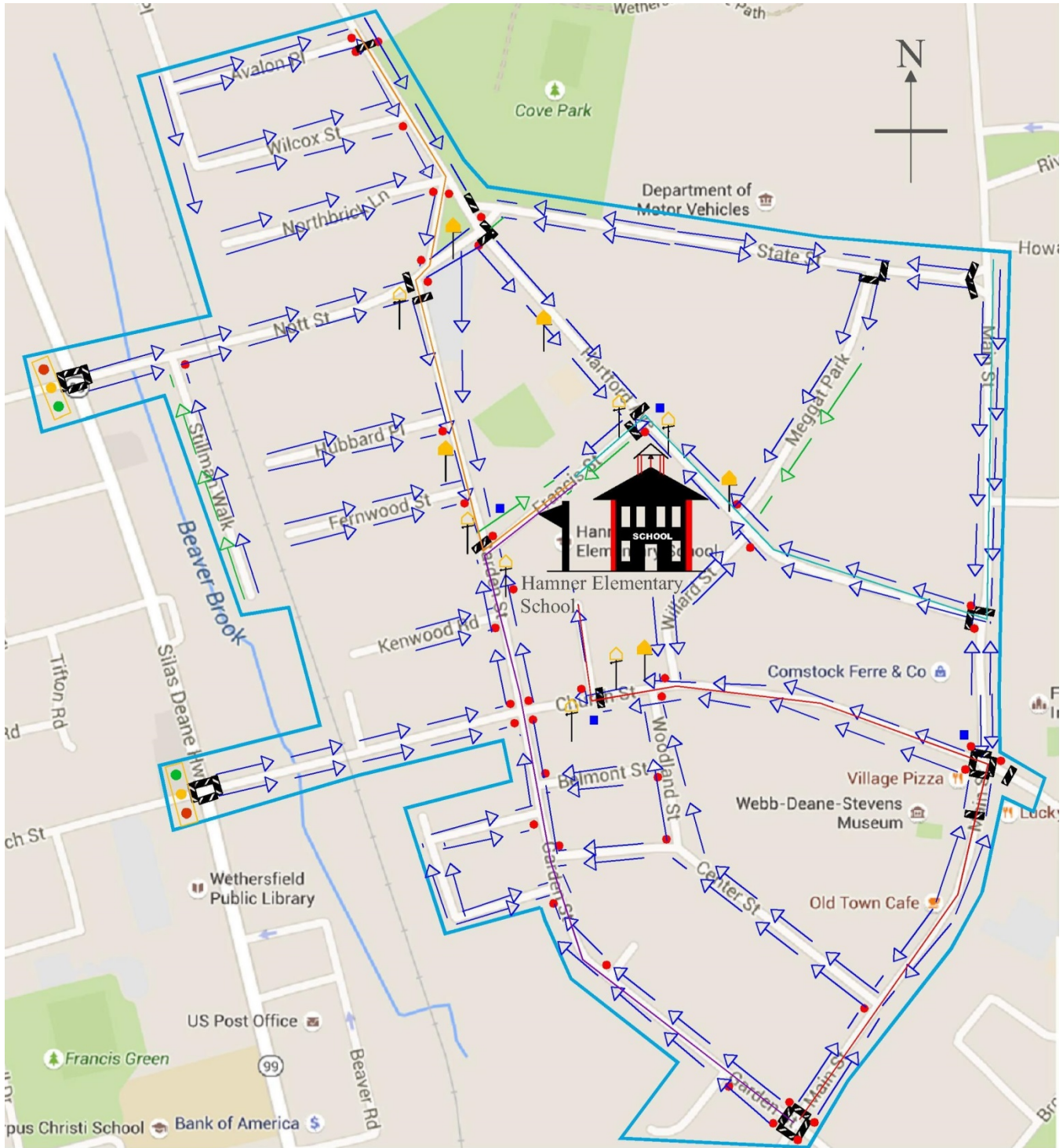
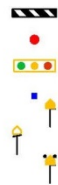


Figure 7: Alfred W. Hanmer Elementary School Plan Map

KEY :

- CROSSWALK
- STOP SIGN
- TRAFFIC SIGNAL
- CROSSING GUARD
- SCHOOL CROSSING
- CROSSWALK SIGN
- FLASHING SCHOOL SIGN



- WALKING DIRECTION
- WALKING DIRECTION WITH SIDEWALK
- SCHOOL ZONE
- TOWN LINE
- ROUTE # 1
- ROUTE # 2
- ROUTE # 3



1.2 Pedestrian Zone# 1: West of Alfred W. Hanmer Elementary School

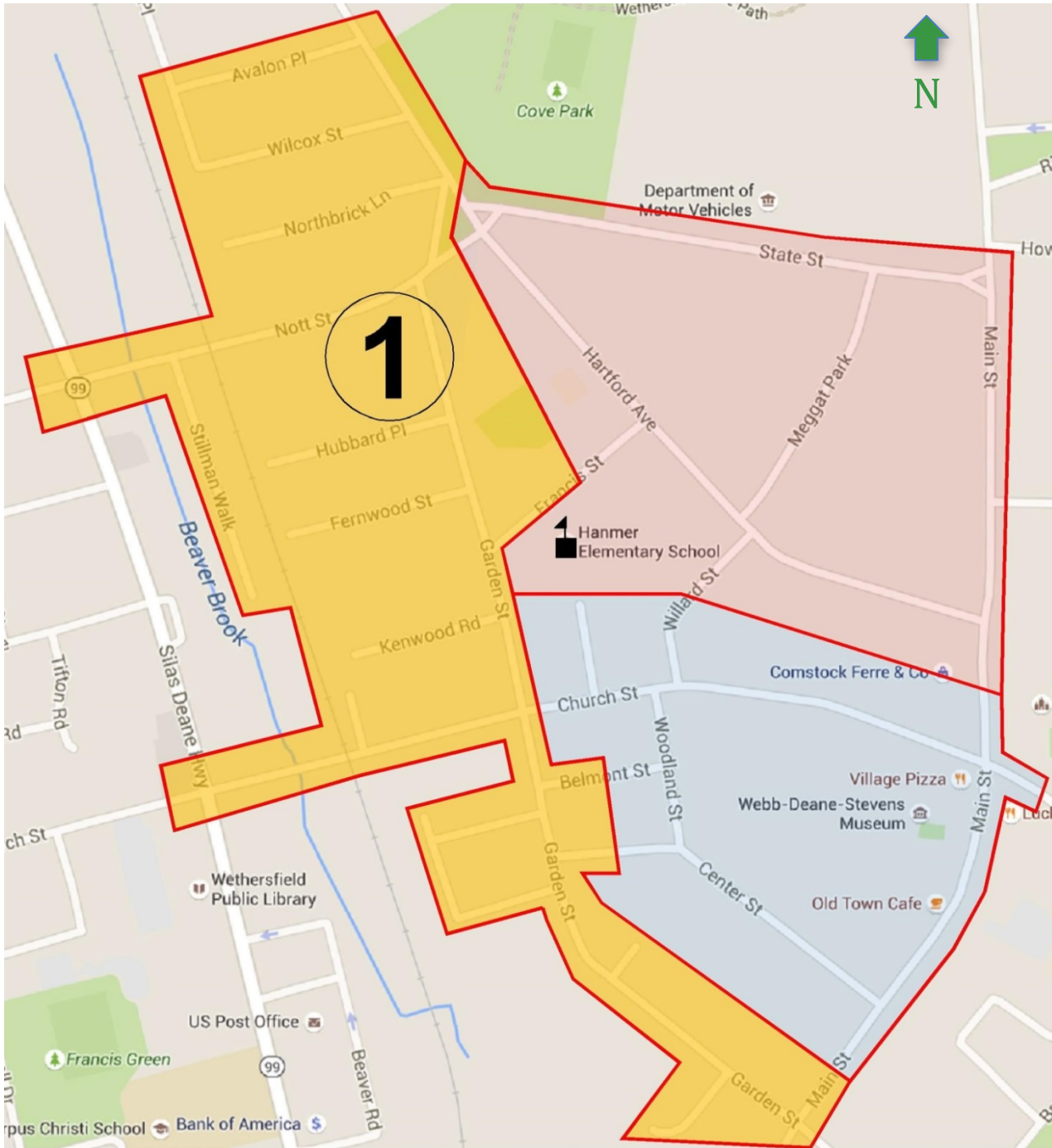


Figure 8: Pedestrian Zone #1

Pedestrian Zone #1 is bounded by Avalon Place to the north, Garden Street at Main Street to the south, Silas Deane Hwy to the west, and Hartford Avenue/Garden Street to the east (orange fill). The main roads for pedestrian access to Alfred W. Hanmer Elementary School in Pedestrian Zone #1 include Avalon Place, Hartford Avenue, Nott Street, Garden Street, Francis Street and Church Street. From the furthest north route on Avalon Place and from the furthest south route on Garden Street at Main Street, the route is about 0.5 miles to the side entrance of Alfred W. Hanmer Elementary School, as shown in Figure 8.

1.2.1 Roadway and Pavement Marking Conditions

In general, the sidewalk pavement quality is in good condition, except for the pavement in front of the north sidewalk at the intersection of Hartford Avenue and Avalon Place on the west leg as shown in **Figure 9**. There is also fair pavement at the entrance driveway to the front of the school.

Pavement markings along this route are comprised of stop bars and crosswalks with double yellow lines on Hartford Avenue and Nott Street. There are no edge lines along any roadways within this pedestrian zone, which can be problematic for cyclists. There are “SCHOOL SLOW” pavement markings on both approaches to the school on Garden Street, which were painted on top of old pavement markings and are in poor condition as shown in **Figure 10**. There is one location where the crosswalk extends into a driveway at Garden Street/Francis Street. The crosswalk at Hartford Avenue/Avalon Place extends to a handicap ramp that is steep and not ADA compliant. The intersection at Garden Street/Nott Street is offset and the existing crosswalk is between vegetation on Nott Street where drivers travel faster than the posted speed limit; otherwise, the conditions along this route are acceptable for walking in this area. All crosswalks are faded and could be improved throughout all three zones, as listed in **Table 2**. Of the nine potential improvements for crosswalks shown in **Table 2**, four apply to Pedestrian Zone # 1.



Figure 9: Hartford Ave/Avalon Place Broken Pavement at Handicap Ramp



Figure 10: Poorly Painted SCHOOL SLOW Pavement Markings

Table 2: Unsafe Crosswalk/Handicap Ramp Locations in Pedestrian Zones # 1, 2, and 3

Location	Approach(es)	Issue	Quantity	Zone
Hartford Avenue/Avalon Place	S	Steep slope handicap ramp poor sidewalk condition	1	1
Hartford Avenue/Northbrick Lane	W	Poor geometry	1	1
Garden Street/Nott Street	W	Poor geometry	1	1
Garden Street/Francis Street	N	Crosswalk aligned with driveway	1	1
Hartford Avenue/Francis Street	N	Crosswalk aligned with driveway Steep slope driveway	1	2
Church Street/Rosedale Street	E	Crosswalk aligned with driveway	1	3
Main Street/Church Street	S,E	Poor geometry Crosswalk aligned with raised island and no handicap ramp	2	3
State Street/Meggat Park	E	Crosswalk aligned with driveway on north end and no ramp on south end	1	2
TOTALS			9	

1.2.2 Signs

The posted speed limit in Pedestrian Zone # 1 is 35 mph for the Hartford Street southbound approach to Avalon Place, 30 mph for the Nott Street eastbound approach to Garden Street and 25 mph for all other streets. Vehicles appeared to exceed the speed limit on Nott Street. High speeds for the Nott Street eastbound approach is especially problematic because of the limited sight distance and the offset geometry at its intersection with Garden Street. There is a SCHOOL CROSSING sign with downward arrow plaque at the crosswalk at Garden Street, but there is no advanced SCHOOL CROSSING sign. Also, the sidewalk approaching the crosswalk is obscured by trees and vegetation. All SCHOOL CROSSING signs within Pedestrian Zone #1 appear to be recently installed.

There are also a number of bicycle warning signs (W11-1) and NO PARKING signs along Garden Street and Hartford Avenue. Ideally, the latter signs prevent cars from parking in the vicinity of the school, which should positively impact the visibility and travel space for both walkers and bikers.

1.2.3 Sidewalks

With the exception of some minor roads such as Willard Street and Meggat Park, all streets surrounding Alfred W. Hanmer Elementary School have sidewalks on both sides of the road. The majority of these sidewalks also were accompanied by grass buffers that on average were 4' wide or greater that separate the sidewalk and the roadway. The sidewalk pavement at all locations along potential walking and biking routes were in good condition, but visibility was obscured by trees or the intersection geometry at Garden Street/Nott Street (**Figure 11**).



Figure 11: Offset Garden Street/ Nott Street Intersection

1.2.4 Crime

The school principal stated that crime is not an issue in the area.

1.3 Pedestrian Zone # 2: Northeast of Alfred W. Hanmer Elementary School

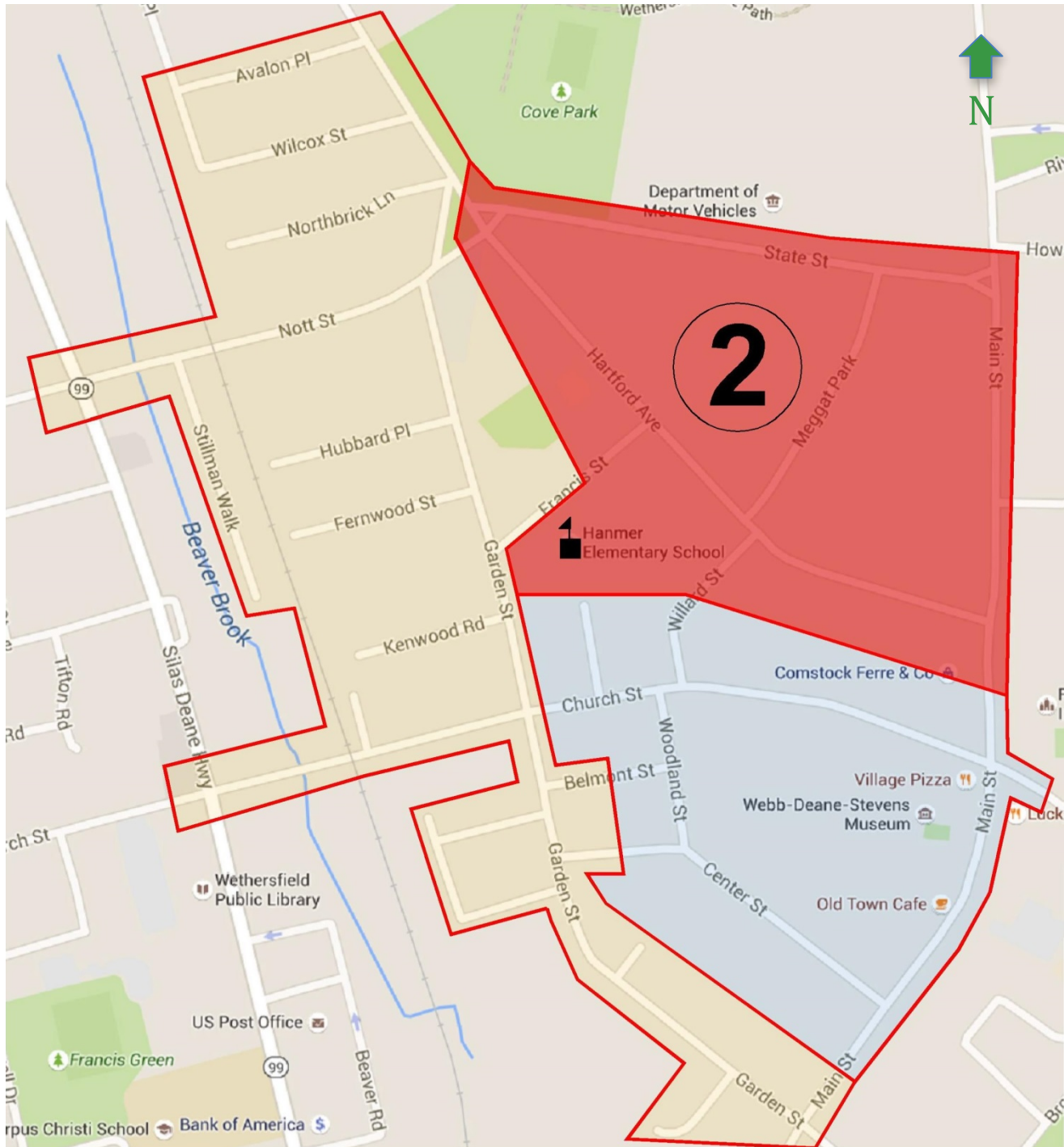


Figure 12: Pedestrian Zone # 2

Pedestrian Zone # 2 is bounded by State Street to the north, Hartford Avenue to the west/south, and Main Street to the east (maroon fill). The main roads for pedestrian access to Alfred W. Hanmer Elementary School in Pedestrian Zone # 2 include Main Street, Hartford Avenue, and Francis Street. There are two main walking routes in Pedestrian Zone #2. The longest walking route is approximately 0.5 miles long from the southeastern most point on Main Street to the front entrance of Alfred W. Hanmer Elementary School, as shown in **Figure 12**.

1.3.1 Roadway and Pavement Marking Conditions

In general, the sidewalk pavement quality in Pedestrian Zone # 2 is in good condition. Pavement markings along this route are comprised of stop bars and crosswalks with double yellow lines on Hartford Avenue and Main Street. There are no edge lines along any roadways within this pedestrian zone. Similarly to Pedestrian Zone #1, bicyclists are forced to ride in a travel lane with no painted shoulders. The intersection of Hartford Avenue/Main Street has an uncommon stop control where the northbound approach is not controlled and the eastbound and southbound approaches are stop controlled. This uncommon stop control, in an area where pedestrians and bicyclist are present, can create confusion. Also there are "SCHOOL SLOW" pavement markings on both approaches to the school on Hartford Avenue which were painted on top of old pavement markings and are in poor condition. Lastly, even though the conditions along this route are acceptable for walking in this area, the crosswalks area all faded within this zone and the crosswalk at Hartford Avenue/Francis Street could be improved, as listed in **Table 2**. The crosswalk extends into a private driveway and the driveway slopes steeply down to the crosswalk and is not ADA compliant as seen in **Figure 13**.



Figure 13: Hartford Avenue/Francis Street Crosswalk in Private Driveway

1.3.2 Signs

The posted speed limit for most streets within Pedestrian Zone # 2 is 25 mph. The posted speed limit for Main Street is 30 mph. Generally, drivers in this area appear to exceed the speed limit based on field observations. There are also SCHOOL CROSSING sign assemblies along this route. The intersection of Hartford Avenue/Main Street is missing advanced SCHOOL CROSSING signs for all approaches. The SCHOOL CROSSING signs with the downward arrow sub-plate are on the northbound and southbound approaches. The southbound approach sign is obscured behind the stop sign. There are also bike crossing signs along Hartford Avenue and Main Street within this Pedestrian Zone. All signs within this area appear to have fluorescent yellow-green color specified by the *Manual on Uniform Traffic Control Devices* (MUTCD) with the exception of the advanced stop warning sign on the Main Street southbound approach.

1.3.3 Sidewalks

There are sidewalks on both sides of the street throughout Pedestrian Zone # 2, with the exception of Meggat Park where the southern half of the eastern side does not have a sidewalk. Additionally, sidewalks along both sides of Main Street consist of brick pavers. The grass strips along Main Street are approximately 10-15' wide, which serve as buffers between vehicular traffic and pedestrians using the sidewalk. Sidewalks are generally in good condition, with a few trees obscuring visibility of the SCHOOL CROSSING sign on the northbound approach of Hartford Avenue to Francis Street, as shown in **Figure 14**.



Figure 14: Vegetation Obscuring Visibility of SCHOOL CROSSING Sign on Hartford Avenue

1.3.4 Crime

The school principal stated that crime is not an issue in the area.

1.4 Pedestrian Zone # 3: Southeast of Alfred W. Hanmer Elementary School

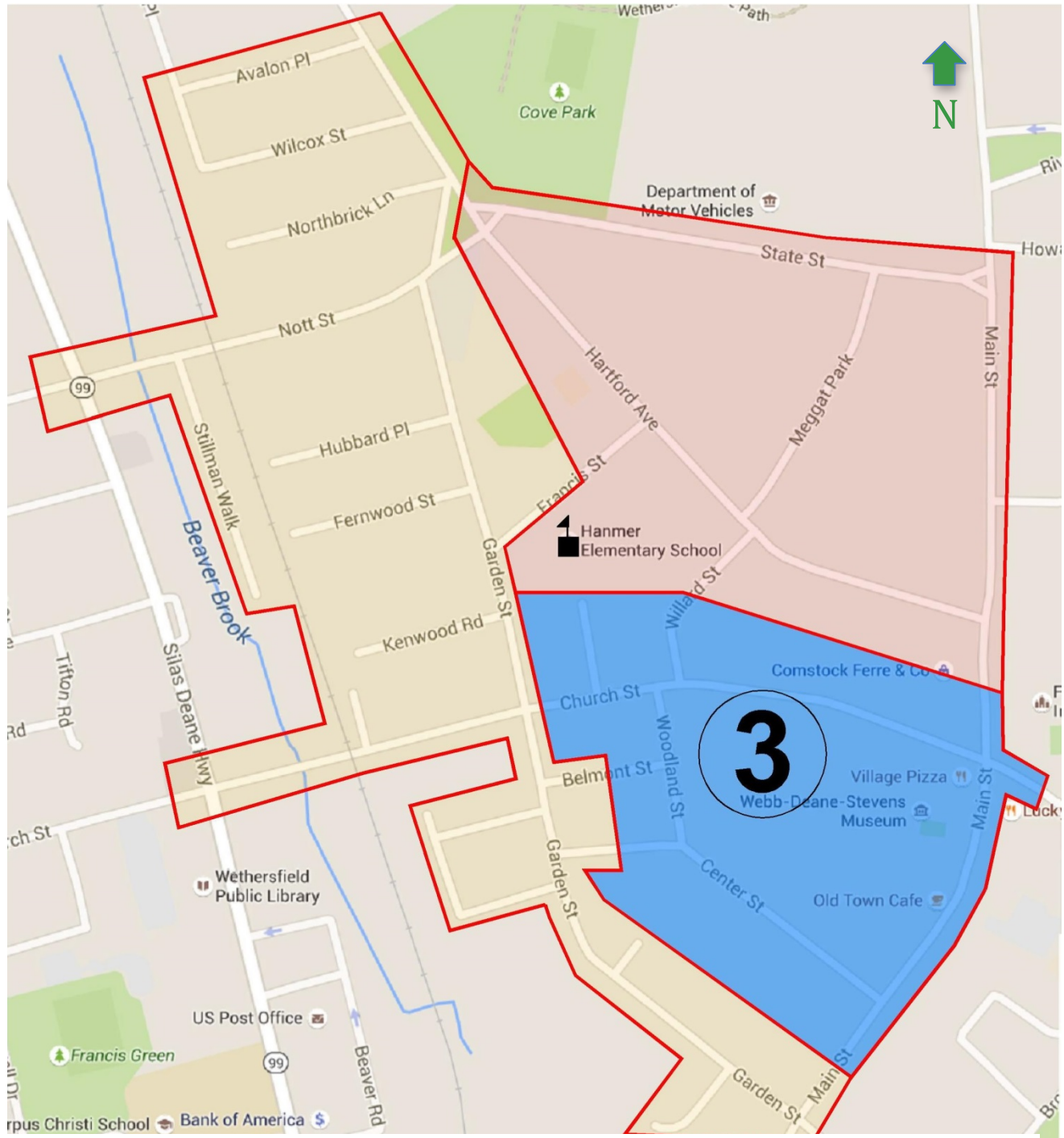


Figure 15: Pedestrian Zone # 3

Pedestrian Zone # 3 is bounded by Church Street to the north, Center Street to the south, Main Street to the east, and Garden Street to the west (blue fill). The main roads for pedestrian access to Alfred W. Hanmer Elementary School in Pedestrian Zone # 3 include Main Street, Church Street, and Rosedale Street. The longest walking route is approximately 0.5 miles long from the easternmost point on Main Street to the side entrance to enter Alfred W. Hanmer Elementary School, as shown in **Figure 15**.

1.4.1 Roadway and Pavement Marking Conditions

In general, the sidewalk pavement quality is in good condition in Pedestrian Zone #3. The intersection of Main Street and Church Street has traffic operation issues. Several drivers were observed not stopping on the east leg of the intersection where they have a stop sign, and other vehicles were seen stopping for both directions on Main Street where there are no stop signs. Potentially, the Town will develop improvements at this intersection to improve traffic operations.

Crossing at this location is potentially dangerous based on the length of the crosswalks which range from 74'-82' long. There is a pedestrian bollard on the north leg, but no center median refuge for the north leg. All crosswalks are faded, specifically the pavement markings at the intersection of Main Street and Church Street. The two sets of crosswalk pavement markings on the westbound approach of Church Street are faded as shown in **Figure 16**. The crosswalks at the Main Street/Church Street intersection connect to a center median on the east leg of the intersection, but do not have any handicap ramps as a refuge as noted in **Table 2**. Also noted in this table is a crosswalk at the intersection of Church Street and Rosedale Street which extends into a driveway. There are no edge lines along Main Street or any roads within this pedestrian zone, which is problematic for cyclists who would be forced to ride in a travel lane with no painted shoulders. Also there are "SCHOOL SLOW" pavement markings on both approaches to Rosedale Street on Church Street which were painted on top of old pavement markings and are in poor condition.



Figure 16: Main Street/Church Street Crosswalks

1.4.2 Signs

The posted speed limit for most streets within Pedestrian Zone #3 is 25 mph, while Main Street has a speed limit of 30 mph. There are bicycle crossing signs on Church Street and bike route signs on Main Street. The school crossing and school advance crossing sign assemblies (which were recently installed) are the appropriate yellow-green color specified by the MUTCD. There is a missing advance crossing assembly for the Church Street eastbound approach to Rosedale Street. There are signs at the Main Street/Church Street intersection that say "ONCOMING TRAFFIC DOES NOT STOP" for the eastbound and westbound approaches. As mentioned previously, drivers were observed disobeying these signs. Drivers were observed improperly stopping on the southbound approach. Other drivers were entering the intersection from the eastbound and westbound approaches with inadequate gaps in traffic along Main Street; thereby causing an unsafe condition for motorists, pedestrians, and cyclists."

1.4.3 Sidewalks

All streets have sidewalks on both sides of the roadway, with the exception of two residential cul-de-sacs on Garden Court and Old Smithy Lane; both of which have no sidewalks on either side of the road. All sidewalks are in good condition, with the exception of the southerly sidewalk along Church Street near Willard Street, which shows some signs of deterioration as shown in **Figure 17**. All sidewalks in Pedestrian Zone #3 have grass strips to serve as a buffer between traffic and pedestrians using the sidewalk that are approximately 7' or wider with the exception of Rosedale Street, which is approximately 3' wide.



Figure 17: Church Street South Sidewalk Weathering

1.4.4 Crime

The school principal stated that crime is not an issue in the area.

2 ASSESSMENT OF WALKING ROUTES AND SCHOOL GROUNDS

This section summarizes an assessment of the three walking routes in accordance with SRTS practices. Best Practices and Key Issues are discussed below.

2.1 Best Practices

The following SRTS best practices were observed during the walk audit:

- Sidewalks are generally in good condition, with the majority of the streets having grass buffers and sidewalks on both sides of the road within all three pedestrian zones.
- Parents / guardians accompany their children by walking with them to school (**Figure 18**).
- Crossing guards stationed at high density traffic and walking zones. Crossing guards wore proper safety vests and used handheld stop signs.
- School buses line up and let students out for arrival all at once after the bell rings. Several teachers are outside helping with the arrival and dismissal processes. The principal noted that one teacher is typically stationed for crossing at the side of the building.
- The dismissal process is orderly and bussed students are dismissed by grade at the side exit of the school where the school buses are located.
- Most of the walking routes in the immediate area of the school are through residential neighborhoods and have posted 25 mph speed limits.
- Most signs within the area are new yellow-green fluorescent as specified by the MUTCD.
- The school has a bike rack to accommodate cyclists.
- There are no apparent crime concerns within any of the pedestrian zones.



Figure 18: Parents Walking with Children

2.2 Key Issues

Operational issues that were noted and can be improved include:

- New signs were installed with old signs, lowering the older signs and crowding the sign posts as seen in **Figure 19**. Some signs within the area were installed too low, where pedestrians can potentially hit the sign.
- The school traffic circulation pattern causes issues. Parents park near school buses and pass school buses during drop-off. Also during morning drop-off, parents enter Francis Street the wrong way to the front entrance (which is one way during drop-off and pickup), conflicting with pedestrians and buses.
- Crosswalks in all three zones are faded and several crosswalks extend into private driveways with either no handicap ramps or with steep slopes as noted previously in **Table 2**.



Figure 19: Newly Installed Signs Crowding Older Signs

- The geometry at the intersection of Church Street and Main Street is unsafe for pedestrians and cyclists based on its complexity and long crossings without pedestrian refuges. Also, there are no handicap ramps at the east median between the crosswalks at the intersection.
- The stop control at Hartford Avenue and Main Street is uncommon and may cause some confusion to people unfamiliar with the area. There is a lack of advanced crossing signs at this intersection and the existing crossing sign is obscured by the stop sign.
- All roads lack edge lines. All bike routes along Main Street or locations with bicycle warning signs (W11-1) lack edge lines (**Figure 20**).
- There is a lack of professional training and proper gear for teachers helping with arrival and dismissal processes. Teachers were not wearing safety vests.
- The SRTS team can come to the school, talk to the PTA, and introduce the SRTS program. They will offer pedestrian and bike training, while helping to inform parents about the safest way to pick-up and drop-off their children. The team could also further explain the drop-off and pickup processes.
- There is no designated school zone around the facility to provide an enforceable speed limit during the arrival and dismissal times.
- The percentage of pedestrians that walk to Alfred W. Elementary School is relatively low (20% as reported by the school) given the available walking infrastructure.



Figure 20: Bicycle Crossing Sign without Edge Line Pavement Markings

3 RECOMMENDATIONS

The CTDOT SRTS team developed a list of improvements to address the issues affecting the various walking routes to Alfred W. Hanmer Elementary School. They have been separated into two categories: short-term and long-term improvements.

3.1 Short-Term Improvements

The SRTS audit team recommends the following short-term, low cost improvements to be considered for Alfred W. Hanmer Elementary School in the Five E's¹ framework.

3.1.1 Education

- The SRTS Program provides free pedestrian and bike education for students and parents. The school's SRTS committee could contact the SRTS team to arrange follow up training or check the CTDOT website after September 2016 for more information². These education programs would clarify for parents where to walk their children within the school bus area.
- Attend Driver and Passenger Educational program to clarify drop-off procedures to new parents at the beginning of the school year, taking into account the arrival of the buses during drop-off. This will reduce issues with parents parking in school bus drop off areas (**Figure 21**).



Figure 21: No Parking Student Drop-Off Sign

3.1.2 Encouragement

- Walking Wednesdays, Walking / Biking contests, and mileage tracking could help continue encouraging walking and biking to school throughout the year.
- Encourage faculty and staff members to assist during drop-off and pickup. If they are directing traffic, ensure they wear safety vests.

3.1.3 Enforcement

- Encourage law enforcement to increase police presence in order to monitor temporary illegal parking and drop-off. Place safety cones, bollards or saw horse in crosswalk to enhance awareness. This would prevent the tendency for children to cross between school buses. The permanent crosswalk can also be restriped to be situated behind the school bus drop-off/pickup area to encourage students to cross at a safer location. This can also be used to supplement the "THRU TRAFFIC" sign to assist with directing drivers away from the bus area as seen in **Figure 22**.



Figure 22: Sign Directing School Parking Lot Traffic

¹ Five E's of Safe Routes to School are Education, Encouragement, Engineering, Enforcement and Evaluation <http://www.walkitbikeitct.org/The5Es.html>

² CT Department's Bicycle and Pedestrian Dashboard <http://www.ct.gov/dot/cwp/view.asp?a=3531&q=259658&dotPNavCtr=#40030>

3.1.4 Engineering

- The STRS team recommends that over time all signage around the school be updated to meet MUTCD current specifications, particularly with regards to size, reflectivity, mounting height (MUTCD Figure 2A-2) and the fluorescent yellow-green color. The areas surrounding the school were recently updated with the MUTCD S1-1 School Crossing assembly signs with the arrow sub-plate, but are missing several advanced warning signs as mentioned previously. An example of this MUTCD S1-1 school sign is shown in **Figure 23**. According to the MUTCD, the school advance crossing assembly, with the "AHEAD" sub-plate, should be located 100 feet from the crosswalk. None of the school advance crossing assemblies has the "AHEAD" sub-plates. All of the STOP AHEAD signs (W3-1) are outdated at the intersection of Hartford Avenue and Main Street and lack proper reflectivity.
- Improve sightlines for newly installed signs and handicap ramps that are being blocked by vegetation and obstructions. Clear vegetation on Church Street, Nott Street, Main Street, and Hartford Street to increase visibility of existing signs at the Nott Street/Garden Street crosswalk.
- All "SCHOOL SLOW" pavement markings and crosswalks should be permanently removed (not blacked out) and restriped or replaced with SCHOOL ZONE pavement markings and the appropriate corresponding school zone signage to alert motorists that they have entered a school zone per Connecticut Department's School Zone Guidelines.
- While the speed limit on streets surrounding Alfred W. Hanmer Elementary School is posted as 25 mph, our team observed several cars exceeding this speed limit and not stopping at the Church Street/Garden Street four-way stop-control, even during the peak student arrival and dismissal period. A traffic study should be conducted at this intersection to evaluate the issues at this location.
- Consider installing edge lines with an 11' minimum lane width and a maximum shoulder width of 8' along Main Street and Church Street to provide a separation between travel lanes of vehicles and bicycles. Reducing the lane widths will also give the appearance of a narrow roadway and potentially lower the speed of vehicles along these roads.
- Intersection control and operations are unclear at the intersections of Main Street/Church Street and Main Street/Hartford Avenue. The recommendations are as follows:
 - a. The vehicular traffic volume, pedestrian volume, and crash data should be reviewed at the intersection of Church Street/Main Street to determine if a four-way stop-control is preferable to a two-way stop control per MUTCD Guidelines. Currently, there are only stop signs on both approaches of Church Street and Marsh Street (east-west to Main Street).
 - b. The intersection of Hartford Avenue and Main Street should be evaluated to consider a three-way stop-controlled intersection per MUTCD Guidelines. Currently, there are only stop signs on Hartford Avenue eastbound approach and Main Street southbound approach which is unconventional. Modifying this intersection would make the control more apparent for vehicles, pedestrians, and cyclists.



Figure 23: MUTCD S1-1 Sign

3.1.1 Evaluation

Evaluating your school's Safe Route to School Committee's progress is an important step in the process. We recommend using the parent and student surveys that can be found on the walkitbikeitct.org website to measure the progress being made by the SRTS Committee on a yearly basis, as a minimum. At the onset of each academic year, walking and biking conditions

and opinions on pedestrian and cycling issues can change. One of the best ways to stay abreast of these changes is to have regular committee meetings and utilize the surveys to guide the committee's efforts and to assess new parents' and students' concerns. Measure your progress and make changes to your plan as needed.

3.2 Long-Term Improvements

The areas surrounding Alfred W. Hanmer Elementary School already have several amenities that are conducive to walking and bicycling school safely. The landscape is largely residential, with sidewalks and crosswalks present along all major walking routes. Employing the Five E's Guidelines, the following improvements are recommended.

3.2.1 Education

- The SRTS Program provides free pedestrian and bike education for students and parents. The school's SRTS committee could contact the SRTS team to arrange regular follow up training when there are new faculty and staff members.
- Attend Driver and Passenger Educational program to clarify drop-off and pickup procedures including the arrival of the buses during drop-off.
- Work with the Town of Wethersfield Public Works Department on a media campaign to both encourage and educate property owners about increased pedestrian safety as a result of better sidewalk maintenance. This media campaign can issue press releases and newspaper columns, among other forms of communication.

3.2.2 Encouragement

- Continue Walking Wednesdays, Walking / Biking contests, and mileage tracking throughout the year (**Figure 24**).
- Continue to encourage faculty and staff directing traffic to wear safety vests.

3.2.3 Enforcement

- Request an increase in police presence on Church Street or Nott Street to enforce speed limit to protect pedestrians.

3.2.4 Engineering

- Regrade the handicap ramps and add detectable warning strips missing mentioned in **Table 2** and/or relocate the crosswalks that are located in driveways. Some locations are mentioned below:
 - a. Crosswalk on south leg of Hartford Avenue at Avalon Place extends to a handicap ramp that is steep and not ADA compliant. It is recommended that this handicap ramp be regraded, and/or angled to be ADA compliant and detectable warning strips installed.
 - b. Crosswalk on north leg of Hartford Avenue at Francis Street extends to a private driveway. It is recommended that this crosswalk be shifted further north to direct pedestrians directly onto the sidewalk and install ADA compliant handicap ramps with detectable warning strips.
 - c. The Garden Street crosswalk at Francis Street needs to be shifted at least 24 feet north of its current location to avoid existing catch basins and steep grade changes. It should be reconstructed with a new handicap ramp with detectable warning strips.



Figure 24: Bicycle Parking at School

- d. The crosswalk extending across the east leg of Church Street and Rosedale Street currently extends into a private driveway. It is recommended to shift this crosswalk further east and install a handicap ramp with detectable warning strips to direct pedestrians directly onto the sidewalk.
 - e. Eliminate the crosswalk extending across State Street at Meggat Park. This crosswalk is aligned with a driveway on the north end and does not have a handicap ramp on the south end.
- The intersection of Nott Street and Garden Street has an offset geometry that leads pedestrians west along Nott Street before crossing them to Garden Street south leg. Consideration should be given to close off Garden Street on the south end at Nott Street and be accessible by traffic on the north at Hartford Avenue. The crossing area at Northbrick Lane can also be tightened to decrease the crossing length of pedestrians. This will force vehicles to use the four-way intersection of Hartford Avenue and Nott Street instead of using the cut through along Garden Street. This concept is shown in **Figure 25** and prevents vehicles from using Garden Street as a cut through, directing traffic towards Hartford Avenue and Nott Street. The point of ingress to Garden Street would be shifted south of Northbrick Lane, which is also narrowed in order to decrease the crossing area for pedestrians. This concept reduces impervious pavement and increases landscaped areas. Emergency vehicle access and turn around will need to be identified.
 - The crossing distance at Hartford Avenue and State Street is unnecessarily wide. One of the following two alternatives are recommended to reduce this crossing width:
 - Widen the island, while still accommodating the appropriate truck movements between the eastbound lanes to reduce crossing distance for the north crosswalk.
 - Eliminate the island entirely and realign State Street to be perpendicular to Hartford Avenue at the approximate location of the island between the two existing roadways.
 - At the intersection of Church Street and Main Street, vehicles were observed stopping on the northbound/southbound approach where there is no stop control, and vehicles not stopping on the eastbound/westbound approach where it is stop-controlled. This intersection also has fairly wide crosswalks with no pedestrian refuge, particularly on the north leg. The median island that is on the east leg does not have handicap ramps. Off-the-record information has indicated that the town will potentially be improving this intersection in the near future. The SRTS team recommends the town consider a roundabout to narrow the crossing distance for vehicles and provide a refuge (splitter islands) for pedestrians crossing this intersection.
 - Some vehicles were observed cutting through Rosedale Street and the school parking lot immediately before school buses arrived in the morning. The SRTS team proposes a new school parking lot layout to separate the buses from the teacher parking and parent drop-off/pickup area. One concept is shown in **Figure 26**. This layout shows a separate bus area (to the north), with the handicap stalls and/or reserved teacher stalls in the same location as the existing layout near the side door. Buses would no longer be able to access the side entrance via Rosedale Street, but would access the side entrance via Garden Street. The west parking lot, south of the proposed bus access, would be one-way circulation accessible via Garden Street and Rosedale Street. This layout separates buses from parent pickup/drop-off lot, and provides a sidewalk from Garden Street to the side entrance for children. This concept provides a safer passage for children walking between the parking lot and school entrance without having to navigate between parked buses. The number of existing parking stalls shown is maintained with the new layout, and can be potentially increased. This layout reduces impervious pavement area.
 - Upgrade pedestrian crossings to be ADA compliant at Nott Street and the at-grade railroad crossing and at Church Street and the at-grade railroad crossing.

- At the intersection of State Street and Main Street, there are potential conflicts between yielding vehicles and pedestrians and between southbound right turning vehicles and northbound left turning vehicles. It is recommended to revise the geometry of the roadway to a T-intersection with a single access point to and from Main Street instead of two access points, which should also reduce the crossing distance for pedestrians.



Figure 25: Garden Street (North) Cul-De-Sac Concept

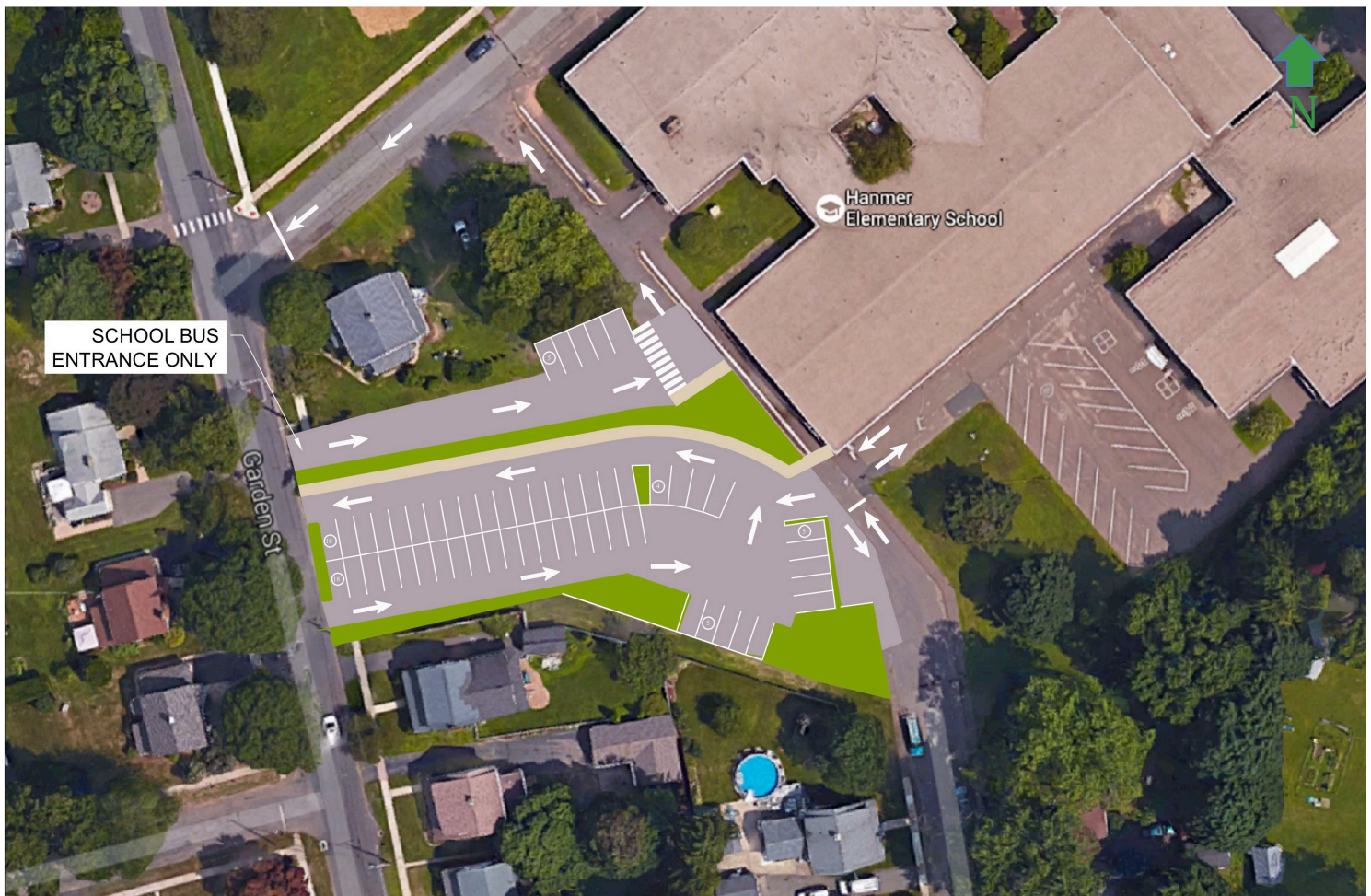
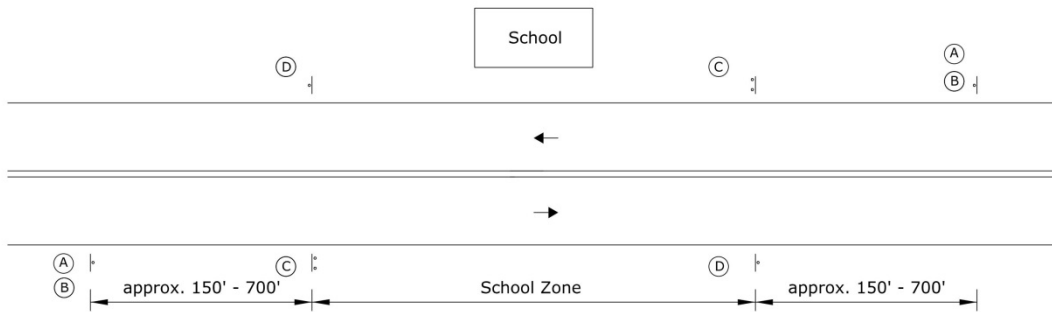




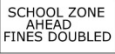

Figure 26: Alfred W. Hanmer School Parking Lot Concept

The aforementioned Safe Routes to School Walk Audit Report is an objective review intended for the School's Safe Routes Committee use to help assess the existing conditions surrounding the school. This document is an innovative planning tool to help identify bicycle, pedestrian and non-motorized transportation needs that encourage walking and bicycling to the school, as well as assists in developing recommendations to improve existing conditions. The contents of this report are not intended to be legally binding, but rather offer recommendations to improve safety in the vicinity of the school and create a more appealing transportation alternative.

Appendix A. CT Department's School Zone

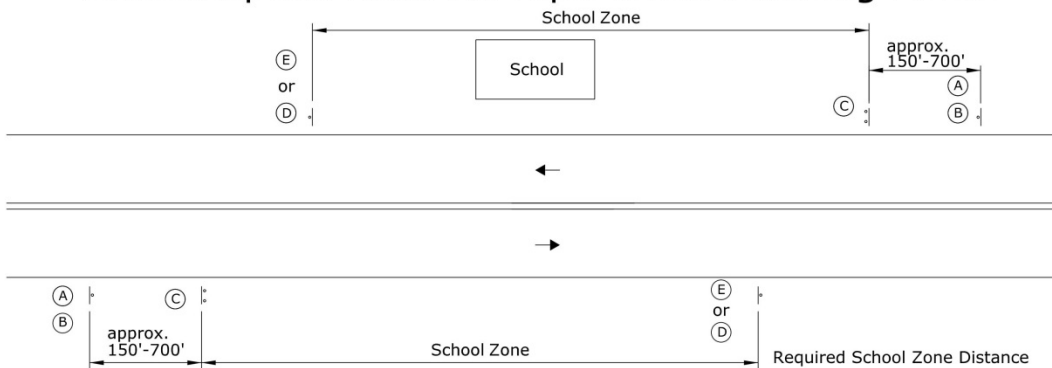
School Zone Ahead Fines Doubled Zone



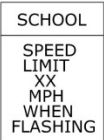




- (A) 41-2111, 41-2112, 41-2113  If a school crosswalk is present within the school zone, signing at the crosswalk is required. The advance crossing sign assembly for the crosswalk is optional.
- (B) Optional use of 41-6126, 41-6137 
- (C) 31-2101, 31-2102 
- (D) 31-2103 End School Zone 

Fines Doubled Zone
Signing Pattern
Figure No. 1

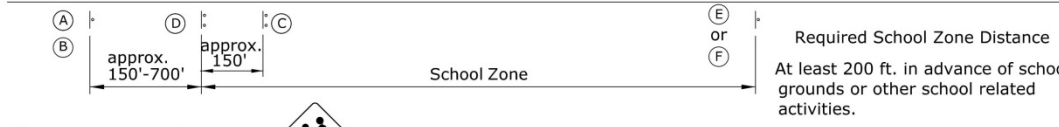
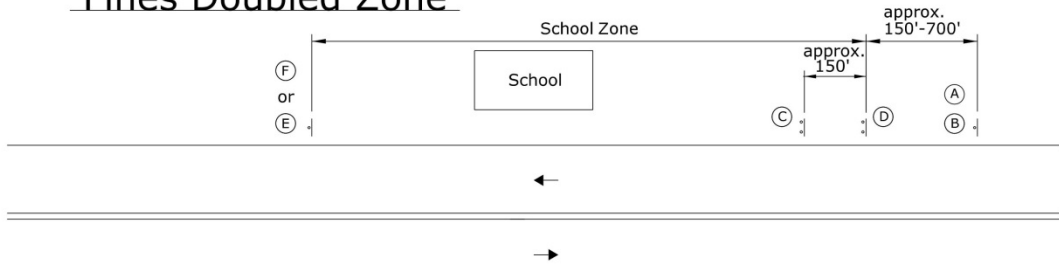
School Speed Limit XX mph When Flashing Zone



- (A) 41-2111, 41-2112, 41-2113  At least 200 ft. in advance of school grounds or other related school activities.
- (B) Optional use of 41-6126, 41-6137 
- (C) 31-5541  If a school crosswalk is present within the school zone, signing at the crosswalk is required. The advance crossing sign assembly for the crosswalk is optional.
- (D) 31-2103 
- (E) 31-5505  Make sure a regulatory speed limit sign is not located within the school zone.

School Zone
Speed Reduction
Signing Pattern
Figure No. 2

School Speed Limit XX mph When Flashing with a Fines Doubled Zone



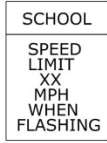
(A) 41-2111, 41-2112, 41-2113



(B) Optional use of 41-6126, 41-6137

If a school crosswalk is present within the school zone, signing at the crosswalk is required. The advance crossing sign assembly for the crosswalk is optional.

(C) 31-5541



(E) 31-2103

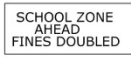


Make sure a regulatory speed limit sign is not located within the school zone.

(F) 31-5505



(D) 31-2101, 31-2102



**School Speed Limit XX
When Flashing with a
Fines Doubled Zone
Figure No. 3**

Non-Regulatory School Area Signing



(A) 41-2111, 41-2112, 41-2113



Suggested School Area Distance
Not less than 150 ft or more than 700 ft.
in advance of the school grounds or school crossing.

(B) Optional Use of:

Ahead Subplate 41-6126, 41-6137 

If a school crosswalk is present within the school area, signing at the crosswalk is required. The use of an "AHEAD" or "XXX FT" subplate is now required on Sign A.

**Non-Regulatory
School Area
Signing
Figure No. 4**

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