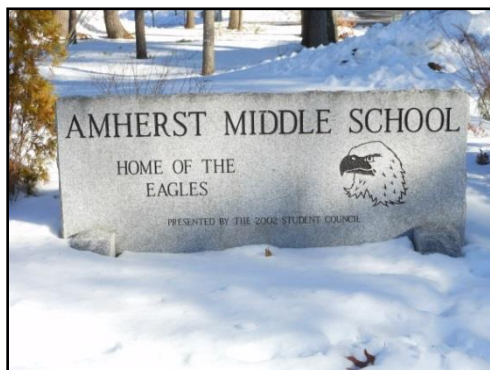
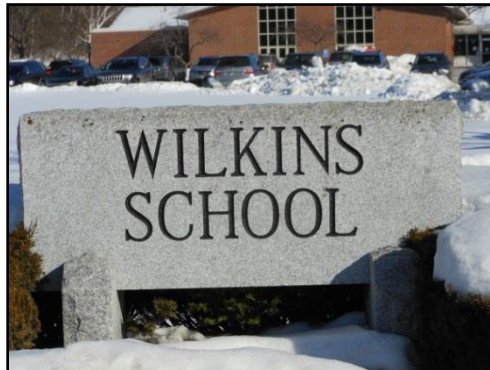


# **Clark-Wilkins Elementary & Amherst Middle Schools Safe Routes to School Travel Plan**

May 2013



Prepared by the  
**Amherst Safe Routes to School Committee**  
 **Nashua Regional Planning Commission**

This SRTS Travel Plan for the Town of Amherst is fully funded through a planning grant from the New Hampshire Department of Transportation

Project Partners

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**SafeRoutes**

National Center for Safe Routes to School





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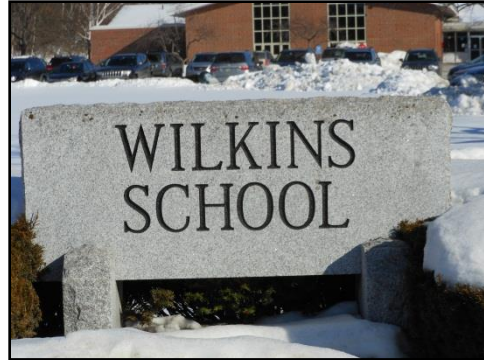
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## CLARK-WILKINS & AMHERST MIDDLE SCHOOL SAFE ROUTES TO SCHOOL TRAVEL PLAN

### A. BACKGROUND

The purpose of the Clark-Wilkins & Amherst Middle School Safe Routes to School Travel Plan is to develop a strategy for encouraging a greater number of students to walk and bicycle to and from school. The U.S. Department of Health and Human Services recommends at least 60 minutes of physical activity for children every day. The reason this is important is because physical exercise, such as biking and walking, can help prevent heart disease, as well as other chronic diseases such as diabetes, hypertension and depression. Physical activity also helps to build and maintain healthy bones and muscles and promotes psychological well-being. Developing a healthy physical lifestyle at an early age tends to stay with individuals throughout their lifetimes.



Despite these benefits, the Centers for Disease Control and Prevention (CDC) report that of children age 9 to 13 years, 62% do not participate in any organized physical activity and 23% do not participate in any free-time physical activity outside of school hours.

Thirty years ago nationwide, 60% of children within a 2-mile radius of a school walked or biked to school. Today, that number has dropped to 15% nationwide. Back then, 5% of children between the ages of 6 and 11 were considered overweight or obese. Today that number has increased to 20%.

The Safe Routes to School (SR2S) program encourages children to bike or walk to school through education and incentives that remind children how much fun biking and walking can be. The program also addresses the safety concerns of parents by encouraging greater enforcement of traffic laws, exploring ways to create safer streets and educating the public about safe biking, walking and driving practices. The program uses a combination of education, encouragement, enforcement, engineering and evaluation (the 5E's) activities to help achieve the goal of increased physical activity among children. The 5E's will be more fully discussed later in this report.

### B. CLARK-WILKINS ELEMENTARY SCHOOL

The Clark-Wilkins Elementary Schools (grades PK-4) are located near the village center of Amherst. Clark School is located about one block west of the village green on Foundry Street. Wilkins School is located about one-quarter mile north of the village green at the intersection of Boston Post Road and New Boston Roads. The schools have an enrollment (2012-13) of approximately 620 students. Approximately 135 students live within a 1-mile radius of the school.

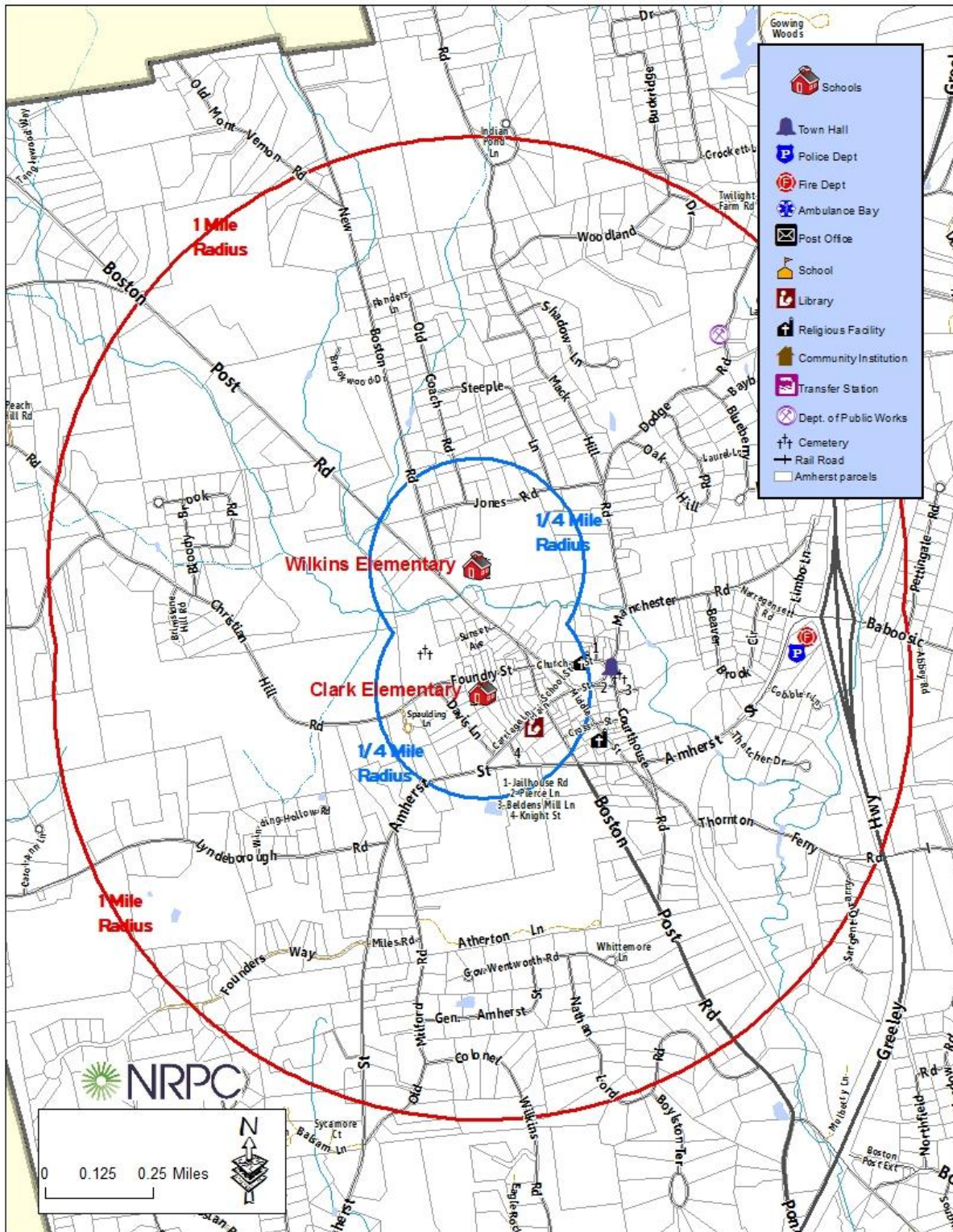


Map 1-1 shows the Clark-Wilkins Schools and surrounding neighborhoods.





Map 1-1: Clark-Wilkins School Study Area



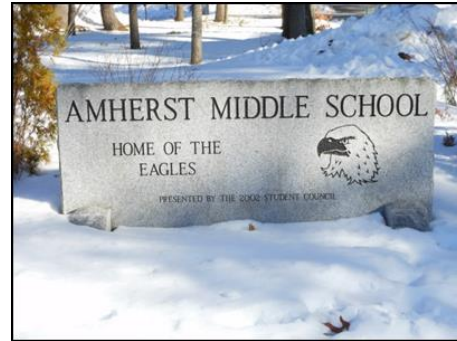




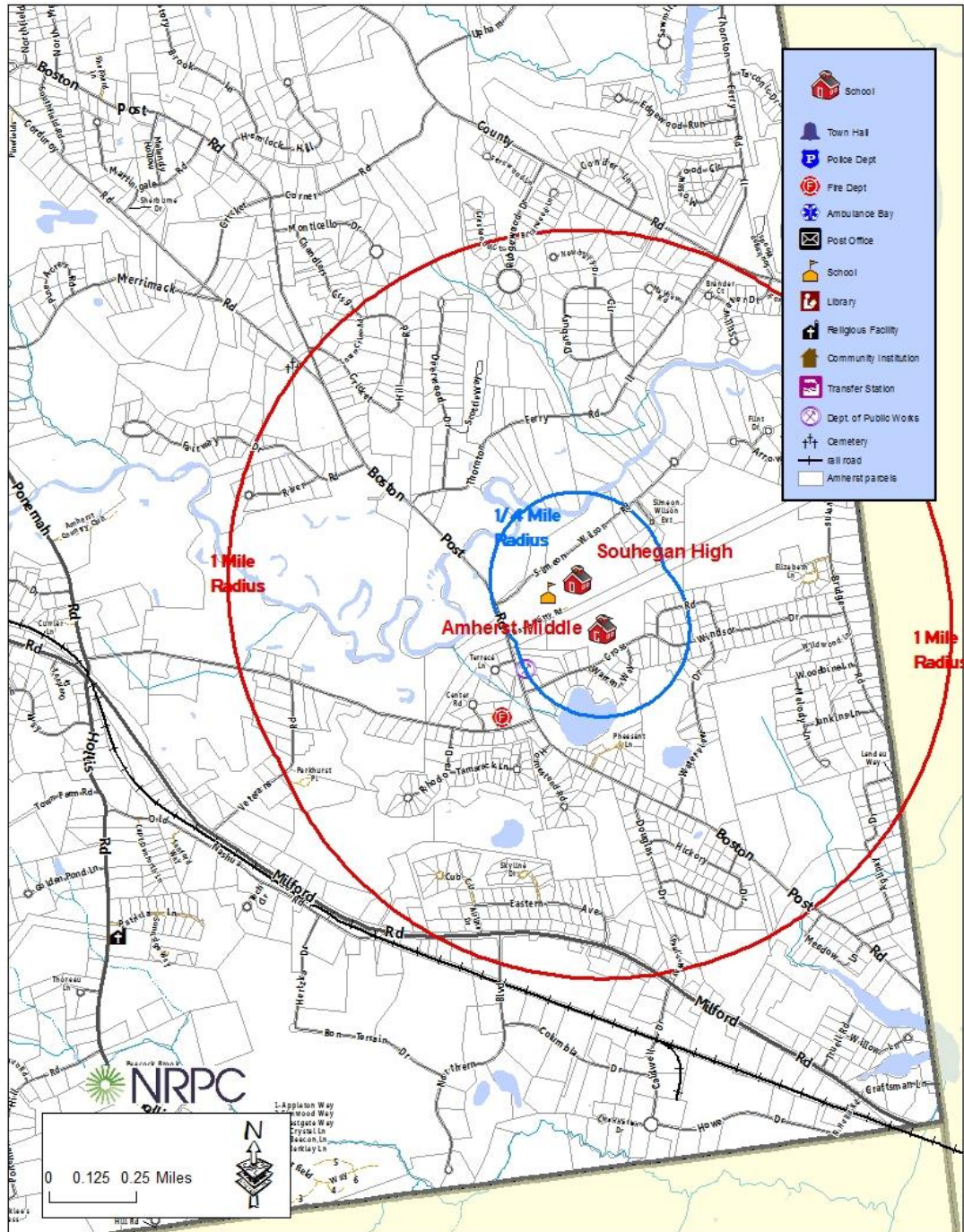
## C. AMHERST MIDDLE SCHOOL

The Amherst Middle School (grades 5-8) is located on Cross Road, adjacent to the Souhegan High School, approximately 3 ½ miles southeast of the village center of Amherst. The school has an enrollment (2012-13) of approximately 730 students. Approximately 100 students live within a 1-mile radius of the school.

Map 1-2 shows the Amherst Middle School and surrounding neighborhood.



Map 1-2: Amherst Middle School Study Area





#### D. GOALS OF THE STUDY

There are several major goals of this study:

- To gather information about trips to and from Clark-Wilkins and Amherst Middle Schools;
- To identify issues and concerns of children and parents about the trip to and from school;
- To determine the feasibility of developing a Safe Routes to School program at Amherst schools
- To increase the number of students who use non-motorized transportation to get to and from school;
- To ensure the safety of students on their way to and from school;
- To improve children's fitness and health.



#### E. COMMUNITY ORGANIZING EFFORTS

The Amherst Safe Routes to School Committee was formed in order to promote safer and more sustainable access to school facilities in Amherst. Since its inception, the Amherst SRTS program has been a joint initiative between NRPC, SAU #39 and the Town of Amherst.

Throughout the planning process the Amherst SRTS Committee has pursued an open and transparent meeting process to enhance public interaction and involvement.

The committee has excellent representation from the School District, School Board, Department of Public Works, Police, Selectmen, school principals, parents, bikers and walkers.

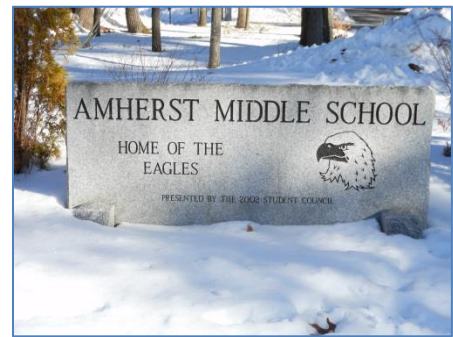
NAME	AFFILIATION
Bruce Berry	Director, Amherst Department of Public Works
George Bower	Resident - Traffic Expert
Dwight Brew	Amherst Selectman
Peg Burnett	Amherst School Board
Russ Demerast	Resident/parent - Bicycle Advocate
Porter Dodge	Principal, Amherst Middle School
Susan Durling	Parent
Judy Guilliland	Resident - walker
Rick Holder	Hampshire Hills, Governors Council on Fitness
Rick Katzenberg	Chairman
Carolynn Mitchell	Resident - Senior Advocate
Mark Reams	Amherst Police Chief
Chris Shenk	Resident - cyclist
Judy Shenk	Resident - cyclist
Gerry St. Amand	Principal, Clark-Wilkins School
Peter Warburton	Superintendent, SAU 39
William Wichman	Amherst Conservation Commission



## F. STUDY PROCESS

The study process was designed to gather information from students and their parents regarding the trip to and from school. A physical inventory of the existing traffic and sidewalk conditions was also conducted. Input from the community was also gathered with the help of the Amherst Safe Routes to School steering committee, PTA, school administration and others. The specifics of the study process are as follows:

- A Steering Committee was formed at the beginning of the process that included the Clark-Wilkins and Amherst Middle school principals, police chief, School Board, DPW Director, teachers, parents and others.
- A notice to proceed with contract negotiations (between Town of Amherst and NRPC) was sent by New Hampshire Department of Transportation (NHDOT) via email to Town of Amherst on July 27<sup>th</sup>, 2011. The proposed contract was approved by NHDOT on December 11, 2012. The contract was signed by NRPC and Town of Amherst on December 17<sup>th</sup>, 2012.
- The scope of work and time line for the project was presented to the Amherst SRTS Committee in September 2012.
- An in-class survey was administered to students in at Clark-Wilkins and Amherst Middle Schools. The purpose of the surveys was to gather specific information regarding students' trips to and from school, as well as children's attitudes regarding the trip.
- A mapping exercise was completed by students in grades 4-8. The map showed the Clark-Wilkins and Amherst Middle School zones and the students were asked to draw their route to school on the map, regardless of the mode (walk, bike, car, bus) of transportation.
- Parents were asked to participate in a survey. There was a choice of completing the survey on-line or in traditional paper format. Parents were asked various questions regarding how their children get to and from school, why their child uses that particular mode of transportation, and parents general attitudes about biking and walking. Approximately 285 parents chose to complete the survey.
- NRPC conducted a field survey of the existing sidewalk conditions in the vicinity of Clark-Wilkins and Amherst Middle Schools. The inventory was conducted over several days during January, February and March, 2013.
- A draft of the Travel Plan was presented to the Steering Committee on May 14<sup>th</sup>, 2013. The draft included traffic count data, results of the sidewalk inventory, and preliminary findings from the surveys and mapping exercise. The committee made final comments which were then incorporated into the document.
- A presentation about the study will be made to the Clark-Wilkins and Middle School PTA at a date to be determined.
- NRPC staff will provide a draft of this report to the Amherst (SAU 39) School Board.
- NRPC staff provided a draft of this report to Amherst DPW in order to identify realistic improvements to roads, sidewalks and crosswalks.
- NRPC staff will provide a draft of this report to the Amherst community development staff in order to coordinate goals and objectives of the Safe Routes project that overlap with those of the Community Development Office.





## G. STUDY FINDINGS

### 1. STUDENT ATTITUDES AND TRAVEL PATTERNS

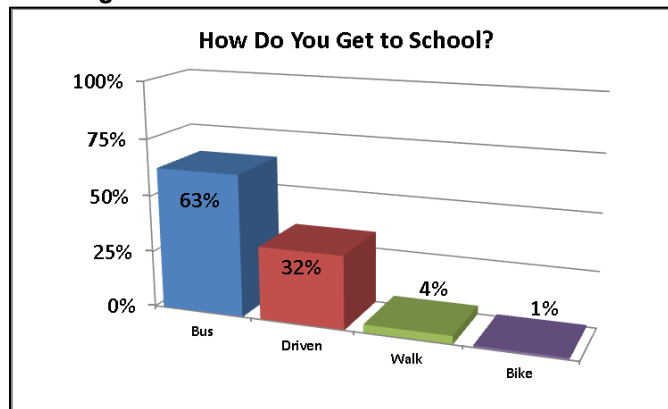
#### *Trip To School*

When students were asked how they typically get **to** school in the morning, approximately 4% say they walk, 1% ride bikes, 32% are driven and 63% ride the bus (Figure 1-1).

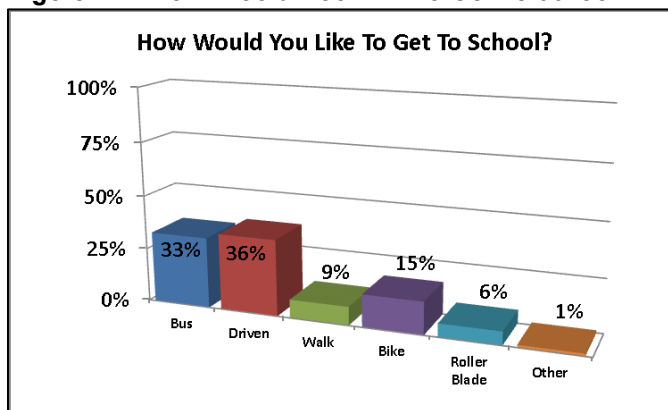
When students were asked how they would **like** to get to school (Figure 1-2), 9% said they would prefer to walk, 15% bike, 36% would like to be driven, 33% would like to take the bus. Another 7% said they would like to get to school via some other non-motorized (inline skate, skateboard) mode.

- This data suggests that while at the present time only 5% of students walk or bike to school, 31% say they would prefer a non-motorized trip to school.
- This means that an additional 26% of the student body would prefer to travel to school in a non-motorized fashion than do now.

**Figure 1-1: How Do You Get TO School?**



**Figure 1-2: How Would You LIKE To Get To School?**







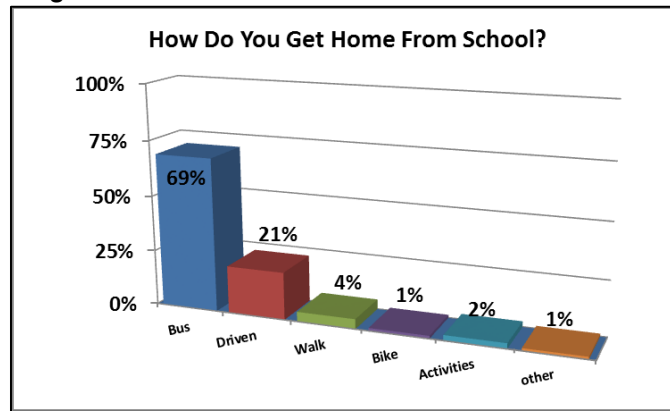
### ***Trip Home From School***

When asked how they get **home** from school in the afternoon, 4% said they walk, 1% bike, 21% are driven and 69% ride the bus (Figure 1-3). Another 3% cite after school activities as their mode of transportation home.

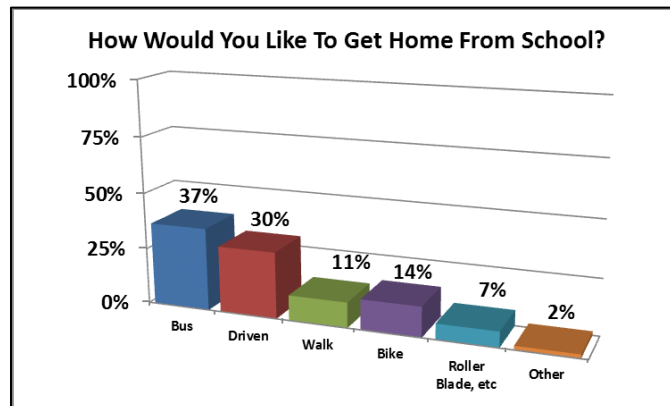
When students were asked how they would **like** to get **home** from school (Figure 1-4), 11% said they would prefer to walk, 14% bike, 30% would like to be driven, 37% would like to take the bus and 9% said some other non-motorized (inline skate, skateboard) mode.

- This data suggests that while at the present time only 5% of students walk or bike home from school, 34% say they would prefer a non-motorized trip from school.
- This means that an additional 29% of the student body would prefer to travel home in a non-motorized fashion than do now.

**Figure 1-3: How Do You Get HOME from School?**



**Figure 1-4: How Would You LIKE To Get Home From School?**





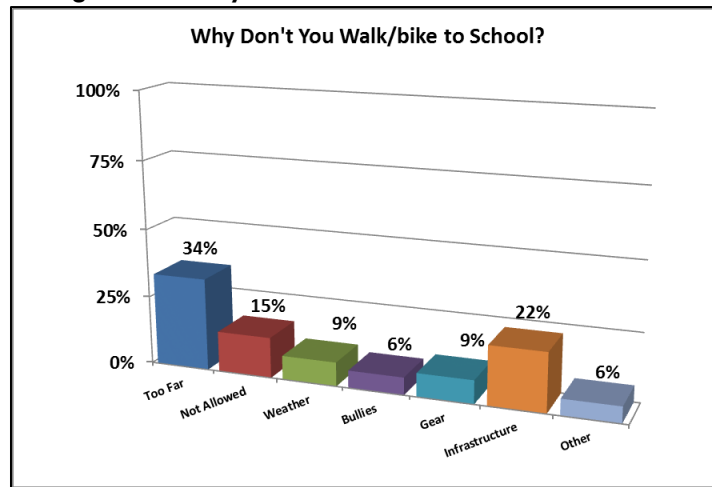


### Reasons For Not Biking Or Walking

When asked why they *don't* walk or ride to school 34% say it is too far and 15% of students said their parents won't let them (Figure 1-5). 22% cited some sort of infrastructure problem such as dangerous crosswalks or inadequate sidewalks. Weather conditions were cited by 9% of students and carrying a lot of gear (back packs, musical instruments) was cited by 9% of students. Only 6% of students cited bullies or stranger danger as reasons for not walking or biking to school

- The fact that 22% of students cite infrastructure issues as the reason they don't walk or bike to school suggests that an improvement in the sidewalk and crosswalk system would encourage an increase in non-motorized travel.
- These improvements might also change the fact that 15% of students say their parents won't allow them to walk or bike.
- Even though 34% say it is too far to walk, some of these students might bike if there were safe, designated bike routes.

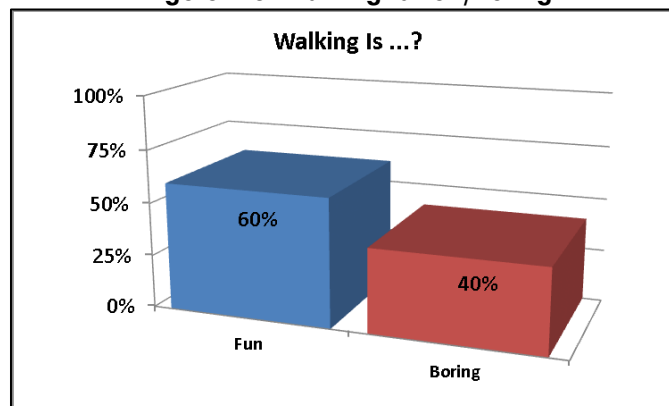
**Figure 1-5: Why DON'T You Walk or Ride to School?**



### Attitudes about Walking

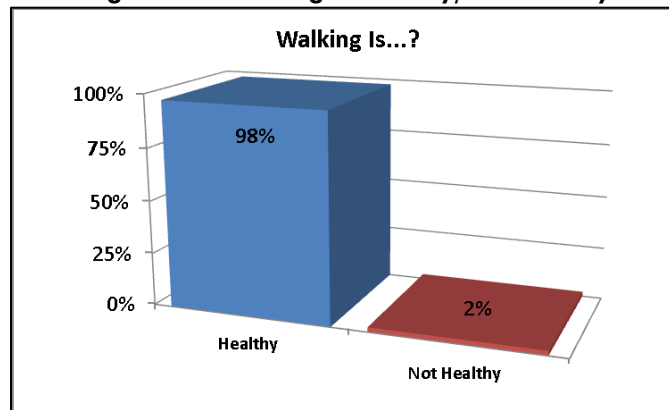
When the students were asked if walking is fun or boring approximately 60% said fun and 40% said boring (Fig.1-6). When asked if walking is healthy or not healthy approximately 98% said healthy (Fig.1-7). When asked if walking is safe or dangerous 59% said safe and 40% said not safe (Fig. 1-8).

**Figure 1-6: Walking is Fun/Boring**

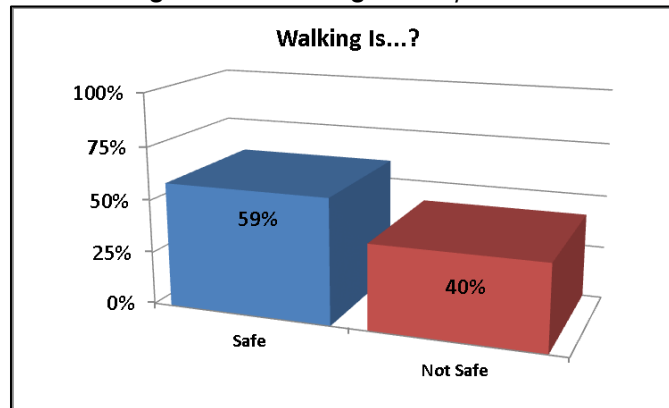




**Figure 1-7: Walking is Healthy/Not Healthy**



**Figure 1-8: Walking is Safe/Not Safe**

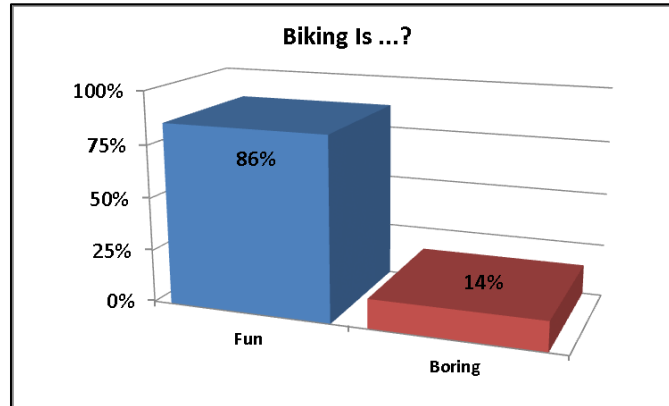




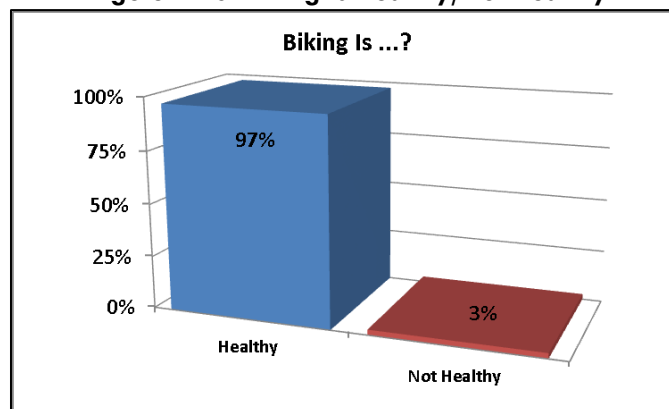
### ***Attitudes about Biking***

When the students were asked if biking is fun or boring 86% said fun and 14% said boring (Fig.1-9). When asked if biking is healthy or not healthy 97% said it is healthy (Fig. 1-10). Also, 57% said biking is safe while 43% said it is not safe (Fig. 1-11).

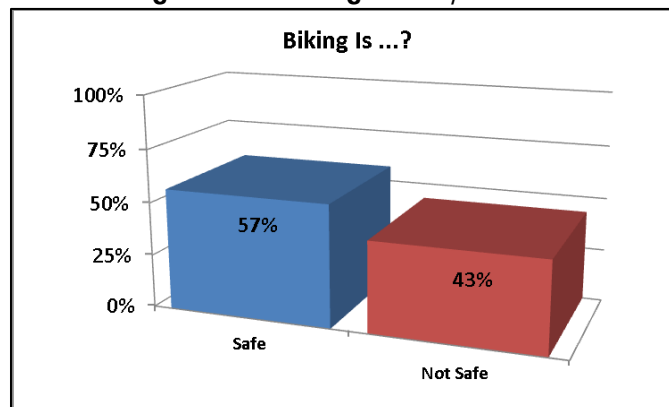
**Figure 1-9: Biking is Fun/Boring**



**Figure 1-10: Biking is Healthy/Not Healthy**



**Figure 1-11: Biking is Safe/Not Safe**



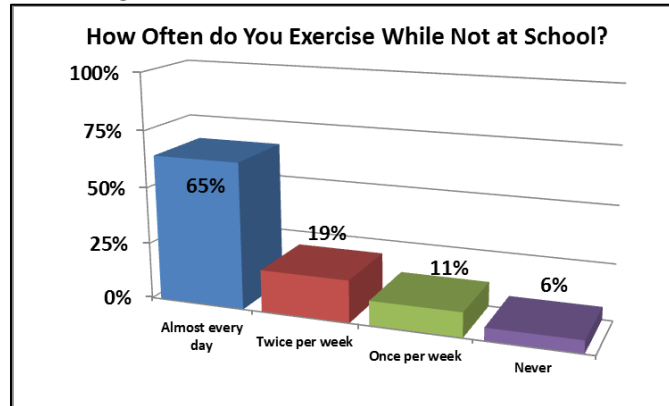


### ***Willingness to Exercise***

When the students were asked how often they exercise when not at school, 66% said they exercise every day (Figure 1-12). Only 6% said they never exercise.

- This combined with 78% who say they would like to use non-motorized transportation to get to school is a clear indication that students are willing and able to bike or walk to school more often than they do at this time.

**Figure 1-12: How Often Do You Exercise?**

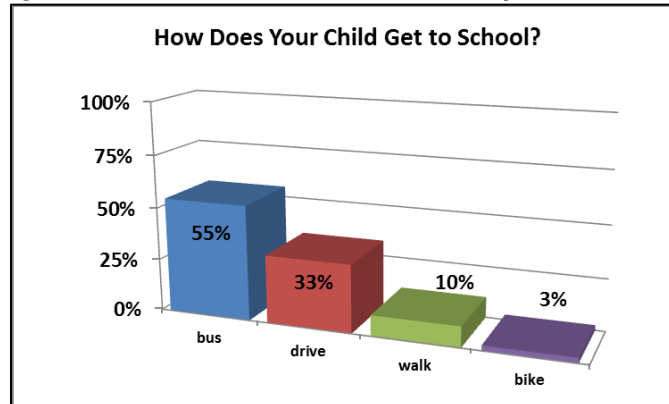


## **2. PARENT ATTITUDES AND CONCERNS**

### ***How Does Your Child Get to School?***

When parents were asked how their children travel to school most often, approximately 10% said they walk, 3% bike, 33% said they are driven and 55% take the bus (Figure 1-13).

**Figure 1-13: How Does Your Child Usually Get to School?**



### ***Why Doesn't Your Child Walk or Bike to School?***

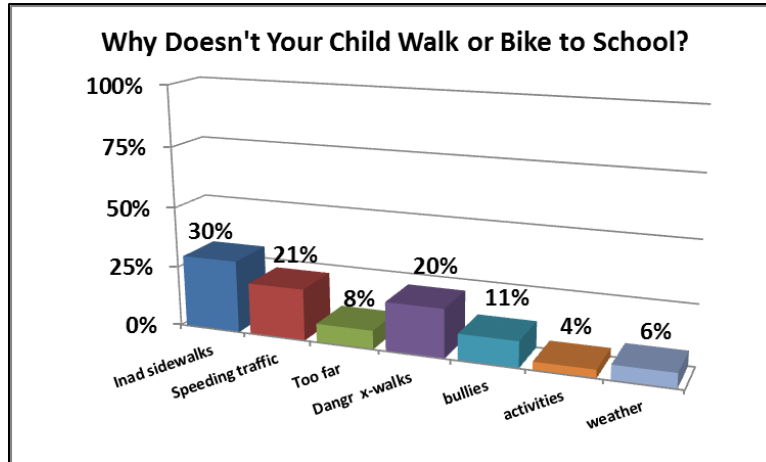
When parents were asked why they don't allow their child to walk or bike to school 50% cited some sort of infrastructure issue (inadequate sidewalks or dangerous crosswalks). Another 21% cited speeding traffic. Eleven percent cited bullies or stranger danger as a reason and only 8% said it is too far to walk or ride a bike (Figure 1-14).

- This data suggests that improvements in the sidewalk network will have a significant impact on parent's attitudes regarding how their children get to school. The sidewalk inventory that appears later in this report suggests areas where improvements could be made.



- The data also suggests that there is a perception that motor vehicles speed near the schools. The traffic count data that appears later in this report suggests that traffic travels at a reasonable rate in the vicinity of the schools. It is possible that parents could be convinced that speeding traffic is not as big an issue as it may seem.
- Parents cite some concern about bullies and stranger danger along the route to school. These concerns could be mitigated to some degree with a walking school bus effort and other efforts that involve adults providing some level of supervision along the route to school.

**Figure 1-14: Why Doesn't Your Child Walk/bike to School?**



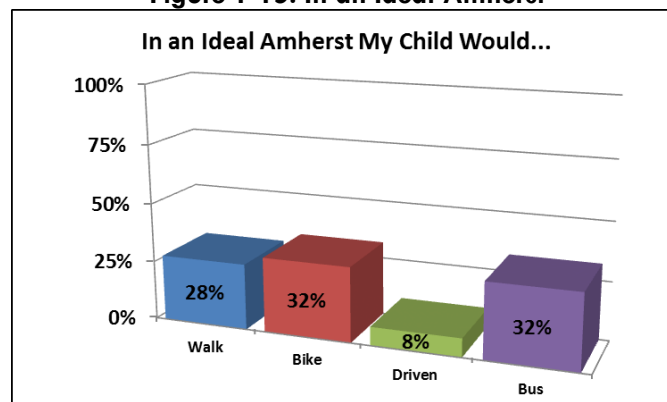
#### ***How Would Parents Like Their Child to Get to School?***

Even though parents have significant concerns about the safety of walking and biking to school given existing conditions, when asked how they would *like* their children to get to school (in an ideal Amherst), about 28% said they would like them to walk and 32% said they would like to see them bike. About 32% said they would prefer their child take the bus and only 8% want them to be driven (Figure 1-15).

Additionally, about 36% of parents said they would allow their child to walk to school if the route were to be improved, an additional 32% said they would “maybe” allow them to walk if the route were improved (Figure 1-16). When asked if they would be in favor of a program that encourages children to walk or bike to school, approximately 67% said yes, 19% said maybe and only 14% said no (Figure 1-17, next page).

- These responses by parents, combined with the fact that 31% of children say they would prefer to walk, bike or skateboard to school, indicate there is a significant opportunity for increasing the number of students who would travel to school in a non-motorized fashion.

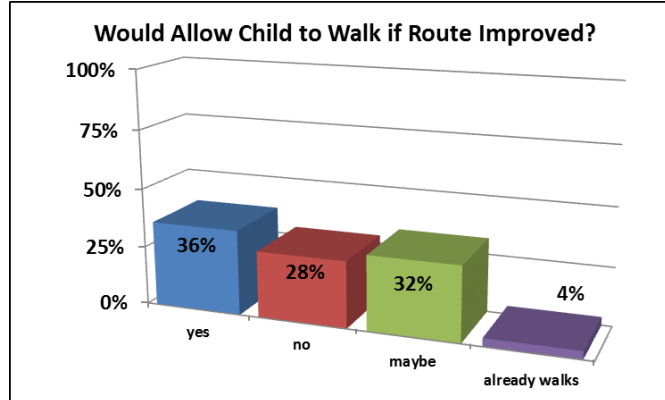
**Figure 1-15: In an Ideal Amherst**



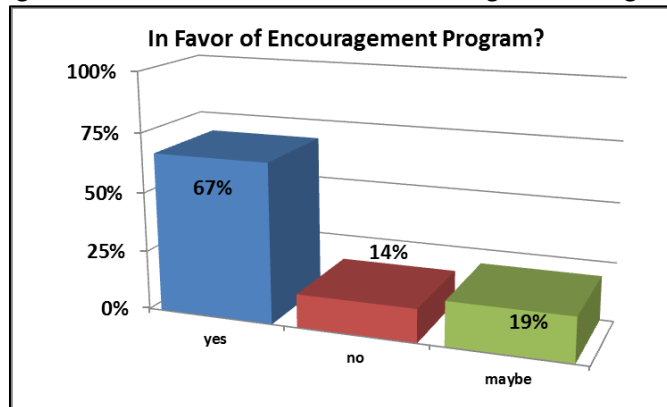




**Figure 1-16: Allow Child to Walk/Bike if Route Improved?**



**Figure 1-17: Parents in Favor of Encouragement Program?**



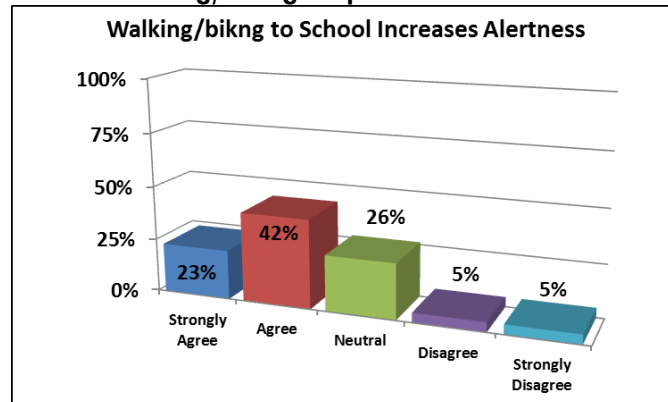
#### ***Parent Attitudes about Benefits of Walking and Biking***

Parents were asked about their attitude regarding the potential developmental and health benefits of walking and biking to school. When asked if they agree or disagree that walking and biking help to increase alertness in school, approximately 65% say they agree or strongly agree and only about 10% disagree or strongly disagree (Figure 1-18). When asked if they agree or disagree that walking or biking at an early age helps develop a healthy lifestyle, approximately 91% either agree or strongly agree and only about 4% disagree or strongly disagree (Figure 1-19).

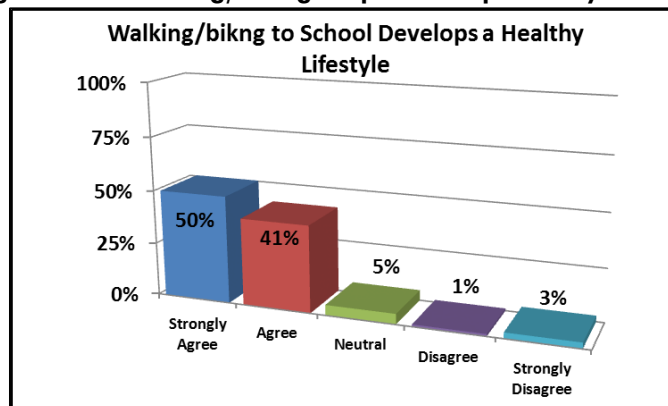
When asked if they agree or disagree that walking or biking help develop a sense of self-reliance, approximately 84% either agree or strongly agree and only about 4% disagree or strongly disagree (Figure 1-20).



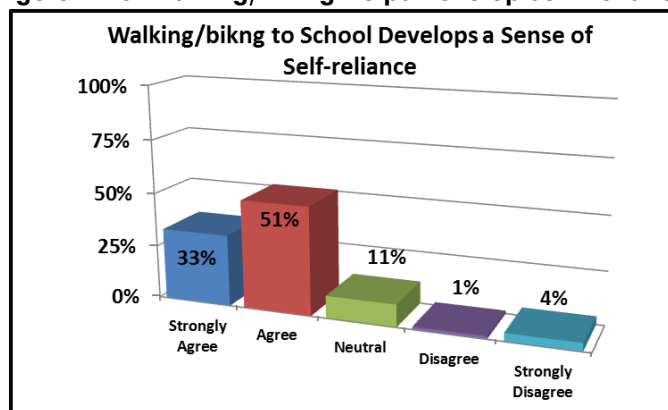
**Figure 1-18: Walking/Biking Helps Increase Alertness in School?**



**Figure 1-19: Walking/Biking Helps Develop Healthy Lifestyle?**



**Figure 1-20: Walking/Biking Helps Develop Self-Reliance?**





### **3. ROUTES USED FOR TRAVELING TO SCHOOL**

Students were given an in-class mapping exercise in which they were asked to draw the route they take to school. They were asked to draw the route regardless of the mode of transportation (bike, walk, bus, car or other mode).

#### ***Walking and Biking Routes – Clark-Wilkins School***

Fourth grade students were asked to complete an in-class mapping exercise. The purpose of the exercise was to identify and map the routes that students take to school, regardless of the mode of transportation

Map 1-3 shows where Clark-Wilkins students live and also summarizes the most popular routes used by students who walk or ride their bikes to school. Only four students who participated in this exercise indicated that they walk to school, but field observations (during student drop off and pick up periods) and conversations with the steering committee indicate that significantly more students than that actually do walk or bike. In fact, approximately 30 students used the crosswalk on the afternoon that student pick up was observed by NRPC staff.

The most common walking and biking routes within the immediate village green area are along Church, Main, School and Foundry Streets as well as Carriage Lane. These streets act as “collector” routes that converge into Boston Post Road. Students who attend Wilkins School walk the remaining distance along Boston Post Road, where they cross Boston Post Road, with the assistance of a crossing guard, via the crosswalk near the Wilkins School driveway. Students who attend Clark School walk the remaining distance from Boston Post Road along Foundry Street. Clark students are assisted by a crossing guard at the intersection of Foundry Street and Boston Post Road.

Jones Road acts as the collector route for walkers and bikers from the neighborhoods on the north side of the village. Walkers and bikers enter onto New Boston Road from Jones Road. There is also a connection between the back of Wilkins School to the playing fields on Jones Road.

All of these streets have fairly low traffic volumes and speeds except for Boston Post Road, which by comparison has significantly more vehicle traffic. While data indicates that speed of traffic on Boston Post Road is fairly reasonable during student drop off and pickup times, a significant percentage of vehicles do exceed the speed limit. This contributes to the perception among parents that traffic is a significant obstacle to safe walking and biking. It should be noted, however, that these routes are perceived by students to be relatively safe, as indicated on Map 1-3 (orange circles indicate perceived dangerous locations).

Approximately 135 students live within a one-mile radius of the Clark-Wilkins Schools, yet relatively few walk or bike to school. The routes from several neighborhoods are fairly flat and have low volumes of traffic. All of the walking routes from the south and east of the Village end up on Boston Post Road which is a fairly busy road and most likely acts as a deterrent to bikers and walkers.

Routes from neighborhoods to the north and east of the schools converge onto Jones and New Boston Roads, which is also where the majority of traffic from that side of town ends up. This is most likely a deterrent to walkers and bikers from this area of town.

The sidewalk network in the village is in generally fair to poor condition, as noted in the sidewalk inventory later in this report. These conditions are likely a deterrent to potential walkers.

#### ***Motor Vehicle Routes – Clark-Wilkins School***

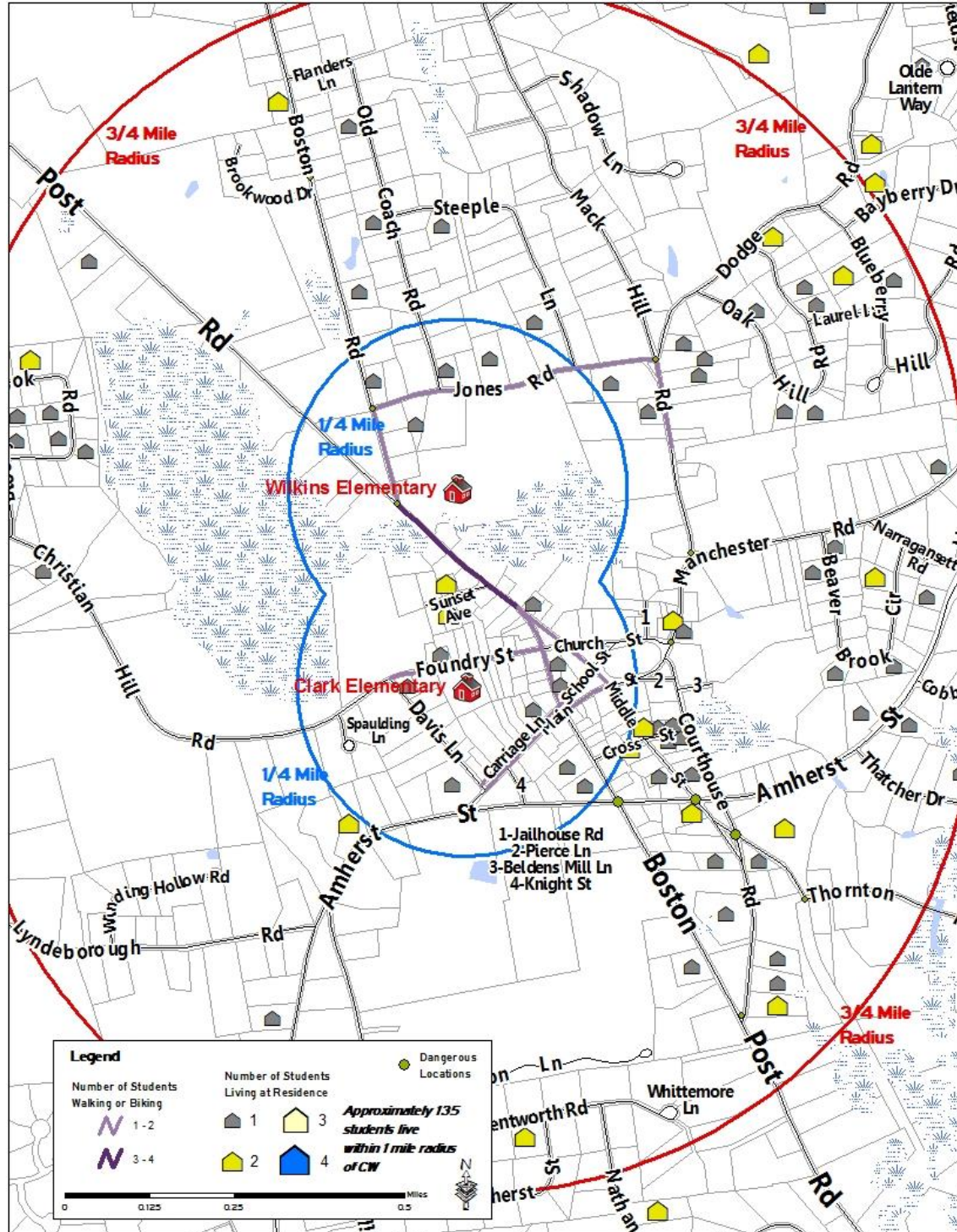
Map 1-4 shows that the most common route for motor vehicles to travel to Clark-Wilkins from the south and east is Boston Post Road, with Church, Main, School, Foundry Streets as well as Carriage Lane acting as “collector” routes, similar to the walking routes described above. The most common motorized routes from the north and east are Jones Road and New Boston Road. The fact that Boston



Post, Jones, and New Boston Roads carry significant volumes of traffic most likely acts as a deterrent to biking and walking along those routes.

A significant number of motor vehicles congregate at the both schools during the morning and afternoon drop off and pick times. This traffic is very well managed by school staff at both Clark and Wilkins schools. Nonetheless, the large number of vehicles contributes to the perception that walkers and bikers are at a disadvantage during these time periods.

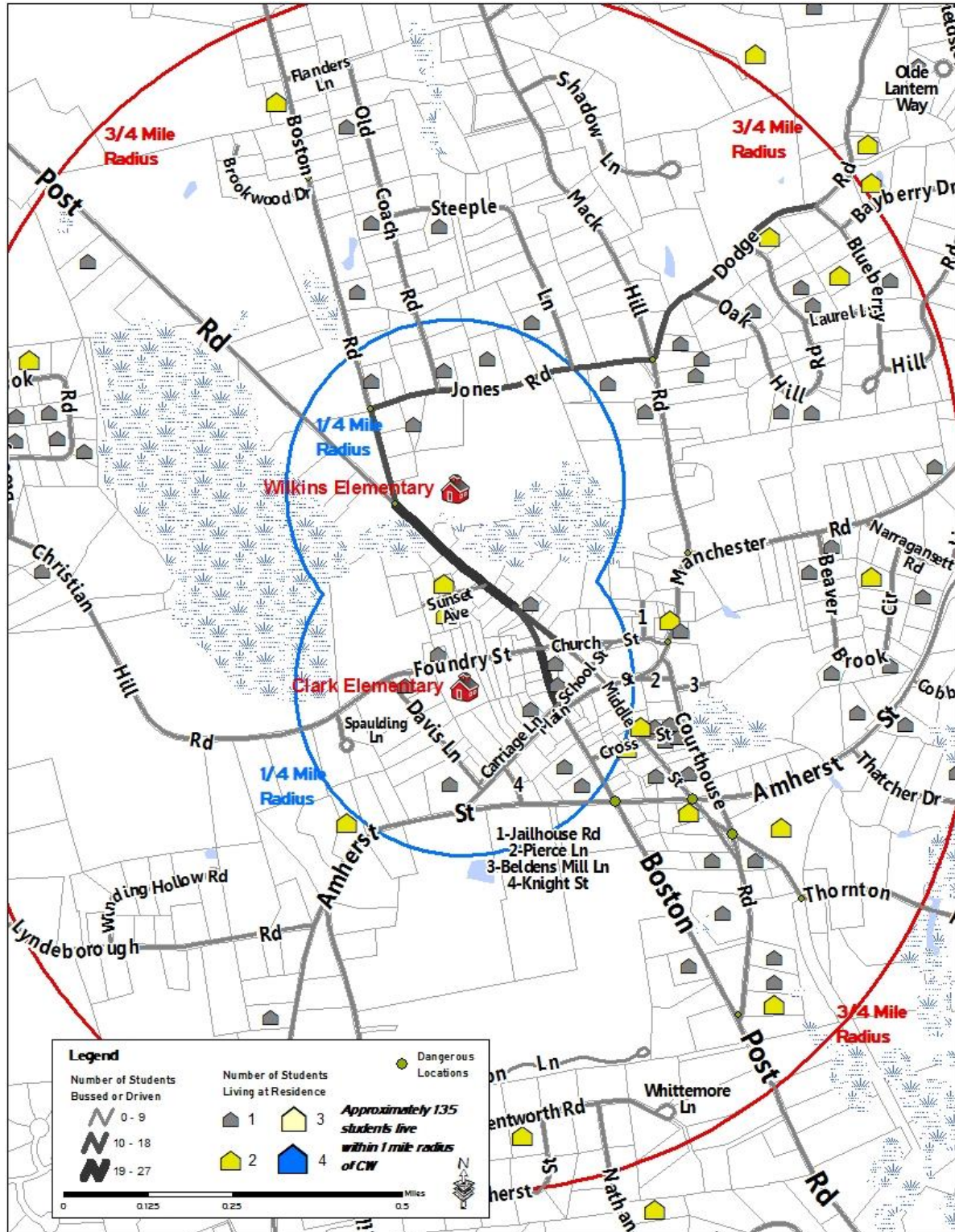
Map 1-3: Walking & Biking Routes to Clark-Wilkins School







Map 1-4: Motorized Routes to Clark-Wilkins School







### **Walking and Biking Routes – Amherst Middle School**

Middle school students (fifth through eighth grade) were asked to complete the in-class mapping exercise. Approximately 100 students live within a one-mile radius of the Amherst Middle School, yet relatively few walk or bike to school.

Map 1- 5 shows where Amherst Middle School students live and also summarizes the most popular routes used by students who walk or ride their bikes to school. Eight students who participated in this exercise indicated that they walk to school, but field observations and conversations with the steering committee indicate that significantly more students than that actually walk or bike.

The most common walking and biking routes, based on the mapping exercise, are along Boston Post Road, Windsor Drive and Cross Road. Most students walk the final distance to the middle school along Cross Road. There are no sidewalks anywhere along these routes, except on the bridge over the Souhegan River.

A significant number of students are dropped off at the high school and walk on a paved path to the middle school.

Windsor Drive and Cross Road have fairly low traffic volumes and speeds while Boston Post Road has high traffic volume and vehicle speeds by comparison. Many students live to the south of the middle school along Stearns Road, Homestead Road, Tamarack lane, Douglas Drive and others. These neighborhoods are fairly near the school. Traffic conditions on Boston Post Road, however, create a barrier which most likely deters students that live in these neighborhoods from walking. Lack of any sidewalks also acts as a deterrent.

Boston Post Road and its lack of sidewalks is also deterrent to students who live in neighborhoods north of the school from walking or biking.

Many students from the middle and high schools regularly walk along the east side of Boston Post Road between the Homestead Convenience Store and the school campus. Since there is no sidewalk on this route students are frequently observed walking several abreast in the roadway.

### **Motor Vehicle Routes – Amherst Middle School**

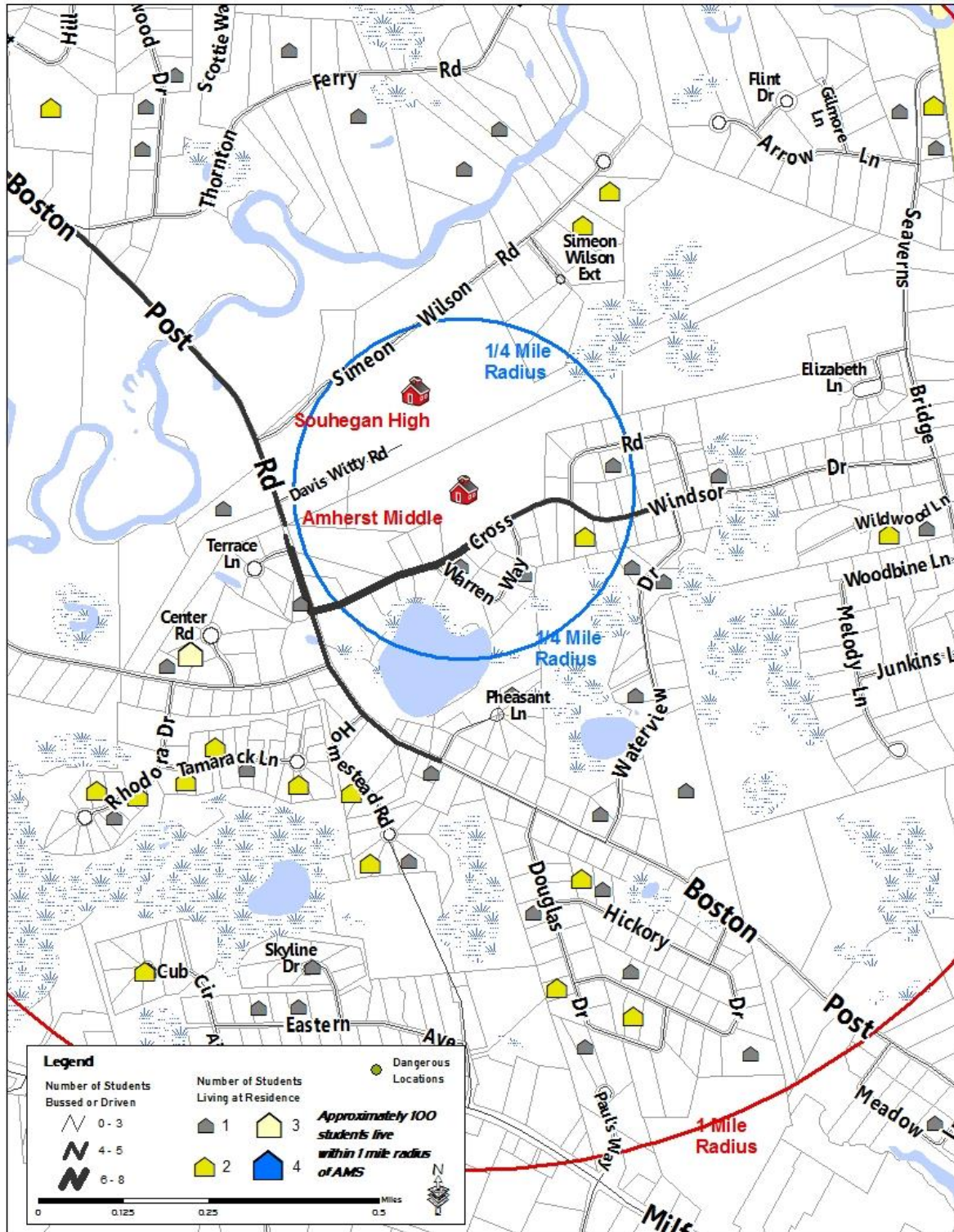
Map 1-6 shows the most common routes for motor vehicles to travel to Amherst Middle school in the morning. It can be seen that Boston Post Road and Stearns Road act as collector routes that converge at Cross Road.

A significant number of vehicles congregate at the front of the school during drop off and pick up times. NRPC staff observed that this traffic was well managed and travelled smoothly during these times.

School busses do not use the front entrance to the school and therefore do not conflict with private vehicle movements. Children who take the bus get dropped off and picked up near the high school and then walk along a paved path to the middle school.



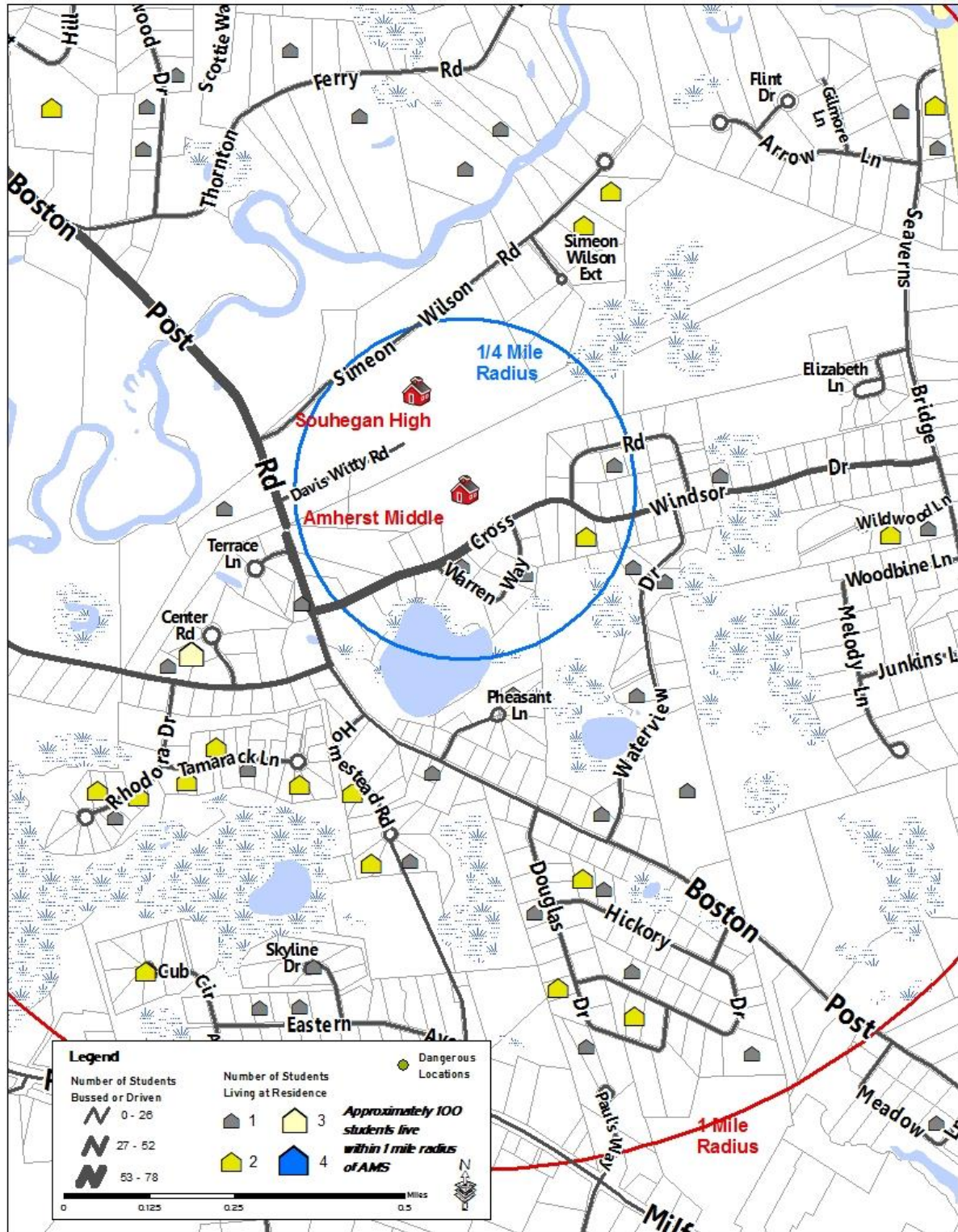
Map 1-5: Walking & Biking Routes to Amherst Middle School







Map 1-6: Motorized Routes to Amherst Middle School





#### 4. TRAFFIC VOLUME AND SPEED OF VEHICLES

NRPC performed traffic volume and traffic speed counts at the following key locations near Clark-Wilkins School specifically for this study. The data at the location on Boston Post Road was gathered between Monday, October 22<sup>nd</sup> and Friday, October 26<sup>th</sup>, 2012 and the data at the other locations was gathered between Monday, October 15<sup>th</sup> and Friday, October 19<sup>th</sup>, 2012. NRPC used automatic traffic counting equipment to gather this data. These are the locations that were counted:

- Boston Post Road (just south of Wilkins School driveway),
- Foundry Street (just east of Clark School),
- Davis Lane (just north of tennis court drop-off),
- Davis Lane (just south of tennis court drop-off),
- Cross Road (west of Amherst Middle School driveways),
- Windsor Drive (east of Cross Road).

The locations on Boston Post Road and Foundry Streets are within walking distance of Clark-Wilkins school *and* within an area where the speed limit is 20 miles per hour during specific periods of the day. The locations on Davis Lane were chosen because they're within walking distance to the Clark Wilkins School (although not within a "flashing" school zone). The locations on Cross Road and Windsor Drive were chosen because they are within walking distance of the Amherst Middle School (although not within a "flashing" school zone). These locations were chosen for the following reasons:

- To see if vehicles observe the posted 25mph speed limit when school zone lights are not flashing,
- To see if motor vehicles within the school zone observe the "20mph when flashing" speed limit,
- To see if vehicles outside of the school zone (but still within walking and biking distance to the school) observe the posted 25mph speed limit.

Please see maps 1-7 for locations near Clark-Wilkins school and 1-8 for count locations near Amherst Middle School.

#### TRAFFIC COUNTS NEAR CLARK-WILKINS SCHOOL

##### *Boston Post Road (south of Wilkins School)*

This location is just south of the Wilkins School driveway and should be a good indicator of the speed and volume of traffic near the school entrance. The speed limit on this segment of roadway is 25mph except when the flashing school zone sign indicates a speed limit of 20mph. The speed limit is 20mph during the following time periods:

- 7:50am – 8:30am
- 2:50pm – 3:30pm

It can be seen in the following tables that the average number of motor vehicles that pass the school during the **morning drop off period** is 423. Of that total, 46% travel at or *below* the 20mph speed limit and 15% travel at least 6 miles *above* the speed limit. It can also be seen that 339 vehicles (on average) pass the school during the **afternoon pick up period**. Of that total, 27% travel at or *below* the 20mph speed limit while 49% travel at least 6 mph *above* the speed limit.

**Table 1: Boston Post Road, near Wilkins School Drop-off/Pick-up ~ Vehicles vs. Speed Limit**

Boston Post Rd. near Wilkins Vehicles vs. Speed Limit 7:45am - 8:30 am Tues. - Thurs			Boston Post Rd. near Wilkins Vehicles vs. Speed Limit 2:45pm - 3:30 pm Tues. - Thurs		
Speed (mph)	# of Vehicles	% of Total	Speed (mph)	# of Vehicles	% of Total
< 20mph	194	46%	< 20mph	91	27%
21-25mph	164	39%	21-25mph	81	24%
26-30mph	55	13%	26-30mph	76	22%
> 30mph	10	2%	> 30mph	91	27%
<b>Total</b>	<b>423</b>	<b>100%</b>	<b>Total</b>	<b>339</b>	<b>100%</b>

##### *Foundry Street (east of Clark School)*



This location is just east of the Clark School driveway and should be a good indicator of the speed and volume of traffic near the school entrance. The speed limit at this location is 20 mph when the school zone sign flashes during the same time periods described above.

It can be seen in the following tables that the average number of motor vehicles that pass the school during the **morning drop off period** is 46. Of that total, 12% travel at or below the 20mph speed limit and 48% travel at least 6 miles above the speed limit. It can also be seen that 84 vehicles (on average) pass the school during the **afternoon pick up period**. Of that total, 46% travel at or below the 20mph speed limit while 18% travel at least 6 mph above the speed limit

**Table 2: Foundry Street, East of Clark School Drop-off/Pick-up ~ Vehicles vs. Speed Limit**

Foundry St east of Clark School Vehicles vs. Speed Limit 7:45am - 8:30 am Tues. - Thurs			Foundry St east of Clark School Vehicles vs. Speed Limit 2:45pm - 3:30 pm Tues. - Thurs		
Speed (mph)	# of Vehicles	% of Total	Speed (mph)	# of Vehicles	% of Total
< 20mph	6	12%	< 20mph	39	46%
21-25mph	18	39%	21-25mph	30	36%
26-30mph	18	39%	26-30mph	11	13%
> 30mph	4	9%	> 30mph	4	5%
<b>Total</b>	<b>46</b>	<b>100%</b>	<b>Total</b>	<b>84</b>	<b>100%</b>

***Davis Lane (north and south of Clark School student drop off and pick up)***

Traffic was counted at two locations on Davis Lane, on either side of the tennis court where parents drop off and pick up students. The speed limit on Davis lane is 25mph and there are no signs indicating reduced speeds during drop off and pick up times.

It can be seen in the following tables that on the on Davis Lane north of the tennis courts 21 motor vehicles (on average) pass the school during the **morning drop off period**. Of that total, 52% travel at or below the 25mph limit and 14% travel at least 6 miles above the speed limit. It can also be seen that 52 vehicles (on average) pass the school during the **afternoon pick up period**. Of that total, 83% travel at or below the speed limit while 6% travel at least 6 mph above the speed limit.

**Table 3: Davis Lane, North of Tennis Court - Drop-off/Pick-up ~ Vehicles vs. Speed Limit**

Davis Ln N. of tennis Court Vehicles vs. Speed Limit 7:45am - 8:30 am Tues. - Thurs			Davis Ln N. of tennis court Vehicles vs. Speed Limit 2:45pm - 3:30 pm Tues. - Thurs		
Speed (mph)	# of Vehicles	% of Total	Speed (mph)	# of Vehicles	% of Total
< 20mph	3	14%	< 20mph	28	53%
21-25mph	8	38%	21-25mph	16	30%
26-30mph	7	33%	26-30mph	5	10%
> 30mph	3	14%	> 30mph	3	6%
<b>Total</b>	<b>21</b>	<b>100%</b>	<b>Total</b>	<b>52</b>	<b>100%</b>

At the location south of the tennis courts 86 motor vehicles pass the school during the **morning drop off period**. Of that total, 84% travel at or below the 25mph speed limit and 4% travel at least 6 miles above the speed limit. It can also be seen that 73 vehicles pass the school during the **afternoon pick up period**. Of that total, 80% travel at or below the 25 mph speed limit while 9% travel at least 6 mph above the speed limit

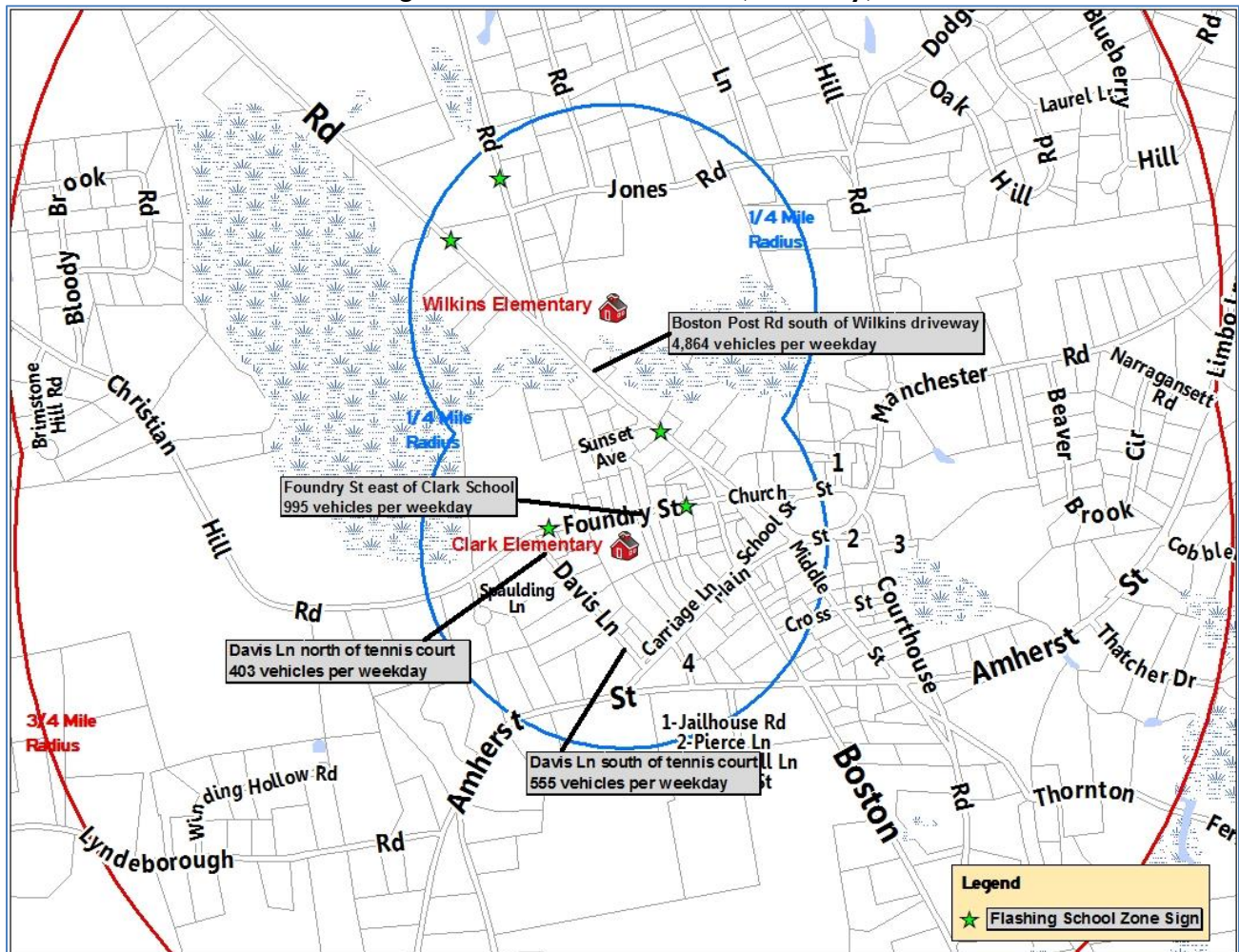




**Table 4: Davis Lane, South of Tennis Court - Drop-off/Pick-up ~ Vehicles vs. Speed Limit**

Davis Ln S. of tennis courts Vehicles vs. Speed Limit 7:45am - 8:30 am Tues. - Thurs			Davis Ln S. of tennis court Vehicles vs. Speed Limit 2:45pm - 3:30 pm Tues. - Thurs		
Speed (mph)	# of Vehicles	% of Total	Speed (mph)	# of Vehicles	% of Total
< 20mph	50	58%	< 20mph	44	60%
21-25mph	22	26%	21-25mph	14	20%
26-30mph	10	12%	26-30mph	8	11%
> 30mph	4	4%	> 30mph	7	9%
Total	86	100%	Total	73	100%

**Map 1-7: Traffic counts near Clark Wilkins School  
Average 24-hour Traffic Volume (weekday)**





## TRAFFIC COUNTS NEAR AMHERST MIDDLE SCHOOL

### Cross Road (west of Middle School driveway)

This location is west of the Middle School near the recreation department driveway. The speed limit at this location is 25mph, but just east of this location the speed limit drops to 20mph when the school zone sign is flashes. As noted earlier, the locations on Cross Road and Windsor Drive were chosen because they are within walking distance of the Amherst Middle School (although not within a “flashing” school zone). These locations were chosen for the following reasons:

- To see if vehicles outside of the school zone (but still within walking and biking distance to the school) observe the posted 25mph speed limit.

It should also be pointed out that these two locations are just outside of the flashing school zone. The Amherst Police department states that the school zone sign flashes during the following periods:

- 6:50am – 7:30am
- 1:50pm – 2:30pm

It can be seen in the following tables that the 283 motor vehicles pass this location during the **morning drop off period**. Of that total, 20% travel at or below the posted 25mph speed limit and 27% travel at least 6mph over the speed limit. It can also be seen that 148 vehicles pass this location during the **afternoon pick up period**. Of that total, 10% travel below the posted speed limit while 40% travel at least 6mph over the limit.

**Table 5: Cross Road, West of Middle School - Drop-off/Pick-up ~ Vehicles vs. Speed Limit**

Cross Rd W. of Middle School Vehicles vs. Speed Limit 6:45am - 7:30 am Tues. - Thurs			Cross Rd W. of Middle School Vehicles vs. Speed Limit 1:45pm - 2:30 pm Tues. - Thurs		
Speed (mph)	# of Vehicles	% of Total	Speed (mph)	# of Vehicles	% of Total
< 20mph	9	3%	< 20mph	3	2%
21-25mph	48	17%	21-25mph	12	8%
26-30mph	149	53%	26-30mph	74	50%
> 30mph	77	27%	> 30mph	59	40%
<b>Total</b>	<b>283</b>	<b>100%</b>	<b>Total</b>	<b>148</b>	<b>100%</b>

### Windsor Drive (east of Middle School driveway)

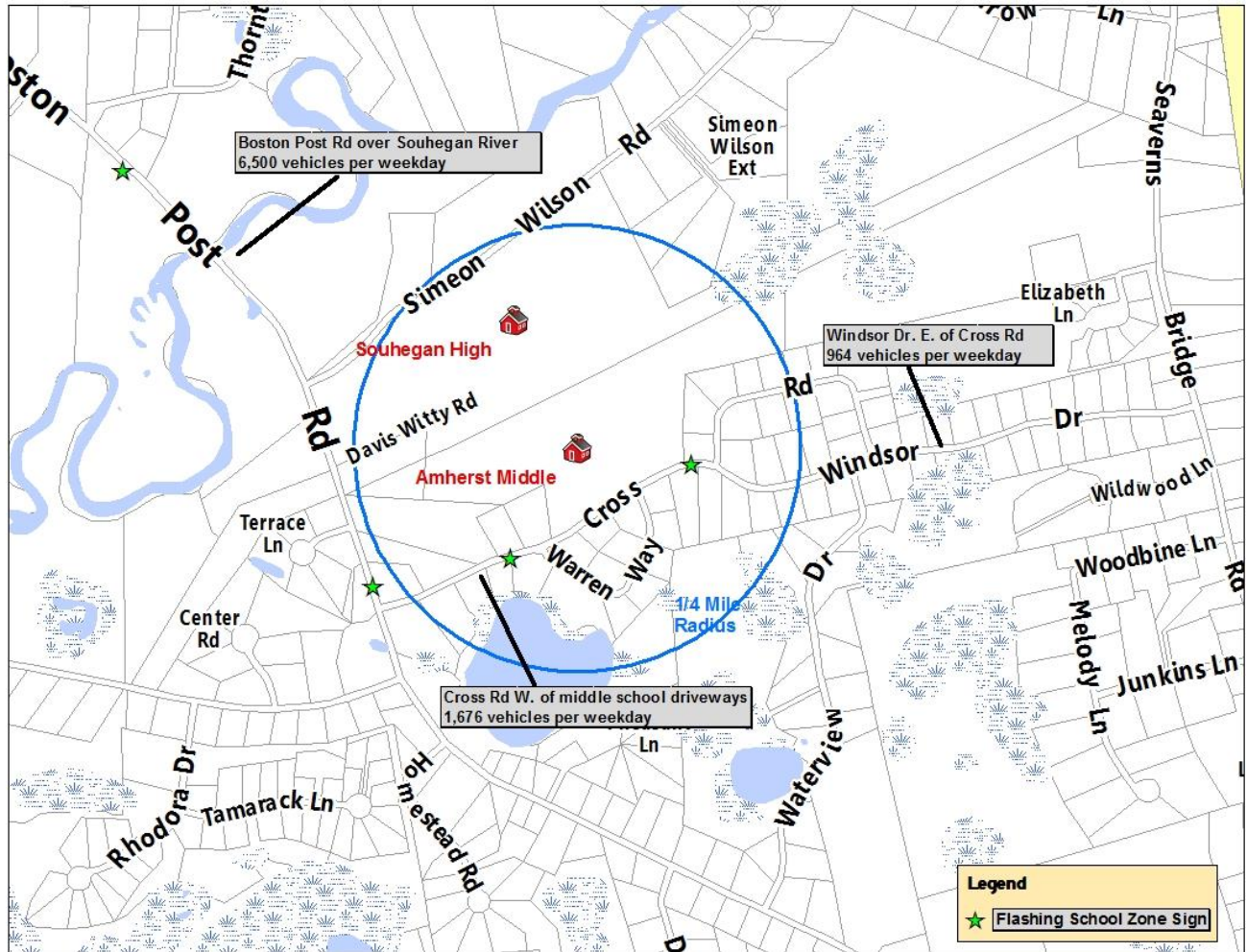
It can be seen in the following tables that the 39 motor vehicles pass this location during the **morning drop off period**. Of that total, 32% travel at or below the posted 25mph speed limit and 30% travel at least 6mph over the speed limit. It can also be seen that 44 vehicles pass this location during the **afternoon pick up period**. Of that total, 26% travel below the posted speed limit while 33% travel at least 6mph over the limit.

**Table 6: Windsor Drive, East of Middle School - Drop-off/Pick-up ~ Vehicles vs. Speed Limit**

Windsor Dr E. of Middle School Vehicles vs. Speed Limit 6:45am - 7:30 am Tues. - Thurs			Windsor Dr E. of Middle School Vehicles vs. Speed Limit 1:45pm - 2:30 pm Tues. - Thurs		
Speed (mph)	# of Vehicles	% of Total	Speed (mph)	# of Vehicles	% of Total
< 20mph	1	2%	< 20mph	2	4%
21-25mph	12	30%	21-25mph	10	22%
26-30mph	15	39%	26-30mph	18	41%
> 30mph	12	30%	> 30mph	15	33%
<b>Total</b>	<b>39</b>	<b>100%</b>	<b>Total</b>	<b>44</b>	<b>100%</b>



**Map 1-8: Traffic counts near Amherst Middle School**  
**Average 24-hour Traffic Volume (weekday)**







## 5. Motor Vehicle/Pedestrian Accident History

The Amherst Police Department reports that there have been no vehicle-pedestrian accidents during the 5-year period between January 1<sup>st</sup>, 2008 and January 1<sup>st</sup>, 2013.

## 6. Sidewalk Inventory

NRPC staff conducted a field survey of all sidewalks within the study areas. Sidewalk conditions were noted and entered into GIS mapping software to produce Map 1-10. All of the sidewalks in the vicinity of Clark-Wilkins school were surveyed. There are no sidewalks to speak of in the vicinity of the Amherst Middle School.

### Inventory Parameters

The overall condition of each sidewalk segment was determined using the following parameters:

- Sidewalk surface (Asphalt, concrete, etc.).
- Condition of sidewalk surface (surface cracking, drainage, roots).
- Width of the sidewalk (visual estimate of the segment, wheelchair friendly).
- Obstructions (utility poles, vegetation, signs).
- Ramps at intersections (smooth wheelchair transition from sidewalk to road pavement).
- Crosswalks (presence of crosswalk, condition of paint, signalized pedestrian crossings).
- Gaps in the sidewalk network.

### Field Observations

#### i. Surface Material

The type of material and the width of any space between the road and sidewalk (buffer) were noted. Sidewalks in the study area are made of asphalt. Some are curbed at road intersections and several have grass buffers of varying widths.

#### ii. Surface Condition

The overall condition of the sidewalk surface was rated good, fair or poor. Three criteria were used: cracking, roughness (bumps, depressions), and loose aggregate (sand, stone, trash).

Sidewalks in the vicinity of the C-W Schools are in generally fair to poor condition. The poor drainage conditions in this photo are fairly typical of sidewalk conditions in the neighborhood.

#### iii. Width

The American with Disabilities Act (ADA) requires that sidewalks be at least 3 feet in width. If a sidewalk is less than 5 feet wide, passing spaces must be constructed at set intervals. The passing spaces must measure at least 60 inches on all sides and be located at least every 200 feet. The sidewalks in the vicinity of the school average between 3 ½ and 4 feet in width.

#### iv. Obstructions

Obstructions can include trees growing in the sidewalk, overgrown bushes, telephone poles, and heaved pavement. Sidewalks in the study area are generally free of obstructions. However, because of poor drainage, there is frequent puddling of rain water and snow melt throughout the sidewalk network.





#### v. Ramps



Ramps must be ADA compliant which allows handicapped persons smooth access between the sidewalk and the road. There are sidewalks that do ramp down to street level including this example (left) at the intersection of Main and Middle Streets. Several other sidewalks are flush (even) with the level of pavement which means that no ramps are necessary.



#### vi. Crosswalks

Crosswalks are of the painted variety (right). They vary in width between 5 feet and 10 feet. There are no signalized pedestrian devices at any of the crosswalks. There are crossing guards stationed during student drop of and pick up at the following locations:

- Boston Post Road at Wilkins School driveway.
- Boston Post Road and Foundry Street
- Boston Post Road and Davis Witty Road

#### vii. Gaps in the Sidewalk System

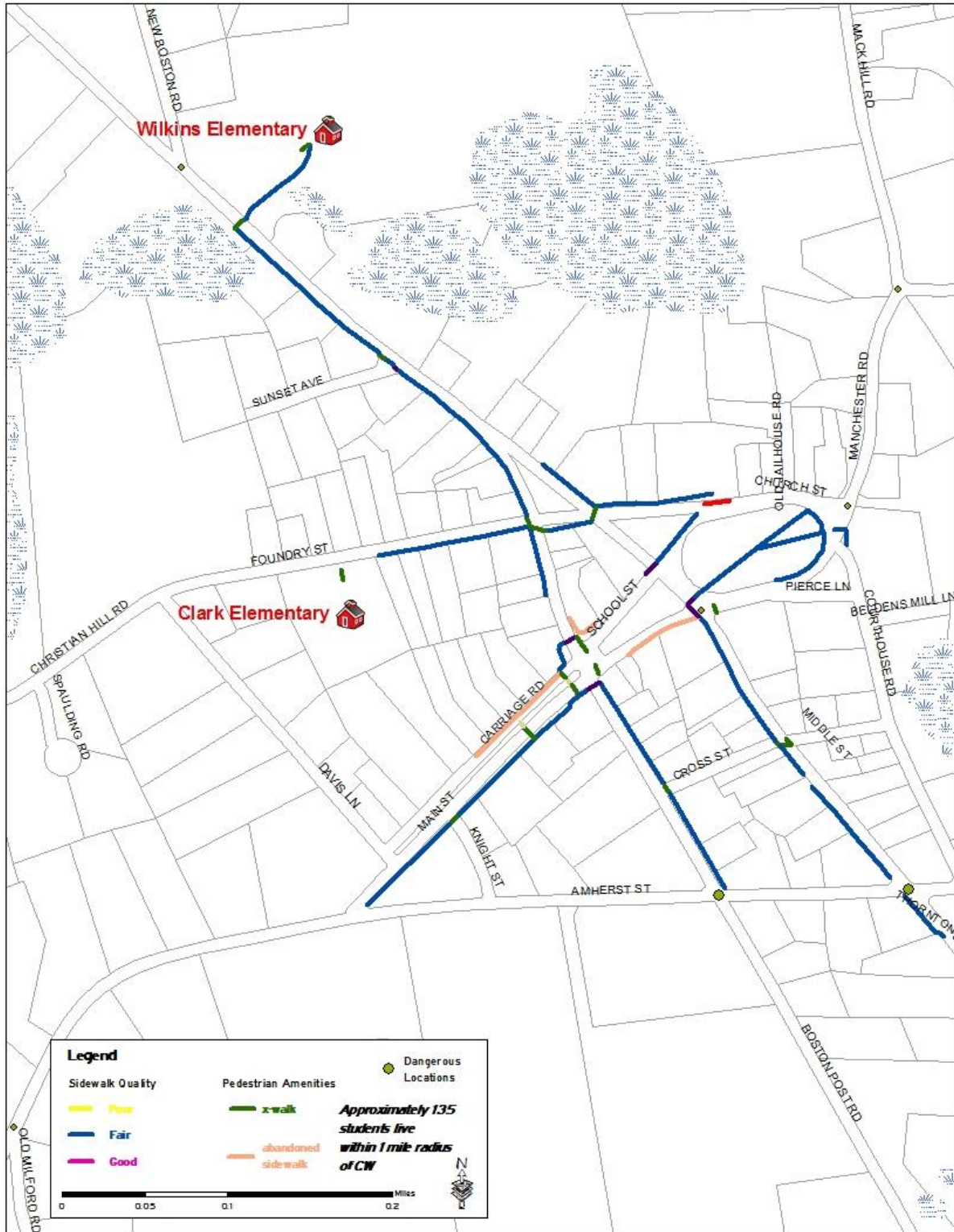
Map 1-10 indicates the location of existing sidewalks as well as areas where sidewalks do not exist or end abruptly (right). The connectivity of the sidewalk system would be improved if some of these gaps were filled in. The steering committee will work to identify and prioritize where gaps should be filled in with new sidewalks.







Map 1-9: Existing Sidewalks and Sidewalk Conditions





## H. KEY ISSUES

The key issues identified in the course of this study include:

- *Children's desire to walk or bike to school:* Currently only 5% of students say they walk or bike to school. When given the choice, 31% indicate a desire to travel to school in some non-motorized fashion (36% would prefer being driven and 33% would like to take the bus). Students also said that biking and walking are fun, cool, safe and healthy to do.

The fact that 31% of students would prefer to travel to school in a non-motorized fashion is an indication that a Safe Routes program could build on this attitude.

- *Worries about children's safety while traveling to school in an unsupervised fashion:* Approximately 50% of parents cited infrastructure (inadequate sidewalks and dangerous intersections) problems as the reason they don't let their child walk to school and an additional 21% cited speeding traffic.

If these issues were addressed, it is possible that parents would be more inclined to let their child walk or bike to school. In fact, 36% of parents said they *would* let their child walk or bike, and an additional 32% would *maybe* let them if conditions along the various routes were improved. Also, 67% are in favor of a program that encourages children to walk to school and an additional 19% would "maybe" be in favor. Parents also said that they think walking or biking to school increases alertness in school, encourages self-reliance in children, and helps develop a healthy lifestyle. Finally, 60% said their child would walk or bike in an ideal Amherst.

The fact that parents expressed flexibility with regard to their child's mode of trip to school, and that they understand the benefits of walking and biking, suggests there is support for goals of the Safe Routes program.

- *Designated Safe Routes:* There are no officially designated "Safe Routes" to school in the study area. However, during the course of this planning effort, the routes that children currently take to school have been identified. Some of these routes could be designated as safe routes and improved. The sidewalk inventory that was completed in the Clark-Wilkins neighborhood will be helpful in identifying improvements that should be made. The specific routes will be identified in the recommendations that appear later in this document.
- *Traffic conditions on Boston Post Road between Wilkins School Driveway and Foundry Street:* Traffic count data indicates that during the morning drop off period 54% of motor vehicles exceeded the speed limit, 15% by at least 6 miles per hour. During the afternoon pick up period 73% exceeded the speed limit with 27% exceeding by at least 10 miles per hour.

This correlates with parents' concerns about motor vehicle speeds along the pedestrian routes to Wilkins School.

- *Traffic conditions on Foundry Street between Clark School and Boston Post Road:* There is light traffic during the morning (46 vehicles) drop off and afternoon (84 vehicles) pickup. However, 48% of vehicles travelled at least 6 miles per hour over the speed limit in the morning and 18% during the afternoon.

This contributes to the perception that it could be dangerous for pedestrians on Foundry Street.

- *Traffic conditions on Davis Lane near Clark School:* Traffic count data indicates light traffic on Davis Lane although the percentage of vehicles that exceed the speed limit is similar to the other locations.



- *Crosswalk on Boston Post Road @ Wilkins School Entrance:* Approximately 30 students use this crosswalk on a regular basis. These students arrive at the crosswalk in the morning via the sidewalk on the west side of Boston Post Road. They walk from Foundry Street, Carriage Lane, Church Street, Sunset Avenue and the general vicinity of the Village Green.

The crossing guard is extremely attentive to the presence of students and their need to use this crosswalk.

- *Crosswalk @ intersection of Boston Post Road and Foundry Street:* This crosswalk is also managed well by the crossing guard.
- *Student Pick Up and Drop Off:* NRPC staff observed student drop off and pick up at each of the schools.
  - *Wilkins School:* The crossing guard is essentially a traffic control officer. She manages between 90 and 130 family vehicles that enter and exit the front driveway during each drop off and pick up period in addition to managing children in the crosswalk. She also directs school busses and commuters through the intersection (Boston Post Road/Wilkins School driveway). School buss drop off and pick up students at the back of the school. The guard does an excellent job managing a complex intersection that would be chaotic and dangerous without her presence. School staff also provide support during pick up and drop off periods.
  - *Clark School:* School staff are responsible for managing the drop off and pick up. Family vehicles and small busses (vans) drop off and pick up students on Davis Lane. Large busses drop off and pick up at the front of the school.

School staff do a good job of managing traffic flow and students during pick up and drop off periods. Pick up and drop off periods would be chaotic and dangerous without staff assistance.

- *Amherst Middle School:* Family vehicles drop off and pick up students at the front entrance to the school off of Cross Street. Busses drop students at the high school and they walk along a path to the middle school.

School staff does a good job of managing pick up and drop off periods.

- *Sidewalk Connectivity:* There is a fairly extensive sidewalk network in the village of Amherst. Connectivity would be improved with sidewalks on Manchester Street (between Town Hall and Mack Hill Hill Road), along Mack Hill Road and along Jones Road. Extending the sidewalk along Middle Street from Main Street to Church Street would provide a better connection to Foundry Street and Boston Post Road.

There are no sidewalks near Amherst Middle School. Many high school and middle school students walk along the east side of Boston Post Road towards Stearns Road and the Homestead convenience store. There should be sidewalks between the Recreation Department driveway and Boston Post Road, and between Cross Street and Stearns Road on the east side of Boston Post Road. This would vastly improve safety and encourage walkers in this section of the middle school neighborhood.

- *Sidewalk conditions:* The existing sidewalks are in generally fair to poor condition. The problems that exist include uneven and cracked pavement, narrow segments and segments that are frequently under water during rain events and periods of snow melt. There are also segments that have curbing with ramps at intersections and other segments that have no curbing at all. Upgrading the existing sidewalk system should be a priority if walking and biking is to be encouraged in the Clark-Wilkins neighborhood.
- *Crosswalks:* There are crosswalks at various intersections in the Clark-Wilkins neighborhood. They are delineated with white stripes and vary in width. The inconsistent way in which crosswalks are laid out most likely discourages some walkers.



- *Signage Near Clark-Wilkins Schools:* There are flashing school zone signs at three locations near Wilkins school; two on Boston Post Road north and south of school, and one to the north of school on New Boston Road. There are also two flashing signs on Foundry Street to the east and west of Clark School. The signs warn vehicles to travel 20mph when flashing (during pick up and drop off times).
- *Signage Near Amherst Middle School:* There is a flashing school zone sign on Cross Street west of the middle school, and a second sign on Windsor Drive to the east of the middle school. The signs warn vehicles to travel 20mph when flashing (during pick up and drop off times).
- *Clearing sidewalks of snow:* The policy of the Amherst DPW is to clear snow from all sidewalks in the vicinity of elementary schools in a timely fashion.

## **I. BARRIERS TO CHANGE**

Parents tend to prefer that their children get to school in a supervised fashion, either in the family car or on the bus. This is generally due to safety concerns. In order to achieve the goal of increasing biking and walking amongst children in Amherst, it will be necessary to convince parents that their children will be able to do so safely. School administration, staff and teachers at the Clark Wilkins and Amherst Middle Schools have already created an excellent culture of support for their students. This culture will be helpful as Safe Routes to School policies and programs are developed at the school in the future. Physical improvements to streets and sidewalks in school neighborhoods will require coordination with the Amherst DPW and to a lesser extent the Amherst Community Development Office. The individuals in these departments have historically shown the highest level of dedication to public safety and well-being. However, the traditional sources of funding for physical improvements to Amherst infrastructure are limited at this time. NHDOT's Safe Routes to School funding program is a potential source of funding for the improvements suggested later in this report. Local funding could be used to supplement the funding from NHDOT's Safe Routes to School program.

## **J. OPPORTUNITIES**

Students expressed a desire to travel to school by walking, biking or some other means of non-motorized travel. This is a likely indicator that students would be interested in programs and curriculum that promote biking and walking. Parents also indicated a desire for increased biking and walking if conditions were to be improved. It was also observed that the school administration, staff and teachers are highly dedicated public servants working towards the goal of providing the best education they can to the students in their care. Their comments show their understanding that kids who get plenty of exercise are happier and more willing to learn than kids who do not exercise. It is therefore likely that administration, staff and teachers will be willing to support the recommendations in this report.

## **K. THE 5 E's**

The "5E's" are an important component of the Safe Routes to School Program. Communities use many different approaches to make it safer for children to walk and bicycle to school and to increase the number of children who do so. Programs use a combination of education, encouragement, enforcement and engineering activities to help achieve their goals. Another important element is evaluation, which is incorporated into each of these areas<sup>1</sup>. The following is an explanation of the 5E's.

### **Education**

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<sup>1</sup> Description of the 5Es provided by the National Center for Safe Routes to School.  
<http://www.saferoutesinfo.org/index.cfm>



Education activities target parents, neighbors and other drivers in the community to remind them to yield to pedestrians, including the most vulnerable group, students walking to school. Education efforts also remind motorists to drive safely and to take other actions to make it safer for pedestrians and bicyclists. Parents serve as role models for their children and play an important role in teaching them pedestrian and bicycle safety. Education activities also teach students how to walk and bicycle safely and the benefits of doing so.

#### **Encouragement**

Encouragement strategies generate excitement about walking and bicycling safely to school. Children, parents, teachers, school administrators and others can all be involved in special events like International Walk to School Day and ongoing activities like walking school busses (a walking school bus is where a group of children walk to school by a predetermined route with parent volunteers). Encouragement strategies can often be started relatively easily with little cost and a focus on fun.

#### **Enforcement**

Enforcement activities by police can help to change unsafe behaviors of drivers, bicyclists and pedestrians. They can increase driver awareness of laws, and they also can improve driver behavior by reducing speeds and increasing compliance with yielding to pedestrians. In addition, enforcement activities teach pedestrians and bicyclists to walk and bicycle safely and to pay attention to their environment. Enforcement, however, doesn't just involve police officers; many different community members take part in making sure everyone follows the rules, including students, parents, school personnel and adult school crossing guards.

#### **Engineering**

Engineering addresses the built environment with tools that can be used to create safe places to walk or bicycle and can also influence the way people behave. Transportation engineers, town planners, and architects use methods to create safer settings for walking and bicycling while recognizing that a roadway needs to safely accommodate all modes of transportation. Such improvements can include maintenance and operational measures as well as construction projects with a range of costs (crosswalks, sidewalks, traffic signs, traffic signals, etc.). When such projects are properly implemented, they may not only improve safety for children, but they also may encourage more walking and bicycling by the general public.

#### **Evaluation**

Evaluation is used to determine if the aims of the strategies are being met and to assure that resources are directed towards efforts that show the greatest likelihood of success.

### **L. RECOMMENDATIONS**

The following recommendations resulted from surveys of students and parents, and input from school administration, teachers, Amherst Department of Public Works, Police Department, and the Amherst Safe Routes Steering Committee.

Preliminary recommendations were initially submitted to members of the steering committee in draft form for their consideration and comment at the March 19<sup>th</sup> steering committee meeting.





## **NON-INFRASTRUCTURE RECOMMENDATIONS**

### ➤ **Steering Committee**

The existing steering committee should continue to provide the leadership and structure that will be necessary to implement the Action Plan. The committee should continue to include representatives from the school community, including school administration, staff and parents. Amherst officials must also continue to be involved.

- The committee already exists and includes parents, teachers, bike advocates, school administration, Police and the Department of Public works.
- It is important that the steering committee continue to be made up of individuals who are committed to making the decisions that will benefit the school community and Safe Routes Program.
- The committee will oversee implementation of the Action Plan that appears at the end of this report.
- The committee will work to insure a robust and well-rounded Safe Routes program in Amherst that values education, encouragement, evaluation, enforcement and engineering efforts equally.

### ➤ **Education Efforts**

- Education activities target parents, neighbors and motor vehicle operators in the community to remind them to yield to pedestrians, including the most vulnerable group, students walking to school. The steering committee should work to determine the most appropriate education curriculum for Clark-Wilkins and Amherst Middle School community.

### ➤ **Encouragement Efforts**

- Encouragement strategies generate excitement about walking and biking safely to school. The following are examples of the many programs that should be considered:
  - National bike to school day takes place every year on the first Wednesday in October. Clark-Wilkins and Amherst Middle Schools should develop their own bike and walk to school day to coincide with the national event. Thereafter, there could be a bike and walk to school day each month.
  - A “walking bus” program should be developed. A walking bus is where a group of children walk to school by a predetermined route with parent volunteers. This will give parents the opportunity to share responsibility on a rotating basis. Since the surveys showed that parents want their kids to travel to school in a supervised fashion, this program will address those concerns.
  - Recruit parents to assist in managing the morning and afternoon congestion period one day per week. They may serve as traffic monitors, crossing guards and take traffic counts. This calls attention to the issues that occur during the time students are dropped off and picked up, parents invest in the process, and drivers and students are educated about safe drop-off and pick-up procedures.
  - Identify and promote the best and safest ways to walk or ride bikes to school. Signs, posters and “trail days” can be encouraged to draw attention to the recommended routes.
  - Develop programs that children can buy into and have fun participating in. For example, a program called “It all adds up to clean air” could be developed. Kids would document how much air pollution they are preventing by not travelling to school in a motor vehicle. If developed in lesson plan format, this could help the school meet state and federal performance standards.
  - Develop a worksheet that will track and record walking and biking activities. Children could be rewarded for reaching certain goals. For example, a prize for walking to school 3 times in one week.
  - Develop specific safety initiatives such as a “Watch for Bikes” campaign. This program offers decals that can be attached to side view mirrors that remind drivers to look behind them before opening a car door or pulling away from the curb.



➤ **Enforcement Efforts**

- Enforcement activities by police can help to change unsafe behaviors of drivers, bicyclists and pedestrians. Children, parents and motorists in Amherst will benefit from increased awareness and enforcement of bicycle and pedestrian-related rules and regulations. Increased awareness of these rules will lead to better compliance among bicyclists, pedestrians and motorists. Police and community enforcement programs should be developed. The following are examples of the many programs that should be considered:
  - Enlist the help of the Amherst Police Department to aggressively enforce traffic and parking laws (including warnings and citations) during the first two weeks of school each fall, and also develop a strategy for enforcement during the rest of the year.
  - The Police Department could develop a pilot program that will identify strategies for improving pedestrian and motorist compliance with rules of the road. This program would identify innovative ways that enforcement can be used to encourage safe travel of motorists and pedestrians. The program would also identify methods for documenting the enforcement methods that will be used and documenting the effectiveness of the programs.

**INFRASTRUCTURE RECOMMENDATIONS**

Recommendations for improving the pedestrian and bicycle infrastructure are explained in the following pages. The steering committee evaluated these recommendations and determined priority projects for both Amherst Village (near the Clark-Wilkins Schools) and the area surrounding the Amherst Middle School.

**The highest priority infrastructure project** is to develop a path from the Amherst Middle School to the east side of Boston Post Road and a sidewalk along the east side of Boston Post Road from just north of Cross Road south to Homestead Road. The proposed path and sidewalk can be seen on Map 11.

**The second highest priority infrastructure project** is to fill gaps in the sidewalk network in the vicinity of **Amherst Village**. The projects that were the highest priority to do this are listed here and described later in this section. The proposed sidewalks can be seen on Map 10.

- Extend sidewalk on west side of Middle Street from Main Street to Church Street.
- Install sidewalk on west side of Boston Post Road between Cross Street and Main Street. Include crosswalk at Cross Street so students can cross from east side of Boston Post Road to west side.
- Extend Foundry Street sidewalk all the way to Davis Lane.

**The third highest priority** is to upgrade the existing sidewalks in the vicinity of Amherst Village.

All proposed infrastructure projects are described in more detail in the following pages.

➤ **Traffic Calming Measures**

- Implement traffic calming measures in the Clark-Wilkins neighborhood through improved signage and pavement markings (all signage and pavement markings should conform to the Manual of Uniform Traffic Control Devices [MUTCD]):
  - Flashing signage in the school zones seem to be operating properly;
  - Speed feedback signs should be considered on the approaches to Wilkins School. These signs flash the speed of approaching vehicles which could help remind drivers that school zone speed is 20mph during specific times of the day.
  - Other signage in the school zone should be upgraded to current standards to enhance visibility.
  - All crosswalks should be marked with the brightest material allowable.



- The crosswalks at on Boston Post Road at Foundry and the Wilkins driveway should include a supplemental crosswalk device (a portable “people in crosswalk” sign);
- The Town of Amherst should review it’s school zone pavement marking policy to insure that it provides the best protection for pedestrians in all school zones.

➤ **Upgrade Existing Sidewalks**

- Sidewalks that are narrow, uneven, have poor drainage, and so on should be upgraded to ADA specifications.
- This is potentially the most cost-effective use of future Safe Routes to School funding.
- The steering committee should work with the town to identify additional potential improvements to the sidewalk system.
- Funding for these upgrades should be sought in a future round of Safe Routes funding.

➤ **Improve Connectivity of Sidewalk System**

- The Clark-Wilkins neighborhood has a good network of sidewalks. There are gaps, however, and there are also segments that are narrow and uneven. The following sidewalk segments will improve connectivity of the sidewalk system:

**Middle Street Sidewalk Extension:**

- The existing sidewalk along Middle Street ends at the Main Street intersection. This sidewalk should be extended from intersection with Main Street, through the intersection with School Street, all the way to Church Street.
- The section in front of the Brick School will possibly be accommodated with painted pavement markings.

**Boston Post Road Sidewalk Extension:**

- The existing sidewalk along the east side of Boston Post Road ends at the Moultons parking lot well before the Main Street intersection. The result is confusing, undefined and potentially dangerous conditions for pedestrians.
- This situation could be avoided if the sidewalk shifted to the west side of Boston Post Road beginning at Cross Street.
- Students and other pedestrians would arrive at Main Street completely separated from turning and entering traffic at the store.
- Students would also be on the side of Boston Post Road they should be for the remaining trip to Clark and Wilkins Schools.

**Foundry Street Sidewalk Extension**

- The sidewalk along the south side of Foundry Street ends at the Clark School and should be extended to Davis lane.

**Manchester Road Sidewalk**

- The sidewalk network should be extended along Manchester Road between the Town Hall and Mack Hill Road.
- A sidewalk should be included on the new bridge that will be installed at the intersection of Manchester Road and Mack Hill Road.

**Mack Hill Road Sidewalk:**

- The sidewalk network should be extended along Mack Hill Road between Manchester Road and Jones Road.

**Jones Road Sidewalk:**

- The sidewalk network should be extended along Jones Road between Mack Hill Road and New Boston Road.



**New Boston Road Sidewalk:**

- The sidewalk network should be extended along New Boston Road between Jones Road and Wilkins School.
- 

➤ **Designated Safe Routes along various road segments**

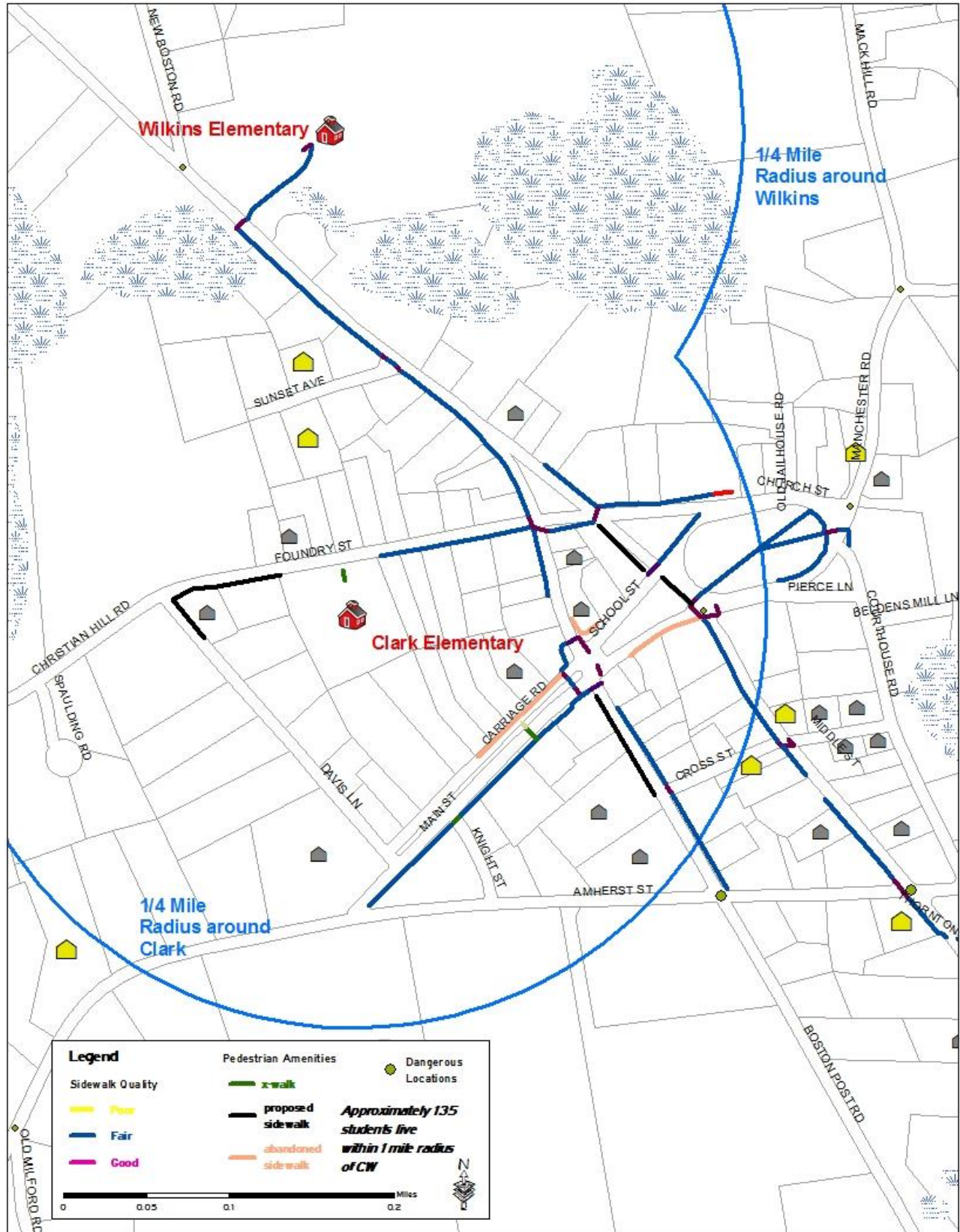
- Boston Post Road between Foundry Street and Wilkins School.
  - There are a significant number of students who live in the village area south of Wilkins school and if they are going to walk to school it has to be along Boston Post Road. Various measures could be taken to enhance the safety of this segment of roadway:
  - Upgrade sidewalks to ADA standards.
  - Improve drainage to prevent puddles from forming after rain or snow melt.
  - Provide signage that indicates this is a designated safe route.
- Mack Hill Road neighborhood to Wilkins School:
  - Students who live on the east side of the village on and near Mack Hill Road could walk along Jones Road to the playing fields and enter the school from that side.
  - A sidewalk could be installed on Jones Road to the playing fields.
  - Provide signage that indicates this is a designated safe route.
  - Provide adult monitors on the stairs and near the playing fields.
- Middle Street:
  - This would connect a significant number of students from the south side of the village to Clark and Wilkins schools.
  - Upgrade sidewalks to ADA standards.
  - Improve drainage to prevent puddles from forming after rain or snow melt.
  - Provide signage that indicates this is a designated safe route.
- Manchester Street and east side of village to Clark-Wilkins Schools:
  - Install sidewalk on new bridge @ intersection of Manchester Street/Mack Hill Road.
  - Install sidewalk on Manchester Street.
  - Upgrade sidewalks Church Street.
  - Provide signage that indicates this is a designated safe route.

➤ **Improve Pedestrian Amenities in the Vicinity of Amherst Middle School**

- A sidewalk and pathway system should be developed for Amherst Middle School students:
  - Connection from Middle School to Boston Post Road (just north of Cross Road).
  - Sidewalk along east side of Boston Post Road from just north of Cross Road to Homestead Road.



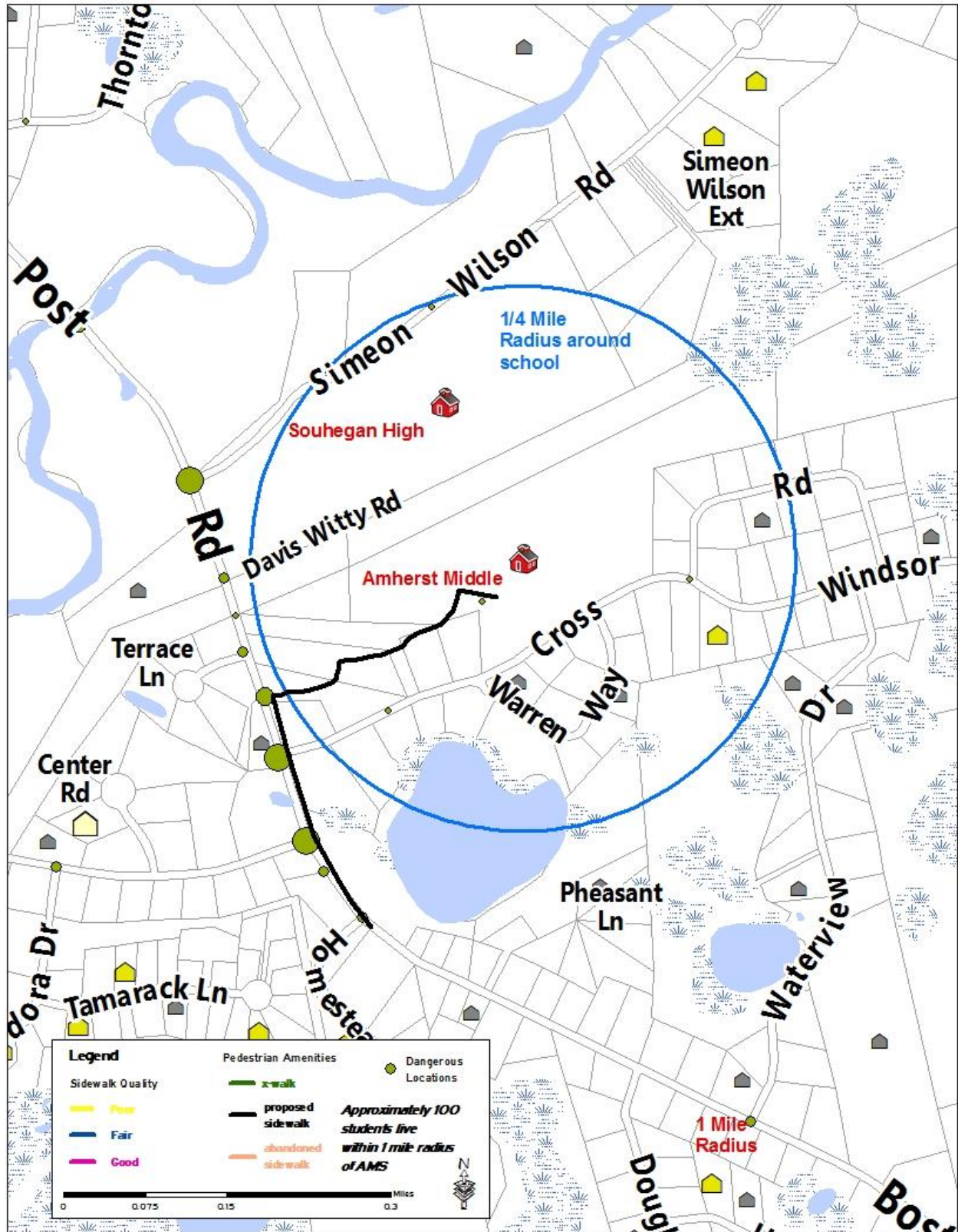
Map 1-10: Existing & Proposed Sidewalks in Amherst Village







Map 1-11: Proposed Sidewalks near Middle School





## M. ACTION PLAN

The recommendations that have been identified in this study will combine to create a system of policies, programs and physical infrastructure improvements that will encourage increased bicycling and walking among the students at Clark Wilkins Elementary and Amherst Middle Schools. An Action Plan is needed to guide the implementation of the goals of this study. The action plan is an implementation strategy which assumes that the proposed recommendations can be achieved in three phases; **short-term** (less than 6 months), **mid-term** (6 months -2 years), **long-term** (greater than 2 years).

The Action Plan lists the recommendations as they appear in the text of this plan, and assigns each recommendation to a particular phase in the implementation strategy. The recommendations build on each other to bring about the changes that are necessary to increase the level of bicycling and walking to the school. The Action Plan appears at the end of this report.

**Recommendation:** Use the Action Plan to coordinate implementation of the recommendations in this study.



SAFE ROUTES TO SCHOOL ACTION PLAN				
RECOMMENDATION	RANKING		Implementation Partners	Target Date
	Impact	FEASIBILITY		
1 Non-Infrastructure				
Steering Committee continue to meet & guide program	High	High	Steering Comm/various partners	ongoing
Education efforts – identify/implement	High	High	Steering Comm/various partners	ongoing
Encouragement –identify/implement	High	High	Steering Comm/various partners	ongoing
Enforcement – Identify/implement	High	High	Steering Comm/various partners	ongoing
2 Infrastructure (improvements to sidewalks, signage, etc.)				
Extend Middle St. sidewalk from Main St. to Church St.	High	High	Steering Comm./Town	Mid-term
Install sidewalk on west side of BPR b/t Cross Rd & Main St.	High	High	Steering Comm./Town	Mid-term
Extend Foundry St. sidewalk to Davis Lane	High	High	Steering Comm./Town	Mid-term
Path/sidewalk from Middle School to BPR to Homestead Rd.	High	High	Steering Comm./Town/ School District	Mid-term
Identify various safe in Amherst Village routes with proper signage	High	High	Steering Comm./Town	Mid-term
Upgrade existing sidewalks in Amherst Village	High	High	Steering Comm./Town	Long-term
Identify & implement traffic calming measures	Med	Med	Steering Comm./Town	Mid-term
Manchester Rd. sidewalk	Med	Low	Steering Comm./Town	Long-term
Mack Hill Rd. sidewalk	Med	Low	Steering Comm./Town	Long-term
Jones Rd. sidewalk	Med	Low	Steering Comm./Town	Long-term
New Boston Rd. sidewalk	Med	Low	Steering Comm./Town	Long-term

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## **APPENDIX A**

### **PARENT AND STUDENT SURVEY RESULTS**

A full reporting of parent and student survey results is available upon request by contacting Matt Waitkins at 603-424-2240, ext. 18 or via email at [mattw@nashuarpc.org](mailto:mattw@nashuarpc.org).