MARLBOROUGH SCHOOL

SAFE ROUTES TO SCHOOL ACTION PLAN

SafeRoutes

September 2015 • Marlborough, NH

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Acknowledgements

In 2015, Marlborough School (MS) worked with the Southwest Region Planning Commission (SWRPC) to develop a Safe Routes to School Action Plan. The MS Safety committee and MS Wellness Committee provided SWRPC staff with locally relevant guidance and input throughout the process. MS and SWRPC are grateful for the contributions provided by members of these committees, who are listed at the right.

Funding for this document was made possible, in part, by the Centers for Disease Control and Prevention through the Partners to Improve Community Health initiative. The views expressed in this document do not necessarily reflect the official policies of the Department of Health and Human Services, nor does the mention of trade names, commercial practices, or organizations imply endorsement by the United States Government.

Marlborough School District

SWRPC

Healthy MONADNOCK

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- Rich Comerford, *Teacher*
- Chris Lyons, *Police Chief*
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- Karen Nickerson, *Nurse*
- Lisa Pollack, *Cafeteria Coordinator*
- Kristen Snowman Shelley, *Teacher*
- Nicole Smalley, *Parent*

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INTRODUCTION

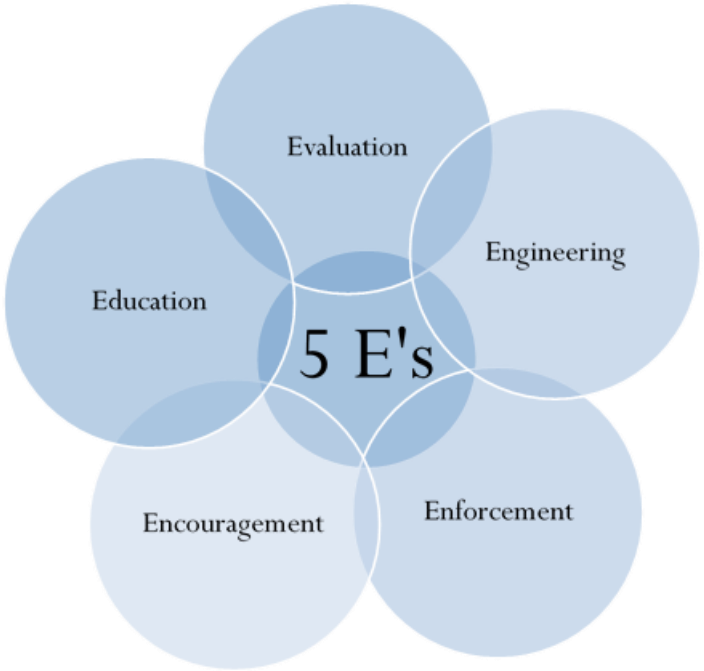
The Marlborough School Safe Routes to School Action Plan was created to identify measures that will improve conditions for walking and biking to school. It includes an evaluation of existing travel conditions, strategies to improve education, encouragement, and enforcement activities, and recommendations for physical improvements, educational programs and community efforts that will encourage walking and biking within a one-mile radius of the school.

Project Overview

Safe Routes to Schools (SRTS) is a national program focused on improving the health and wellbeing of children by creating safe opportunities to walk and bike to school. SRTS programs examine the conditions around schools and conduct activities to improve safety and accessibility, traffic, and air pollution in the vicinity of schools. Communities conducting these programs are encouraged to employ a combination of evaluation, education, encouragement, enforcement and engineering strategies to address the specific needs of their school(s).

This comprehensive approach, called the five (5) E's, is centered on an understanding that the barriers to safe walking and bicycling are both behavioral and physical. Although the focus of this Action Plan is evaluation, each of the 5 E's (described below) is addressed.

Figure 1. The Safe Routes to School 5 E's



- Evaluation involves monitoring and documenting outcomes, attitudes and trends through the collection of data before and after program activities or projects. These activities help track which strategies are the most or least successful and which should be modified for better results.
- Education programs include teaching pedestrian/bicyclist/traffic safety and creating awareness of the benefits and goals of SRTS. Education programs can also incorporate health and environmental considerations associated with walking and bicycling.
- Encouragement activities generate excitement and interest in walking and bicycling. Special events, mileage clubs, contests and ongoing activities all provide ways for parents, caregivers and children to discover or re-discover that walking and bicycling are do-able and fun.

- Enforcement programs are focused on deterring unsafe behaviors of drivers, pedestrians and bicyclists, and encouraging all road users to obey traffic laws and share the road safely.

- Engineering is a broad concept used to describe the design, implementation, and maintenance of traffic control devices or physical measures. These strategies create safer environments for walking and bicycling through improvements to the infrastructure surrounding the schools.

Benefits of Safe Routes to School (SRTS)

SRTS programs create a safer travel environment near schools and serve to reduce motor vehicle congestion at school drop-off and pick-up areas. Students that choose to walk or bike to school are rewarded with the benefits of a more active lifestyle, as well as the responsibility and independence that comes from being in charge of the way they travel. SRTS programs offer additional benefits to neighborhoods by helping to reduce school-related traffic and provide infrastructure improvements that facilitate walking and bicycling for everyone. Identifying and improving routes for students to safely walk and bicycle to school can also help reduce traffic speeds in neighborhoods, reduce traffic congestion on weekday mornings and afternoons at schools, and decrease auto-related pollution around school environments.

Planning Process

In the spring of 2015, staff from Southwest Region Planning Commission (SWRPC) met with the Marlborough School (MS) Safety Committee and Wellness Committee to review potential barriers to students walking and biking to school, discuss possible solutions to these barriers, and discuss the development of a Safe Routes to School Action Plan. In the fall of 2015, representatives from the New Hampshire Department of Transportation (MH DOT) were invited to a meeting to discuss potential safety improvements to the school crossing on state route 101.

To better understand the walking, bicycling and travel conditions of the study area, SWRPC staff:

- Conducted field studies to review the behaviors and travel patterns of students, buses, and motorists at MS during student arrival and departure times;
- Distributed and analyzed parent and student surveys related to walking and biking behaviors;
- Conducted traffic volume and speed counts at the designated school crossing on Route 101; and
- Analyzed vehicular turning movements near MS.

STUDY AREA

Marlborough School (MS) is located in a residential neighborhood on Fitch Court, near downtown Marlborough, NH. The school includes grades Kindergarten through eighth, and enrolled 181 students in the 2014-2015 academic school year. Approximately 57.5% of the student population, or 104 students, lived within a one-mile radius of the school in 2015. Of these, 56 students lived within 0.5 miles and 13 students lived within 0.25 miles of the school (about 31% and 7% of the total student population, respectively). Map 1 on the next page displays the extent of the MS study area and the relationship of the school with the surrounding neighborhoods and downtown area where many of these students live.

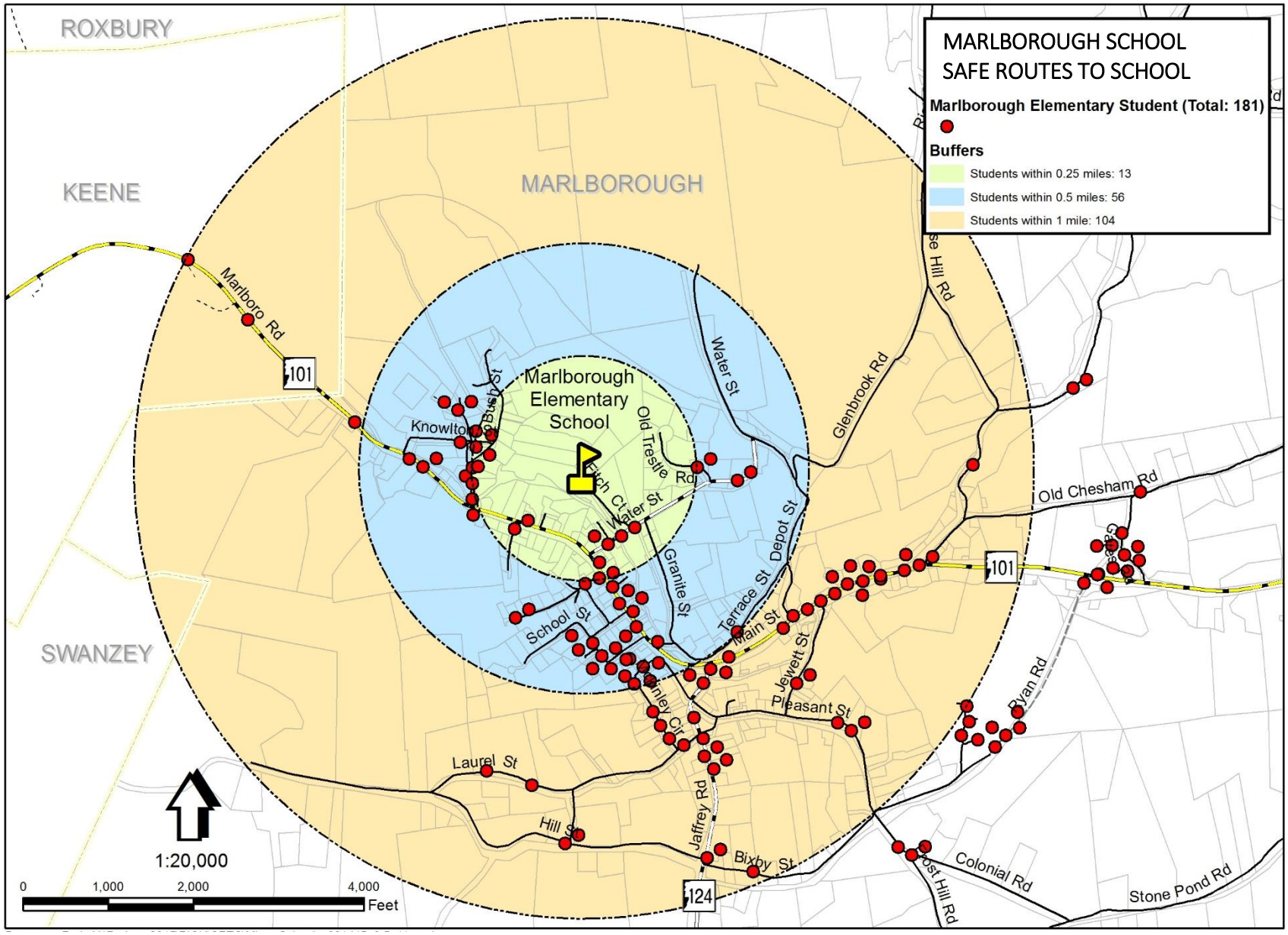
Primary access to MS is from the intersection of Main Street (Route 101) and Water Street. Route 101 is a heavily traveled major arterial state road. In 2012, the Annual Average Daily Traffic along this section of Route 101 was 12,000 vehicles. Although there are sidewalks, a painted crosswalk, a crossing guard, and a rectangular rapid flashing beacon at the intersection of Main Street and Water Street, heavy traffic volumes, vehicles exceeding the speed limit, and poor sight distance for eastbound traffic present safety concerns for children walking and biking to school. This intersection has been identified by the Marlborough Safety Committee and the Town of Marlborough as a major barrier to children walking and biking to school, and crossing Route 101 in general poses safety concerns for all members of the community. Figure 2, on the right, shows the location of this intersection in relation to Marlborough School.

Figure 2. Aerial image of the school in relation to the intersection of Main St. and Water St., the designated school crossing.

★ = Marlborough School

○ = Intersection of Main Street and

Map 1. Marlborough School Study Area.



EVALUATION OF EXISTING TRAVEL CONDITIONS

To better understand existing travel conditions within the study area (see Map 1), SWRPC staff conducted field studies to review the behaviors and travel patterns of students, buses, and motorists at MS during drop-off and pick-up hours, collected and analyzed traffic speed and volume data, analyzed vehicular turning movements at the school crossing on Route 101, and distributed and analyzed data from a take-home parent survey and an in-class student tally related to student travel modes. A review of these observations and analysis is summarized in the sections below.

School Arrivals & Departures

School begins at 8:15 a.m. and ends at 2:45 p.m. There is one crossing guard present between 7:40-8:05 a.m. and 2:30-3:00 p.m. to assist the students crossing Main Street (NH Route 101) and also to stop traffic to allow the school buses to turn from Water Street onto to Main Street. In the morning, students who are dropped off are escorted by a staff member from the school to the playground until school starts. In the afternoon, students are either picked up in front of the school immediately after dismissal, or they wait in the playground until their parent arrives. There is a 20 mph school speed limit sign on Water Street and Fitch Court, and there are 30 mph speed limit signs on Route 101 near the Water Street intersection.

Buses that transport students to MS enter the school from Fitch Court and drop students off at the west entrance in front of the school and then exit via Fitch Court to Water Street. There are two buses which generally arrive in the morning between 8:00-8:05 a.m. In the afternoon, a bus may leave early to transport an athletic team to an event. The buses depart school at 2:55 p.m. The full write-up of observations from the field review can be found in Appendix A of this document.

Students walk from the playground to School after the first bell rings at 8:10 am.

Parent and In-Classroom Surveys

SWRPC staff worked with MS faculty and administration to conduct the National Safe Routes to School Parent and In-Classroom Surveys during the second half of the 2014-2015 school year. These surveys helped generate an understanding of the number of students currently biking and walking to school and identified some of the barriers that prevent parents from allowing their children to walk or bike to school. Copies of both surveys are included in Appendix B and Appendix C of this document.

Parent Survey

A total of 39 households representing 63 students completed the Parent Survey. Of this sample, 52% of parents indicated they are not comfortable with their child walking or biking to school at any age. The remaining 48% of parents surveyed were comfortable with their child walking at various different ages ranging from second grade to eighth grade, as shown in Figure 4.

Parents cited numerous factors that influence their decision to either allow or not allow their child to walk/bike to and from school. The predominant factor influencing parents is the speed of traffic along the route to school (noted by 49% of survey respondents), followed closely by the amount of traffic along the route to school (noted by 46% of survey respondents). Other major factors noted on the survey included weather or climate, distance, and safety of intersections and crossings. Table 1 displays parent responses to this survey question in greater detail.

Among the parents surveyed, 46% live less than a mile from school. Twenty six percent live between 1 and 2 miles away, and 26% live greater than 2 miles away.

A few of the general comments shared by parents on this survey are included on the next page. Many of these parent comments emphasize that traffic conditions and other factors such as distance are the primary reasons they do not feel comfortable allowing their child to walk and bike to school.

Figure 3. Grade at which parents are comfortable with their child walking or biking to/from school.

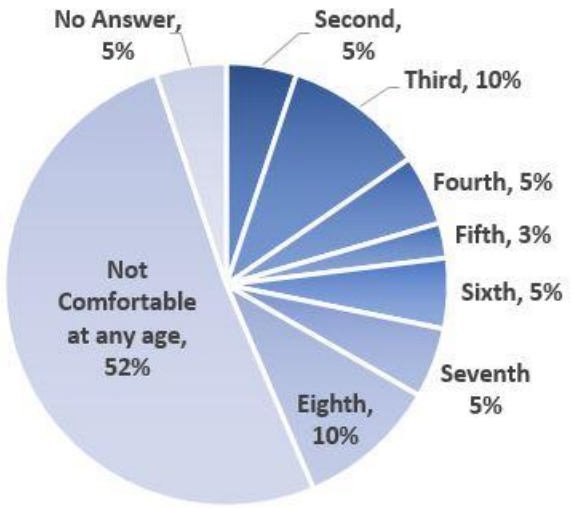


Table 1. Factors influencing decision to allow student to walk/bike to school.

Influencing Factor	% Respondents
Speed of traffic along route	49%
Amount of traffic along route	46%
Weather or climate	41%
Distance	31%
Safety of intersections and crossings	28%
Sidewalks or pathways	26%
Violence or crime	21%
Time	18%
Adults to walk or bike with	13%
Before or after school activities	10%
Crossing guards	3%
Convenience of driving	0%

The Parent Survey was also used as a tool to better understand how many students living within a 2 mile radius of MS currently walk or bike. Table 2 displays the number of students that arrive or depart school via bicycle, walking, school bus, carpool, or parent vehicle as indicated on the Parent Survey. This table also shows the distance of students' homes from the school.

According to the parent survey, the predominant mode of student travel to and from school is via parent vehicle. Approximately 59% of survey respondents noted that their child arrives to school in a parent vehicle. Of these students, 70% live less than one mile from the school. A slightly greater percentage of students (62%) depart school in a parent vehicle. The second most common arrival and departure mode is school bus (33% and 26% of survey responses, respectively).

Table 2. Student mode of travel to and from school and distance of students' homes from school based on parent survey responses.

ARRIVAL MODE	# Students	DEPARTURE MODE	# Students
Walk	**3**	**Walk**	**5**
Between 0.5 - 1.0 mi	1	Less than 0.25 mi	2
Between 1.0 - 2.0 mi	2	Between 0.5 - 1.0 mi	1
		Between 1.0 - 2.0 mi	2
School Bus	**13**	**School Bus**	**10**
Between 0.5 - 1.0 mi	1	Less than 0.25 mi	1
Between 1.0 - 2.0 mi	6	Between 1.0 - 2.0 mi	3
Greater than 2.0 mi	6	Greater than 2.0 mi	5
		Don't Know	1
Parent Vehicle	**23**	**Parent Vehicle**	**24**
Less than 0.25 mi	6	Less than 0.25 mi	3
Between 0.25 - 0.5 mi	3	Between 0.25 - 0.5 mi	3
Between 0.5 - 1.0 mi	7	Between 0.5 - 1.0 mi	8
Between 1.0 - 2.0 mi	2	Between 1.0 - 2.0 mi	5
Greater than 2.0 mi	4	Greater than 2.0 mi	5
Don't Know	1		
Carpool	**0**	**Carpool**	**0**
Bicycle	**0**	**Bicycle**	**0**

Selected Comments from Parent Survey:

Traffic/Distance Considerations:

"We live on a very busy route (124) - some drivers are irresponsible with speed."

"Would love for my child to walk to school. Unfortunately, our home is too far and on a busy road."

"In order to walk or bike to school, my children would need to do so on Route 101. Due to traffic and violence/crime in our society, I do not feel comfortable and allow my children other opportunities to be active and play outside."

Time Considerations:

"Pick up with a car is unnecessarily long"

"Bus ride in the morning is 45 minutes."

Other Comments:

"If sidewalks extend to Lee and Mt Fuji or Piedra Fina area we could walk!"

"My girls enjoy the walk as it wakes them up before class begins."

"My daughter is just too young to walk by herself. Maybe she can walk with adults from Water St. to School."

In-Classroom Survey

The In-Classroom survey was administered by all classrooms at MS in early April 2015. Teachers surveyed students each morning and afternoon for three consecutive days (Tuesday – Thursday) on their mode of arrival and departure. On average, 167 students shared their arrival modes over the course of three days and 161 shared their departure modes.

The results of the survey show that, on average, 13 students arrive to school via walking and depart school on foot, which is roughly 8% of total respondents. An average of 2 students (1% of survey respondents) arrive to and depart from school via bicycle. More students rode the bus in the morning than in the afternoon; in the morning, 52 students (31% of total respondents) arrived by bus, whereas in the afternoon only 36 students (22% of total respondents) departed by bus. The opposite trend was recorded for students traveling to and from school in a family vehicle; 86 students arrived in a family vehicle whereas 100 departed in a family vehicle (52% and 62% of total respondents, respectively). An average of six students arrived and departed in a carpool over the three days of the survey (about 3.5% of total respondents). The full results of the survey are listed in Table 3.

Table 3. Mode of travel to and from school based on in-classroom survey.

Mode of travel	Morning/Arrival		Afternoon/Departure	
	Average # of Students	% of Total Respondents	Average # of Students	% of Total Respondents
Walking	13	7.8%	13	8.1%
Biking	2	1.2%	2	1.2%
Bus	52	31.2%	36	22.3%
Family Vehicle	86	51.6%	100	62.0%
Carpool	6	3.6%	6	3.7%

Traffic Volume and Speeds

To better understand vehicular travel conditions near MS, SWRPC staff conducted traffic volume and speed counts on Route 101 and Fitch Court. In May of 2015, three traffic counters were placed on these roads for one full week; one counter was placed just east of Wilcox Court on Route 101 to capture data for eastbound traffic, one counter was placed just east of Tarbox Court on Route 101 to capture data for westbound traffic, and one counter was placed on Fitch Court just before the entrance to the school. SWRPC calculated the average number of vehicles that traveled on each road segment for Monday through Friday of the week that roads were monitored.

Figure 4 identifies the location of traffic counters on Route 101 and Fitch Court. Table 4, which corresponds with Figure 4, displays the average daily traffic volume experienced along each road segment. Note that for Site 1 (Fitch Court), traffic is bi-directional so these numbers represent both traffic entering and leaving the school. Table 4 also identifies the average traffic volume during peak morning (7:00 a.m. - 9:00 a.m.) and afternoon (2:00 p.m. - 4:00 p.m.) travel times, in vehicles per hour.

Figure 4. Locations of traffic counters on Fitch Court and NH Route 101.

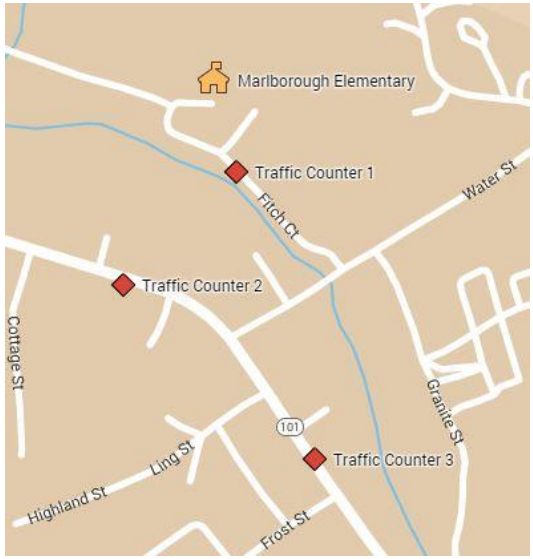


Table 4. Average traffic volume at the traffic counter sites.

Traffic Counter ID	Daily Average	AM* (7-9 AM)	PM* (2-4 PM)
Site 1	679	103	73
Site 2	6,352	301	515
Site 3	6,203	528	435

** Morning and afternoon peak hour averages are given in vehicles per hour.*

The picture to the left shows the set-up of traffic counting equipment at Site 2. Traffic cones were not present while data was recorded.

Speed data show that almost half of all motorists observed exceeded the posted speed limit by at least 5 miles per hour (mph). In general, traffic coming from the west (eastbound traffic) is going faster than westbound traffic, and traffic in the morning moves faster than traffic in the afternoon. The maximum speed recorded for eastbound traffic was 63.6 mph, and the maximum for westbound traffic was 57.5 mph. The 85th percentile speed for eastbound traffic was 38.8 mph, which means that 15%, or about 2,070 vehicles were going above this speed limit. The 85th percentile for westbound traffic was 35.3 mph. Table 5 displays speed statistics for traffic counters at sites 2 and 3. Figure 5 shows the percentage of vehicles that exceeded 35 mph (the posted speed limit), 40 mph, and 45 mph on NH Route 101 during morning and afternoon hours for the week that traffic was monitored. Figure 6 shows the observed 85th percentile speed at the traffic counter sites on NH Route 101.

Table 5. Speed statistics for traffic counters at sites 2 and 3 on NH Route 101.

Traffic Counter ID	Total # of Vehicles	Minimum (mph)	Maximum (mph)	Median (mph)	85th Percentile (mph	95th Percentile (mph)
Site 2	13,801	6.7	63.6	34.7	38.8	41.5
Site 3	17,471	6.9	57.5	31.5	35.3	37.6

Figure 5. Percent vehicles exceeding 30, 35, and 40 mph at traffic counter sites on NH 101 during morning (7 – 8 AM) and afternoon (2 – 3 PM) hours.

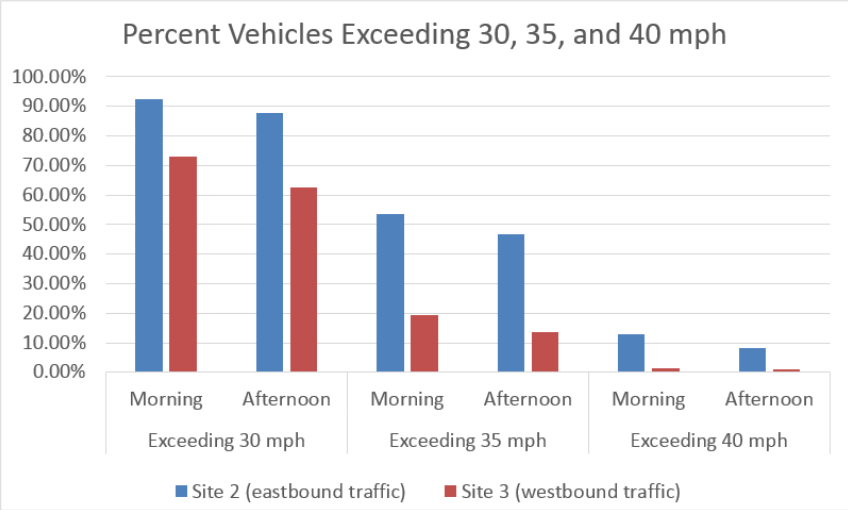
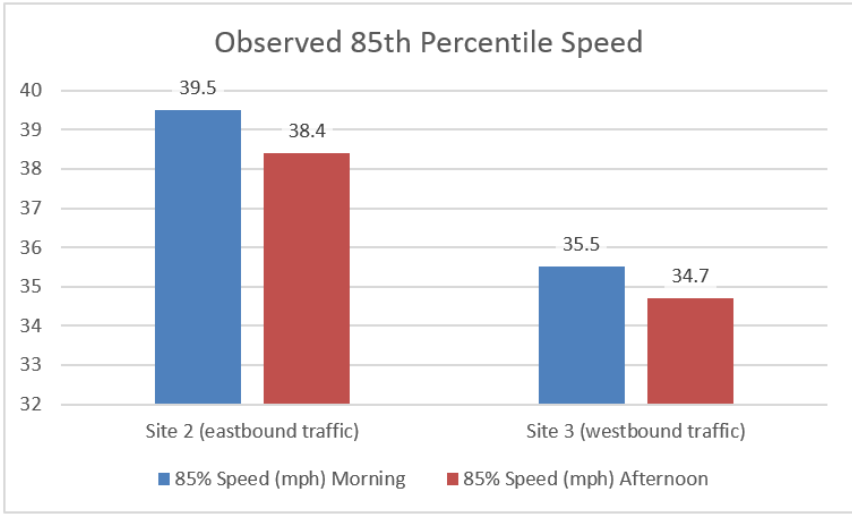


Figure 6. Observed 85th percentile speed at traffic counter sites on NH 101 during morning (7 – 8 AM) and afternoon (2 – 3 PM) hours.



Turn Count Analysis

To gain a better understanding of traffic patterns and motorist behavior near MS, SWRPC staff conducted turning movement counts at the intersection of Main Street (Route 101) and Water Street. On June 2nd and 3rd of 2015, SWRPC staff observed and documented the pattern of vehicular movement through this intersection during peak morning (7:00 a.m. - 9:00 a.m.) and afternoon (2:00 p.m. - 4:00 p.m.) hours. Figures 7 and 8 illustrate the results of the turning movement analysis. Each figure highlights the primary travel patterns of motorists at this intersection during morning and afternoon peak travel hours. The number next to each yellow solid arrow indicates the total number of vehicles moving in the direction of the arrow through the intersection during the observation time period. The numbers next to the light blue arrows show the number of vehicles that passed on the right to go around another vehicle waiting to turn left.

Much of the traffic in the morning and afternoon is through-traffic on NH Route 101. The peak morning hours show higher numbers of vehicles turning onto and off of Water Street; a total of 77 vehicles were observed turning left from NH 101 onto Water Street, and 83 vehicles were observed turning right onto Water Street. In contrast, during the peak afternoon hours, only 46 vehicles were observed turning left and 42 were observed turning right. The full traffic study can be found in Appendix D of this document.

Figure 7. Morning (7:00 a.m.-9:00 a.m.) turning movement counts at the intersection of NH Route 101 and Water Street.

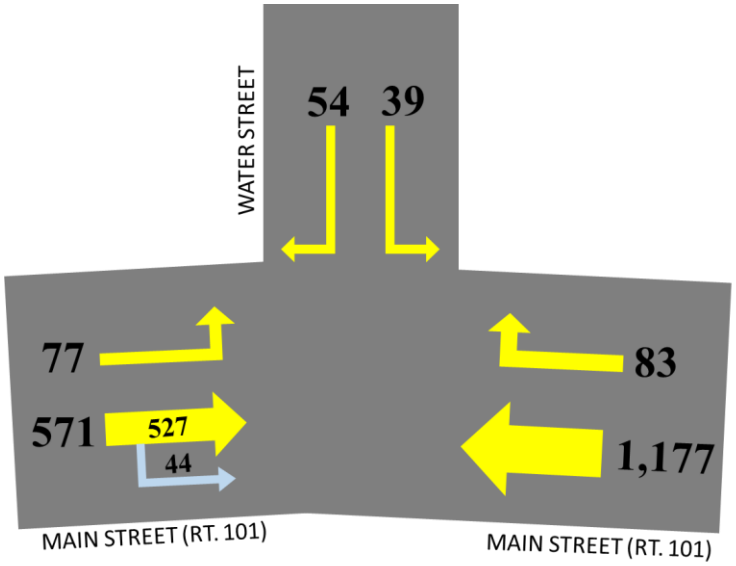
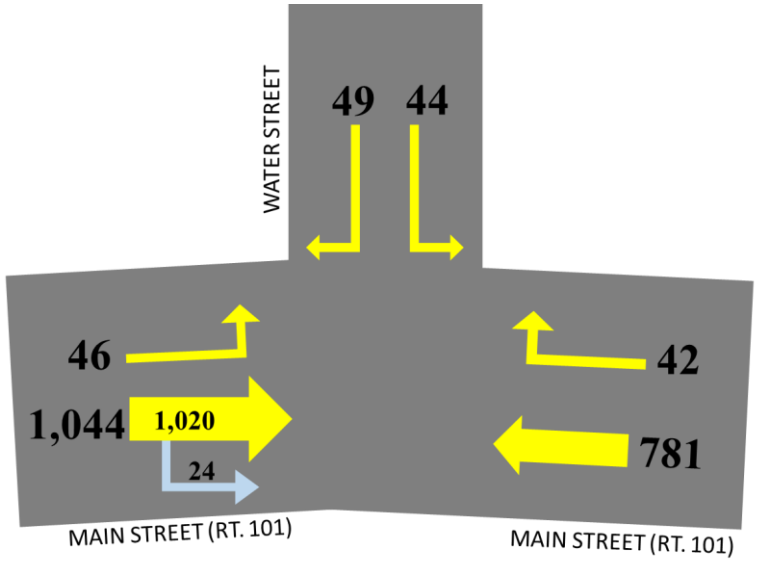


Figure 8. Afternoon (2:00 p.m.-4:00 p.m.) turning movement counts at the intersection of NH Route 101 and Water Street.



Reported Accidents

Between 2004 and 2013, there were 152 accidents reported within a 1-mile radius of Marlborough School. Of these, 70 occurred on NH Route 101. There was one fatal accident, 4 accidents that resulted in serious injury, and 24 accidents that resulted in possible injury. There was one reported accident involving a pedestrian and one involving a bicyclist, both of which occurred at the intersection of NH Route 101 and Frost Street. During morning crossing guard times (7:40 – 8:05 a.m.), there were 4 reported accidents and during afternoon crossing guard times (2:30 – 3:00 p.m.) there were 9 reported accidents. Table 6 displays the total number of reported accidents that occurred by year, and Table 7 displays the number of reported accidents that occurred by weekday.

Year	# Reported Accidents
2004	15
2005	15
2006	21
2007	14
2008	20
2009	17
2010	15
2011	13
2012	11
2013	11
Total	152

Table 6. (Left) Reported accidents by Year.

Table 7. (Below) Reported accidents by day.

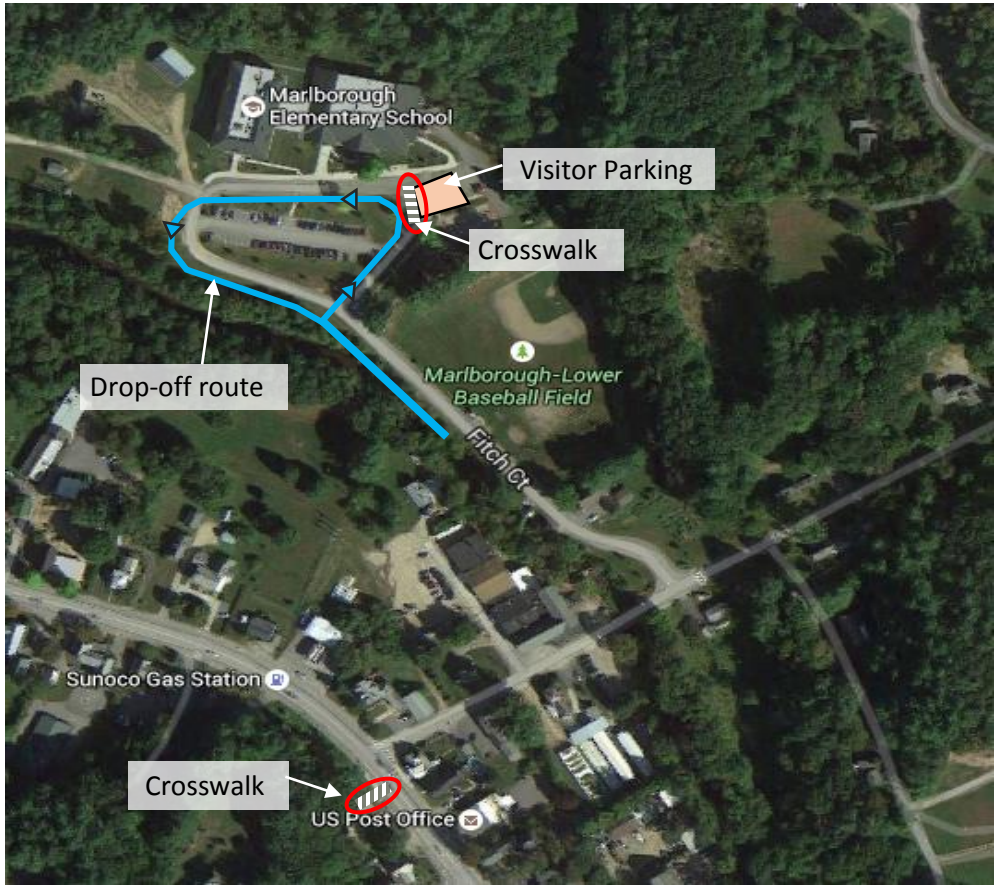
Day of the Week	# Reported Accidents
Monday	22
Tuesday	21
Wednesday	24
Thursday	24
Friday	25
Saturday	25
Sunday	11
Total	152

Areas of Safety Concern in the Study Area

Figure 9 displays areas of safety concern that were noted by SWRPC staff during field observations (circled in red). The full summary of the field review is included in Appendix C. Due to a high volume of traffic, traffic speeds, and limited sight visibility, the Route 101 and Water Street intersection was identified as the main area of safety concern for children walking and biking to school. Cars and trucks coming from Keene were observed passing cars waiting to turn left onto Water Street. These drivers had limited visibility of the crosswalk, and according to the crossing guard, they often are unable to stop in time for students waiting to cross the road.

Another area of safety concern noted on the map is the crosswalk from the school to the playground. This crosswalk was noted as a safety concern due to both the high number of children crossing at this location and driver behavior. Several drivers drove too fast going around the curve, and a few drivers tried to avoid the pick-up/drop-off line by going into the visitor parking lot to pick up or drop off their child.

Figure 9. Areas of concern in the study area (circled in red).



RECOMMENDATIONS

Education Recommendations

Education is an essential component of improving safe walking and biking conditions. The MS Safety Team should consider using this Action Plan as an opportunity to educate the school community about the benefits of walking and biking to school and on safe travel behavior for students and parents. Recommendations for enhancing education and awareness of the importance of and need for safe walking and bicycling routes to school are described below.

- Share this Action Plan with Faculty, Staff, Parents, and Students of Marlborough School.
- Share information on student bicycle and pedestrian safety with the MS school community via the school's website, newsletter, and/or other information outlets.
- Offer lessons on pedestrian and bicyclist safety as part of the school curriculum. For resources on safety education, see the National Safe Routes to School Curricula page: http://www.walkbiketoschool.org/keep-going/ongoing-activities/classroom-curricula
- Work with the local police department and/or fire department to hold an annual event for students on bicycle safety and the rules for bicyclists in New Hampshire (i.e. bike rodeo).
- Develop and distribute an easy-to-read map for students and families to use to identify routes in a one-mile radius of the school that are safe for walking and bicycling.

A bike rodeo organized by the Bicycle Coalition of Maine in 2012.

Encouragement Recommendations

Encouragement activities help to generate excitement and interest in walking and bicycling. Special events, mileage clubs, contests and ongoing activities all provide ways for parents and children to discover, or re-discover, the benefits of walking and bicycling to school. Several recommended encouragement activities are listed below.

- **Organize a Walk to School Day and/or Bike to School Day event to promote walking and bicycling to school.** National Walk to School Day occurs the first week of October, and National Bike to School day occurs the first week of May. Tips for organizing a Walk to School Day (or Bike to School Day) event include:

  - Designate an event organizer. This could be a parent, PE teacher, school principal, or local non-profit organization.
  - Try to include all students, including those who live too far to walk, by designating a remote drop-off location.
  - Recruit partners and volunteers, such as the police department, parent volunteers, teachers, and school administrators.
  - Promote the event ahead of time with flyers, newsletters, PA announcements, and letters to parents.
  - Contact local media and invite community leaders/local celebrities, such as a select board member, state legislator or a team mascot, to your event.
  - Take pictures of the event, and celebrate!
  - For more information, guidance, and resources on how to plan a Walk to School Day event, see the Walk to School Day Guide, available at www.walkbiketoschool.org.

Salt Brook Elementary students and parents organized a walking school bus for Walk to School Day in in 2013.

- **Organize a walking school bus with parents and community members.** A walking school bus is a group of children walking to school with one or more adults, and it can be informal (usually organized by parents) or a formal school program. Walking school buses could begin on a local street where several kids live or at a central location such as the Marlborough Fire Department. Tips for organizing a walking school bus include:

  - Designate a staff member or teacher to coordinate with volunteers and families.
  - Recruit parent volunteers to help supervise children as they walk to school.
  - Have a clearly defined meeting location and schedule.
  - Keep lines of communication open with parents in case the walking school bus is canceled for any reason.

- **Create a School-wide "mileage club" or run a school-wide "mileage contest."** Children can track their trips individually, or classes can track their miles as a class and compete against other classes. Students or classes are rewarded with recognition, awards, and/or trophies. Tips for organizing a mileage club/contest include:
    - Bring in a local expert, such as Beth Corwin from Symond's Elementary School in Keene, to share lessons learned/experiences creating a successful "Walk, Roll, & Ride" program.
    - Identify a program coordinator.
    - Decide where children can accrue mileage (on the way to school, at home, on the school campus).
    - Create system for logging and tracking mileage or number of times walked / bicycled.
    - Decide on incentives (recognition at school assembly, trophy or other type of award).
    - Seek funding to support the program—materials, awards, prizes, etc. For example,
    - Recognize and reward participation.
    - Track participation.
    - Make changes as needed.
- Utilize the National Safe Routes to School website (www.saferoutesinfo.org) and the NH DOT SRTS program (www.nh.gov/dot/org/projectdevelopment/planning/srts) as resources to identify ideas and opportunities for additional encouragement activities.

Symonds Elementary School students get their cards punched for the Symonds "Walk, Roll, and Ride" program.

Enforcement Recommendations

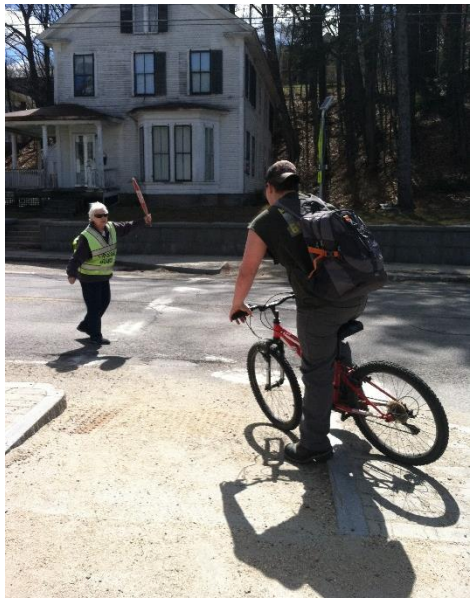
The goal of enforcement is to deter unsafe driver behavior as well as unsafe pedestrian and bicyclist behavior. Enforcement strategies encourage all users of the roadway to obey traffic laws and share the road. Enforcement strategies should be implemented in combination with education, encouragement, and engineering strategies to have a maximum impact. Used on its own, enforcement does not usually result in long-term, lasting changes in driver behavior. Recommended enforcement strategies are listed below.

- **Work with local law enforcement and/or state law enforcement to address speeding on NH Route 101.** This could include increasing patrols during peak morning and afternoon hours, posting portable speed trailers or active speed monitors that show motorists' speeds as they

approach the designated school crossing, and/or creating a traffic complaint hotline that would allow community members to directly report traffic problems to law enforcement.

- **Continued presence of crossing guard at the designated school crossing on NH Route 101.** The school should work with the Town of Marlborough to ensure the continued presence of an adult crossing guard on Route 101. Adult crossing guards remind drivers that pedestrians are present and also help children develop the skills to safely cross the street at all times. According to observations made by SWRPC staff, they are sometimes the only reason that drivers stop for pedestrians waiting to cross Route 101. The school should also work with the Town to ensure that crossing guards are properly trained and follow the correct procedures, i.e. activating the rectangular rapid flashing beacon and using the hand-help stop sign.
- **Strictly enforce proper drop-off and pick-up process**. The school should inform and remind parents of the proper drop-off and pick-up process on a regular basis. In addition, the school may want to consider erecting a temporary barrier in front of the crosswalk to the school playground and/or having staff presence at this crosswalk to deter parents from entering the visitor parking lot or dropping off their children early in the drop-off line.

The afternoon crossing guard stops traffic for a student waiting to cross Route 101.



Engineering Recommendations

Engineering is a broad concept used to describe the design, implementation, operation and maintenance of traffic control devices or physical measures, including low-cost as well as high-cost capital measures. Infrastructure such as sidewalks, visible crosswalks, trails/paths, and connectivity between sidewalks and trails/paths creates conditions that improve safety for walking and bicycling in the area surrounding the school. Recommended engineering strategies for Marlborough School are listed below.

- **Work with the N.H. Department of Transportation to address safety concerns for the school crossing on NH Route 101.** In the past, the state DOT has worked with the school to design a crosswalk that includes curb extensions and a rectangular rapid flashing beacon. However, driver behavior such as speeding and passing cars on the right creates unsafe conditions for pedestrians at this crosswalk in spite of these treatments. One potential solution could be to move the official school crossing down the road one block to a section of roadway where

sight distances are better. The Town and State DOT could also consider implementing traffic calming measures west of the crosswalk to help slow down eastbound traffic.

- **Consider improving and formalizing the existing trail that connects the school to Canada Street.** According to student location data (see Map 1 on page 4), a cluster of students live on residential streets to the northwest of the school (i.e. Knowlton St., Canada St., Whitcomb Rd., and Heritage Way). Currently, there is an informal trail that connects the school's athletic field to this area. The school should consider working with landowners that abut this trail to make it a formal trail that students in these neighborhoods can use to bypass Route 101 on their way to school.
- **Encourage the Town of Marlborough to adopt a Complete Streets policy.** Complete streets are streets that are designed, built, and operated to enable safe access for all users, regardless of mode of travel, age, or ability. A Complete Streets policy directs transportation planners, engineers, and maintenance staff to consider the needs of all users when working within the right-of-way. Over time, a Complete Streets policy will improve walking and bicycling conditions for all residents of Marlborough, including Marlborough School students and their families. A Complete Streets policy is also a way for the Town to show community support for traffic calming and other safety measures on NH 101, which is controlled by the State DOT.

This picture shows a portion of the informal trail between Canada St. and the school athletic field.

"[i]f you have a complete streets policy, we'll try to meet the different aspects of that policy… [w]e can't do it (make complete street changes to a road) unless we know that is what the community wants."

- Said by Bill Oldenburg, Assistant Director of Project Development at NHDOT at a regional Complete Streets workshop on September 25, 2015 in Keene

Evaluation Recommendations

Evaluation involves monitoring and documenting outcomes, attitudes and trends through the collection of data before and after program activities or projects. These activities help track which strategies would be most or least successful and which should be modified for better results. As of the time of this writing, Marlborough School had already collected baseline data on how students currently travel to and from school. Moving forward, the school should consider the evaluation recommendations listed below.

- **Conduct walkability audits of walking routes with members of the school community.** The National Safe Routes to School Partnership has created a walkability checklist that parents and students can use to evaluate their walk to school and identify areas that need improvement. This assessment can help alert school and town officials to areas within the community that need attention. The walkability checklist can be found in Appendix E of this document.
- **Administer the "Safe Routes to School Arrival and Departures Tally Sheet" on an annual basis to track trends over time.** The Student arrival and departure tally sheet is simple to administer, and it provides useful data on student travel modes to and from school. By collecting this data on an annual basis, the school will be able to track trends in travel modes over time and adjust education, encouragement, enforcement, and engineering strategies accordingly. This is important as the student population changes over time, with new students entering and older students graduating each year.
- **Administer the "Parent Survey about Walking and Biking to School" on a bi-annual (every two years) basis.** The parent take-home survey provides useful information about parents' safety concerns related to their children walking and biking to school, and it helps to uncover the reasons behind travel behaviors. In order to stay current with the school population, this survey should be administered at least once every two years.
- **Update the Safe Routes to School Action Plan every five years.** The data and recommendations outlined in this Action Plan are intended to be used as a starting point for launching a comprehensive Safe Routes to School program. As the program progresses, the Action Plan will need to be updated to include current data and recommendations that fit the needs of the school and community at that time. The Wellness Committee and/or Safety Committee should consider taking this task on, as it relates directly to the objectives of these committees.

FUNDING

Transportation Alternatives Program (TAP)

The Federal Transportation bill, Moving Ahead for Progress in the 21st Century (MAP-21), authorizes the Transportation Alternatives Program (TAP) to provide funding for programs and projects defined as *transportation alternatives*, including safe routes to school projects. The Transportation Alternatives Program is administered in New Hampshire by the State DOT. For information about this program, or to find the TAP application, see the NHDOT website: http://www.nh.gov/dot/org/projectdevelopment/planning/tap/index.htm.

Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU)

While the NHDOT has awarded all of the funds available for infrastructure under this old federal transportation law, limited funds are still available for non-infrastructure awards, which can include:

- Startup grants: awards of up to $5,000 per school that provide seed money to reimburse local sponsors for initial efforts.
- Travel Plan grants: awards of up to $15,000 per school to develop a walking and bicycling plan tailored to a specific location.
- General Non-infrastructure grants: awards of up to $10,000 for communities that have already initiated SRTS programs or may need more funds than are available under the startup awards.

New Hampshire Recreational Trails Program (RTP)

Administered by New Hampshire Parks and Recreation, the Recreational Trails Program has limited grants available for motorized, non-motorized, and diversified trails. Eligible projects include maintenance and restoration of existing trails, purchase and lease of trail construction and maintenance equipment, construction of new trails, development and rehabilitation of trailside and trailhead facilities, trail linkages, and acquisition of easements or property for trails. For more information about this program, see the RTP website: http://www.nhstateparks.org/partner-and-community-resources/grants/recreational-trails-program.aspx.

Healthy Eating Active Living New Hampshire (HEAL NH) Active Transportation Grant Program

The overall goal of the HEAL Active Transportation Grant Program is to encourage widespread, safe, and responsible use of walking and bicycling as forms of transportation in the Granite State. To learn more about this program, go to www.healnh.org or contact Nik Coates, the Active Living Coordinator, at ncoates@healthynh.com.

Advocates for Healthy Youth Mini Grant Program

Advocates for Healthy Youth (AFHY) is a coalition of community partners working to create family, school and community environments where children make healthy food and activity choices. AFHY provides small grants ($200-$1,000) to create or enhance youth programs in Cheshire County that promote healthy activity and nutrition choices. AFHY accepts applications throughout the school year until funds are depleted. Applications are reviewed three times during the year – December 1st, February 1st, and May 1st. For more information or to apply, contact Lauren Bressett at 603-399-4442 or email at llb@unh.edu.

Southwest Region Planning Commission (SWRPC)

Work with the Town of Marlborough to contact SWRPC about safety or accessibility issues that make walking and biking difficult for area students. SWRPC can help the school and town troubleshoot other ways to improve accessibility or safety. Examples include developing purpose and need statements and scopes of work for Ten Year Plan projects or incorporating walking and biking improvements as part of upcoming NHDOT repaving projects. SWRPC may also be aware of other new or emerging grant or funding opportunities. For more information contact SWRPC at 603-357-0557.

APPENDICES

Safe Routes to School Students Arrival and Departure Tally Sheet

CAPITAL LETTERS ONLY – BLUE OR BLACK INK ONLY

School Name:

Teacher's First Name:

Teacher's Last Name:

Grade: (PK,K,1,2,3...) 0 2

Monday's Date (Week count was conducted) M M D D Y Y Y Y

Number of Students Enrolled in Class: 1 5

- Please conduct these counts **on two of the following three days Tuesday, Wednesday, or Thursday. (Three days would provide better data if counted)**
- **Please do not conduct these counts on Mondays or Fridays.**
- Before asking your students to raise their hands, please read through all possible answer choices so they will know their choices. Each Student may only answer once.
- Ask your students as a group the question "**How did you arrive at school today?**"
- Then, reread each answer choice and record the number of students that raised their hands for each. **Place just one character or number in each box.**
- Follow the same procedure for the question **"How do you plan to leave for home after school?"**
- You can conduct the counts once per day but during the count please ask students both the school arrival and departure questions.
- Please conduct this count regardless of weather conditions (i.e., ask these questions on rainy days, too).

Step 1.
Fill in the weather conditions and number of students in each class

Step 2.
AM – "**How did you arrive at school today?**" Record the number of hands for each answer.
PM – "**How do you plan to leave for home after school?**" Record the number of hands for each answer.

Key	**Weather** S= sunny R= rainy O=overcast SN=snow	**Student Tally** Number in class when count made	**Walk** -	**Bike** -	**School Bus** -	**Family Vehicle** Only with Children from your family	**Carpool** Riding with children from other families	**Transit** City bus, subway, etc.	**Other** Skate-board, scooter, etc.
Sample AM	S N	2 0	2	3	8	3		3	1
Sample PM	R	1 9	3	3	8	1	2	2	
Tues. AM									
Tues. PM									
Wed. AM									
Wed. PM									
Thurs. AM									
Thurs. PM									

Please list any disruptions to these counts or any unusual travel conditions to/from the school on the days of the tally.

Parent Survey About Walking and Biking to School

Dear Parent or Caregiver,

Your child's school wants to learn your thoughts about children walking and biking to school. This survey will take about 5 - 10 minutes to complete. We ask that each family complete only one survey per school your children attend. If more than one child from a school brings a survey home, please fill out the survey for the child with the next birthday from today's date.

After you have completed this survey, send it back to the school with your child or give it to the teacher. Your responses will be kept confidential and neither your name nor your child's name will be associated with any results.

Thank you for participating in this survey!

+ CAPITAL LETTERS ONLY – BLUE OR BLACK INK ONLY +

School Name:

1. What is the grade of the child who brought home this survey? ☐☐ Grade (PK,K,1,2,3…)

2. Is the child who brought home this survey male or female? ☐ Male ☐ Female

3. How many children do you have in Kindergarten through 8th grade? ☐☐

4. What is the street intersection nearest your home? (Provide the names of two intersecting streets)

and

Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box.

5. How far does your child live from school?

- ☐ Less than ¼ mile
- ☐ ¼ mile up to ½ mile
- ☐ ½ mile up to 1 mile
- ☐ 1 mile up to 2 miles
- ☐ More than 2 miles
- ☐ Don't know

Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box. +

6. On most days, how does your child arrive and leave for school? (Select one choice per column, mark box with X)

Arrive at school	Leave from school
☐ Walk	☐ Walk
☐ Bike	☐ Bike
☐ School Bus	☐ School Bus
☐ Family vehicle (only children in your family)	☐ Family vehicle (only children in your family)
☐ Carpool (Children from other families)	☐ Carpool (Children from other families)
☐ Transit (city bus, subway, etc.)	☐ Transit (city bus, subway, etc.)
☐ Other (skateboard, scooter, inline skates, etc.)	☐ Other (skateboard, scooter, inline skates, etc.)

+ Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box +

7. How long does it normally take your child to get to/from school? (Select one choice per column, mark box with X)

Travel time to school	Travel time from school
☐ Less than 5 minutes	☐ Less than 5 minutes
☐ 5 – 10 minutes	☐ 5 – 10 minutes
☐ 11 – 20 minutes	☐ 11 – 20 minutes
☐ More than 20 minutes	☐ More than 20 minutes
☐ Don't know / Not sure	☐ Don't know / Not sure

+ +

8. Has your child asked you for permission to walk or bike to/from school in the last year? ☐ Yes ☐ No

9. At what grade would you allow your child to walk or bike to/from school without an adult?

(Select a grade between PK,K,1,2,3…) ☐☐ grade **(or)** ☐ I would not feel comfortable at any grade

Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box

10. What of the following issues affected your decision to allow, or not allow, your child to walk or bike to/from school? (Select ALL that apply)

11. Would you probably let your child walk or bike to/from school if this problem were changed or improved? (Select one choice per line, mark box with X)

	My child already walks or bikes to/from school		
☐ Distance	☐ Yes	☐ No	☐ Not Sure
☐ Convenience of driving	☐ Yes	☐ No	☐ Not Sure
☐ Time	☐ Yes	☐ No	☐ Not Sure
☐ Child's before or after-school activities	☐ Yes	☐ No	☐ Not Sure
☐ Speed of traffic along route	☐ Yes	☐ No	☐ Not Sure
☐ Amount of traffic along route	☐ Yes	☐ No	☐ Not Sure
☐ Adults to walk or bike with	☐ Yes	☐ No	☐ Not Sure
☐ Sidewalks or pathways	☐ Yes	☐ No	☐ Not Sure
☐ Safety of intersections and crossings	☐ Yes	☐ No	☐ Not Sure
☐ Crossing guards	☐ Yes	☐ No	☐ Not Sure
☐ Violence or crime	☐ Yes	☐ No	☐ Not Sure
☐ Weather or climate	☐ Yes	☐ No	☐ Not Sure

Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box

12. In your opinion, how much does your child's school encourage or discourage walking and biking to/from school?

☐ Strongly Encourages ☐ Encourages ☐ Neither ☐ Discourages ☐ Strongly Discourages

13. How much fun is walking or biking to/from school for your child?

☐ Very Fun ☐ Fun ☐ Neutral ☐ Boring ☐ Very Boring

14. How healthy is walking or biking to/from school for your child?

☐ Very Healthy ☐ Healthy ☐ Neutral ☐ Unhealthy ☐ Very Unhealthy

Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box

15. What is the highest grade or year of school you completed?

☐ Grades 1 through 8 (Elementary)
☐ Grades 9 through 11 (Some high school)
☐ Grade 12 or GED (High school graduate)
☐ College 1 to 3 years (Some college or technical school)
☐ College 4 years or more (College graduate)
☐ Prefer not to answer

16. Please provide any additional comments below.

Marlborough Elementary School Field Review

In late April of 2015, SWRPC staff visited MES during the morning arrival and afternoon departure periods to observe travel patterns of students, vehicles, and buses as well as site characteristics and conditions. The key observations and findings from this field visit are documented below.

PARENT DROP OFF / PICK UP OF CHILDREN

- Parents seem to know the route for drop off and pick up, however there is no signage leading into the school indicating where parents should line up to drop off or pick up their kids.
- A few parents were observed entering the visitor parking lot to drop off or pick up their kids; this poses a safety concern for students crossing from the school to the playground.
- In general, there was a smooth flow of traffic in the morning and afternoon, with the exception of people letting their kids out of the car earlier in the loading zone or the cars at the front of the line taking too long.
- The average wait time for parents during morning drop off was between 20 seconds and 1 minute.
- The average wait time for parents during the afternoon pick up was longer because parents began lining up just before 2:30; the longest wait time observed was 17 minutes and the average was 7 minutes.
- There was some congestion in the afternoon between 2:45 and 2:55 when everyone tried to pick up their kids at once.
- One staff person was present during drop off and pick up; this person could potentially do more to help facilitate parent drop off/pick up.

Left: parents lining up in front of the school to pick up their children.

Right: children crossing in front of the visitor's parking lot to get to the playground in the morning before school.

BUSES

- Bus drop-off and loading occurs at a separate entrance from the parent pick-up and drop off area.
- Buses use the outside lane, which is restricted to bus use only.
- Bus loading and drop off zones are clearly marked with signs.
- A staff person was present during drop off and loading to lead kids to the bus or to the playground.
- There were two buses in the morning dropping off kids; one bus in the afternoon appeared to be used for an athletic team while the other took kids home normally.

The above photo shows a bus dropping off students in front of the west entrance to the school.

SPEED

- Speed on Route 101 is an issue. Traffic coming from Keene is moving fast around curve and is especially dangerous in icy conditions.
- Speed limit on 101 is marked at 35 mph; traffic goes 10-15 mph faster than marked speeds.
- Speed doesn't seem to be an issue for buses in front of school; parents must pass buses on the left, but they did so cautiously.
- The highest speeds observed near the school were for vehicles entering and exiting the parking lot and coming around the curve to enter to drop off/pick up queue.
- Speed limits are posted at 20 mph on Fitch Court and Water Street. There are no speed limit signs or signs to slow down in the parking lot.
- There are no traffic calming devices other than pedestrian signs in the crosswalks in the school parking lot. The school could benefit from a speed bump or signs to slow down before the curve next to the playground and the entrance to the visitor's parking lot.

The above photo shows a speed limit sign on Water Street indicating that it is in a school zone.

WAYFARING

- Painted arrows on ground are faded; could use signage to direct flow of traffic for parent drop off/pick up.
- Signs at every pedestrian crossing from school to Route 101.
- No wayfaring signs for bicyclists; assumed that bicyclists use the sidewalks on Route 101.

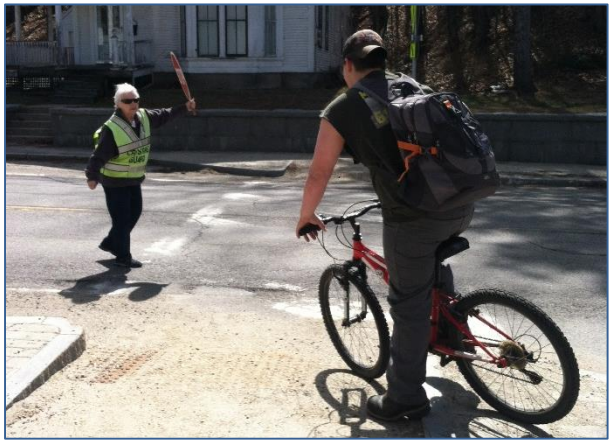
LIGHTING

- There are two pedestrian-scale lights directly in front of the school, and another five lights around the parking lot.
- There are five pedestrian-scale lights along the sidewalk on Fitch Court
- The only area that could use more light is the playground.
- Lighting on Water Street?

BIKE USE / FACILITIES

- Route 101 does NOT have bike lanes, but the road does have a shoulder that is used by bicyclists.
- It's ONLY safe for bikes to cross when the crossing guard is present and only at her location.
- There are two bike racks in a secure location in front of the school that together can hold 18 bikes. (Two nine-bike wave racks)
- On the date that the site was surveyed there was one bike at the bike rack, however the number of people who bike will vary depending on the weather and the day.
- There are no signs on Route 101 asking drivers to share the road or alerting drivers to the presence of bicyclists; it is likely that students would ride their bikes on the sidewalks.

The above photo directs parents to use the inside lane in front of the school for drop off and pick up. The outside lane is restricted to bus use only.



The photo above shows a student riding his bicycle home from school. He is waiting to cross Route 101.

SIDEWALKS

- Sidewalks are present on all routes leading in to school. The sidewalks on school property and along Fitch Court are in great condition.
- Sidewalks along Main Street (Route 101) and along Water Street are also in good condition.

CROSSINGS

- Crosswalk at Route 101 and Water Street is painted (faded paint) and has pedestrian signs with flashing beacons.
- Crossing guard present from 7:40 to 8:05 in the morning and 2:30 to 3:00 in the afternoon; crossing guard stands on North side of crosswalk to see around the curve for cars coming too fast to stop. She has a hand-held stop sign.
- Cars stop for children seemingly ONLY because of the existence of the crossing guard.
- Crossing guard can let buses out, but not parents. Cars backed up on Water Street in the morning and afternoon waiting to turn onto 101 (especially if turning left).
- Cars on 101 trying to turn left onto Water St. often have to wait several minutes. Cars and trucks coming from Keene go around cars waiting to turn left and barrel through crosswalk.
- In the winter, cars coming around curve are going too fast to stop on icy road.
- Crosswalk may be safer if located near the community house where the road is straighter and there is better sight distance for cars coming from Keene.
- There was one pedestrian observed in the morning (according to the crossing guard, there are usually three) and 13 pedestrians and 1 bicyclist observed in the afternoon.
- Curb ramps are present at all crosswalks.

The photo above shows the sidewalk on Fitch Court leading in to school.

The photo above was taken in the winter of 2012 at the Marlboro Street crossing at Water Street.

ENVIRONMENTAL CONDITIONS

- Parking area and sidewalks were clean and clearly marked.
- Exhaust did not seem to be an issue in the morning in the school area, but in the afternoon there was more congestion and idling. A "No Idling" sign in the drop off/pick up area and along Fitch Court next to the playground could help in curbing this.
- Exhaust is probably an issue on 101 due to heavy traffic (12,000 vehicles per day in 2012); this route is also noisy.

DRIVER BEHAVIOR

- In the school drop off and pick up area, some drivers seemed impatient. Several drivers drove too fast going around curves, a few tried to avoid the pick-up line by going into the visitor parking lot to pick up their child, and two used the bus lane after the buses had left.
- Overall, parents were careful when proceeding through the parking lot.
- On Route 101, drivers seemed very impatient and unwilling to wait for cars turning/people crossing in the crosswalk. Cars would start speeding as soon as crossing guard left crosswalk, would only stop because she was there – would not let people cross.
- Drivers were speeding on Route 101; drivers that were going more slowly had cars on their bumper.

Left: The crossing guard holds up a hand-held stop sign to let a group of children cross Route 101.

Above: Cars back up on Water Street during morning drop off.

Right: A car on Route 101 passes on the right while another waits to turn left onto Water Street.

POLICIES

- Friends, relatives, or non-custodial parents are required to have written permission to pick up a student from school.
- Helmets are required for students biking to/from school; however a student was observed biking without a helmet.
- Bike locks and helmets are not available at the school for students to use.

OTHER NOTES

- Benches in front of school used by parent waiting to walk a group of kids home.
- After school, kids either line up for the bus, go to the pickup point and start loading into cars, or go to the playground.
- Some parents stopped by the playground or in the visitor parking lot, which is next to the playground, to pick up their kids.
- Crossing guard has been doing this job for 19 years, she felt safer when the crosswalk was by the Community House.
- Route 101 used to be 20 mph when the old school was in use; now NH DOT will not allow school zone on Route 101.
- There are no trails that lead to the school.

The photo above shows two wave-style bike racks, which can accommodate 18 bicycles. Helmets and bike locks are not available for children to use at the school.

The photo above shows the crosswalk in front of the community house, which is a little farther down Route 101 from the current crossing used by the school at Water Street.

Marlborough Elementary School

Traffic Studies

The preparation of this document has been financed in part through grant[s] from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

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Site Map

Figure 1 – Site Map

Summary

Figure 2 - Percent of vehicles exceeding the posted speed limit (30 mph), 35 mph, and 40 mph (Monday-Friday)

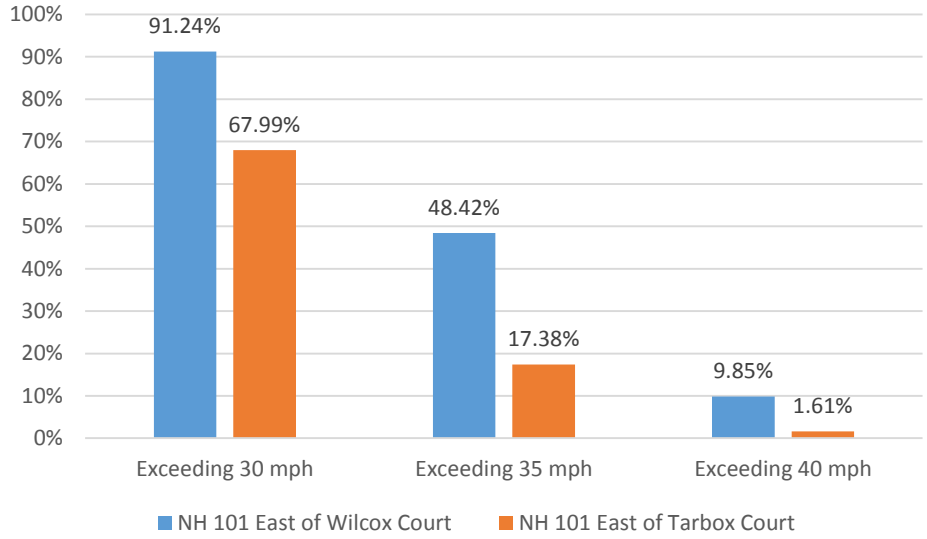
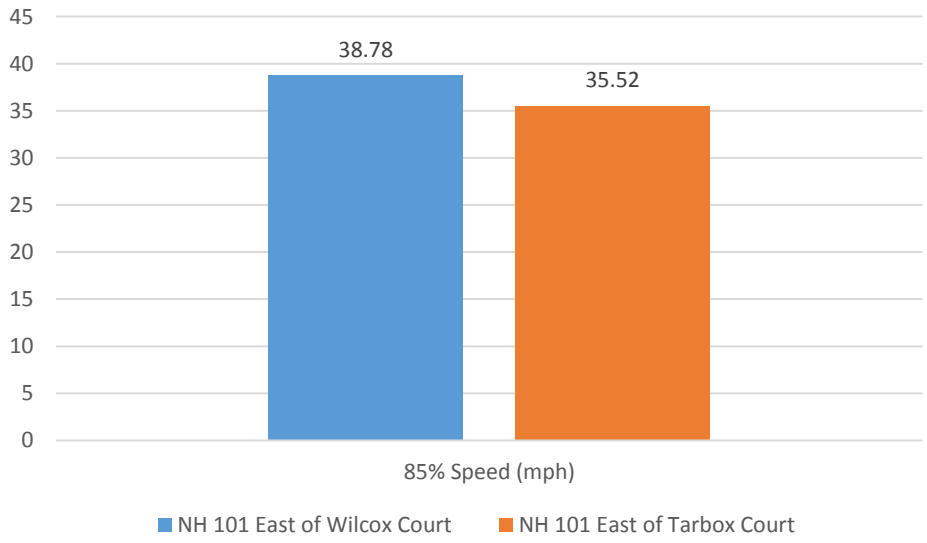


Figure 3 - Observed 85th percentile speed (Monday-Friday)



Site 1: Fitch Court South of One-Way Loop (Bi-Directional)

Figure 4 - Traffic recorder location prior to installation of equipment (utility pole at right)

Vehicle Counts

Hour	Mon 18 May	Tue 19 May	Wed 20 May	Thu 21 May	Fri 22 May	Sat 23 May	Sun 24 May	Averages 1 - 5	Averages 1 - 7
0000-0100	*	0	0	0	0	*	*	0.0	0.0
0100-0200	*	0	0	0	0	*	*	0.0	0.0
0200-0300	*	0	0	0	0	*	*	0.0	0.0
0300-0400	*	0	0	0	0	*	*	0.0	0.0
0400-0500	*	4	0	0	0	*	*	0.8	0.8
0500-0600	*	2	0	5	1	*	*	1.5	1.5
0600-0700	*	23	28	23	25	*	*	24.0	24.0
0700-0800	*	63	68	82	65	*	*	68.8	68.8
0800-0900	*	**147**	**132**	**135**	136	*	*	**137.3**	**137.3**
0900-1000	*	17	13	23	11	*	*	15.8	15.8
1000-1100	*	10	9	16	18	*	*	12.3	12.3
1100-1200	*	20	14	9	*	*	*	14.0	14.0
1200-1300	*	31	7	10	*	*	*	16.0	16.0
1300-1400	*	8	7	22	*	*	*	12.3	12.3
1400-1500	*	**79**	**90**	**95**	*	*	*	87.0	87.0
1500-1600	93	41	47	59	*	*	*	59.3	59.3
1600-1700	96	33	76	74	*	*	*	69.5	69.5
1700-1800	158	51	88	93	*	*	*	**96.5**	**96.5**
1800-1900	28	21	24	26	*	*	*	24.3	24.3
1900-2000	9	23	42	20	*	*	*	23.0	23.0
2000-2100	20	3	1	23	*	*	*	11.8	11.8
2100-2200	5	0	1	3	*	*	*	2.3	2.3
2200-2300	3	2	0	2	*	*	*	1.8	1.8
2300-2400	0	0	5	0	*	*	*	1.0	1.0
Totals									
0700-1900	*	517	573	641	*	*	*	612.8	612.8
0600-2200	*	565	644	709	*	*	*	673.8	673.8
0600-0000	*	567	649	711	*	*	*	676.6	676.6
0000-0000	*	572	649	716	*	*	*	678.8	678.8
AM Peak	*	0800	0800	0800	*	*	*		
	*	147	132	135	*	*	*		
PM Peak	*	1400	1400	1400	*	*	*		
	*	79	90	95	*	*	*		

*** - No data.**

Site 2: NH 101 East of Wilcox Court (Eastbound Only)

Figure 5 – Site during installation (facing east). Traffic cones were not present while data was recorded.

Figure 6 - Site prior to deploying equipment (facing west).

Speed Statistics

Filter = 0:00 Monday, May 25, 2015 => 0:00 Saturday, May 30, 2015, >4 sec headway
Vehicles = 13820
Posted speed limit = 30 mph, Exceeding = 12609 (91.24%), Mean Exceeding = 35.69 mph
Limit 1 (PSL + 5) (30 * 100%) + 5 = 35 mph, Exceeding = 6687 (48.39%)
Limit 2 (PSL + 10) (30 * 100%) + 10 = 40 mph, Exceeding = 1359 (9.83%)
Maximum = 63.6 mph, **Minimum** = 6.7 mph, **Mean** = 34.9 mph
85% Speed = 38.79 mph, **95% Speed** = 41.49 mph, **Median** = 34.73 mph
10 mph Pace = 30 - 40, **Number in Pace** = 11230 (81.26%)
Variance = 19.05, **Standard Deviation** = 4.36 mph

Hour Bins

Time	Bin		Min	Max	Mean	Median	85%	95%	>PSL 30 mph		Limit 1 35 mph PSL + 5		Limit 2 40 mph PSL + 10	
0000	112	0.8%	26.5	45.4	35.2	34.4	39.7	41.7	106	94.6%	48	42.9%	15	13.4%
0100	60	0.4%	26.6	63.6	36.9	35.8	41.5	47.0	58	96.7%	34	56.7%	13	21.7%
0200	67	0.5%	7.5	51.3	36.7	36.9	41.3	48.0	60	89.6%	42	62.7%	13	19.4%
0300	60	0.4%	25.8	51.4	35.8	34.8	40.8	45.5	54	90.0%	29	48.3%	11	18.3%
0400	105	0.8%	30.1	49.9	38.6	38.6	42.7	46.0	105	100.0%	86	81.9%	35	33.3%
0500	274	2.0%	10.4	53.7	37.3	37.4	41.4	44.8	258	94.2%	193	70.4%	77	28.1%
0600	547	4.0%	9.4	53.2	36.9	36.6	40.7	43.5	532	97.3%	385	70.4%	111	20.3%
0700	678	4.9%	8.2	48.2	35.3	35.2	39.5	41.8	628	92.6%	362	53.4%	88	13.0%
0800	737	5.3%	8.8	52.1	34.6	34.4	38.3	41.4	662	89.8%	337	45.7%	62	8.4%
0900	752	5.4%	10.6	47.7	34.7	34.6	38.5	41.3	682	90.7%	352	46.8%	62	8.2%
1000	769	5.6%	8.1	48.4	34.4	34.2	38.2	41.1	694	90.2%	332	43.2%	62	8.1%
1100	800	5.8%	10.7	51.2	34.7	34.7	38.5	41.0	722	90.3%	381	47.6%	69	8.6%
1200	932	6.7%	7.2	46.7	34.8	34.8	38.5	41.1	851	91.3%	457	49.0%	80	8.6%
1300	851	6.2%	7.1	51.1	34.5	34.6	38.2	41.0	764	89.8%	405	47.6%	65	7.6%
1400	923	6.7%	8.5	47.2	34.2	34.4	38.4	40.9	809	87.6%	430	46.6%	76	8.2%
1500	954	6.9%	6.7	54.5	34.6	34.7	38.7	41.5	855	89.6%	459	48.1%	97	10.2%
1600	919	6.6%	7.5	48.8	34.7	34.7	38.1	40.6	841	91.5%	435	47.3%	62	6.7%
1700	909	6.6%	7.7	46.9	35.0	34.8	38.6	41.1	841	92.5%	454	49.9%	80	8.8%
1800	808	5.8%	12.0	50.2	35.8	35.4	39.7	42.3	769	95.2%	447	55.3%	108	13.4%
1900	763	5.5%	19.5	52.5	34.9	34.4	38.3	41.1	714	93.6%	343	45.0%	61	8.0%
2000	649	4.7%	12.7	46.1	34.2	33.9	37.6	40.1	579	89.2%	249	38.4%	35	5.4%
2100	514	3.7%	19.3	51.8	33.6	33.3	37.0	39.8	449	87.4%	150	29.2%	24	4.7%
2200	368	2.7%	20.0	49.0	34.4	34.5	37.7	40.3	328	89.1%	164	44.6%	25	6.8%
2300	269	1.9%	18.5	59.6	34.8	34.0	38.6	41.7	248	92.2%	113	42.0%	28	10.4%
----	**13820**	**100.0%**	**6.7**	**63.6**	**34.9**	**34.7**	**38.8**	**41.5**	**12609**	**91.2%**	**6687**	**48.4%**	**1359**	**9.8%**

Weekly Vehicle Counts – (May 18 – May 24)

Hour	Mon 18 May	Tue 19 May	Wed 20 May	Thu 21 May	Fri 22 May	Sat 23 May	Sun 24 May	Averages 1 - 5	1 - 7
0000-0100	*	*	*	*	*	48	39	*	43.5
0100-0200	*	*	*	*	*	34	20	*	27.0
0200-0300	*	*	*	*	*	13	20	*	16.5
0300-0400	*	*	*	*	*	19	11	*	15.0
0400-0500	*	*	*	*	*	17	12	*	14.5
0500-0600	*	*	*	*	*	30	25	*	27.5
0600-0700	*	*	*	*	*	73	68	*	70.5
0700-0800	*	*	*	*	*	152	125	*	138.5
0800-0900	*	*	*	*	*	271	207	*	239.0
0900-1000	*	*	*	*	*	365	266	*	315.5
1000-1100	*	*	*	*	*	424	352	*	388.0
1100-1200	*	*	*	*	*	**460**	**375**	*	**417.5**
1200-1300	*	*	*	*	*	**513**	478	*	495.5
1300-1400	*	*	*	*	413	497	**521**	413.0	477.0
1400-1500	*	*	*	*	519	457	326	519.0	434.0
1500-1600	*	*	*	*	577	469	384	577.0	476.7
1600-1700	*	*	*	*	709	501	485	709.0	**565.0**
1700-1800	*	*	*	*	656	414	271	656.0	447.0
1800-1900	*	*	*	*	525	325	375	525.0	408.3
1900-2000	*	*	*	*	321	225	261	321.0	269.0
2000-2100	*	*	*	*	232	245	205	232.0	227.3
2100-2200	*	*	*	*	274	227	119	274.0	206.7
2200-2300	*	*	*	*	139	127	90	139.0	118.7
2300-2400	*	*	*	*	90	103	64	90.0	85.7
Totals									
0700-1900	*	*	*	*	*	4848	4165	*	4802.0
0600-2200	*	*	*	*	*	5618	4818	*	5575.5
0600-0000	*	*	*	*	*	5848	4972	*	5779.8
0000-0000	*	*	*	*	*	6009	5099	*	5923.8
AM Peak	*	*	*	*	*	1100	1100		
	*	*	*	*	*	460	375		
PM Peak	*	*	*	*	*	1200	1300		
	*	*	*	*	*	513	521		

*** - No data.**

Weekly Vehicle Counts – (May 25 – May 31)

Hour	Mon 25 May	Tue 26 May	Wed 27 May	Thu 28 May	Fri 29 May	Sat 30 May	Sun 31 May	Averages 1 - 5	Averages 1 - 7
0000-0100	28	19	30	25	27	51	45	25.8	32.1
0100-0200	7	14	14	15	16	36	24	13.2	18.0
0200-0300	14	11	10	16	19	20	13	14.0	14.7
0300-0400	4	15	14	15	17	20	12	13.0	13.9
0400-0500	7	25	20	22	41	18	17	23.0	21.4
0500-0600	27	83	81	76	75	36	18	68.4	56.6
0600-0700	61	230	231	218	244	87	51	196.8	160.3
0700-0800	105	349	347	352	337	164	81	298.0	247.9
0800-0900	145	324	364	353	330	303	158	303.2	282.4
0900-1000	232	328	336	335	319	392	229	310.0	310.1
1000-1100	303	338	304	332	**395**	431	265	334.4	338.3
1100-1200	**351**	**381**	**377**	**372**	375	**497**	**327**	**371.2**	**382.9**
1200-1300	405	434	426	450	438	**506**	**441**	430.6	442.9
1300-1400	395	437	435	380	489	480	419	427.2	433.6
1400-1500	411	465	464	527	530	477	391	479.4	466.4
1500-1600	**426**	562	564	604	601	451	391	551.4	514.1
1600-1700	403	641	**699**	677	678	478	335	**619.6**	**558.7**
1700-1800	334	**658**	662	**687**	**681**	435	320	604.4	539.6
1800-1900	287	404	397	389	457	344	257	386.8	362.1
1900-2000	216	317	326	340	357	302	200	311.2	294.0
2000-2100	152	249	184	278	305	266	159	233.6	227.6
2100-2200	104	156	165	155	286	194	105	173.2	166.4
2200-2300	72	80	97	97	129	193	72	95.0	105.7
2300-2400	61	59	62	71	89	178	44	68.4	80.6
Totals									
0700-1900	3797	5321	5375	5458	5630	4958	3614	5116.2	4879.0
0600-2200	4330	6273	6281	6449	6822	5807	4129	6031.0	5727.3
0600-0000	4463	6412	6440	6617	7040	6178	4245	6194.4	5913.6
0000-0000	4550	6579	6609	6786	7235	6359	4374	6351.8	6070.3
AM Peak	1100	1100	1100	1100	1000	1100	1100		
	351	381	377	372	395	497	327		
PM Peak	1500	1700	1600	1700	1700	1200	1200		
	426	658	699	687	681	506	441		

*** - No data.**

Weekly Vehicle Counts – (June 1 – June 7)

Hour	Mon 01 Jun	Tue 02 Jun	Wed 03 Jun	Thu 04 Jun	Fri 05 Jun	Sat 06 Jun	Sun 07 Jun	Averages 1 - 5	Averages 1 - 7
0000-0100	15	*	*	*	*	*	*	15.0	15.0
0100-0200	13	*	*	*	*	*	*	13.0	13.0
0200-0300	7	*	*	*	*	*	*	7.0	7.0
0300-0400	12	*	*	*	*	*	*	12.0	12.0
0400-0500	28	*	*	*	*	*	*	28.0	28.0
0500-0600	76	*	*	*	*	*	*	76.0	76.0
0600-0700	203	*	*	*	*	*	*	203.0	203.0
0700-0800	328	*	*	*	*	*	*	328.0	328.0
0800-0900	295	*	*	*	*	*	*	295.0	295.0
0900-1000	*	*	*	*	*	*	*	*	*
1000-1100	*	*	*	*	*	*	*	*	*
1100-1200	*	*	*	*	*	*	*	*	*
1200-1300	*	*	*	*	*	*	*	*	*
1300-1400	*	*	*	*	*	*	*	*	*
1400-1500	*	*	*	*	*	*	*	*	*
1500-1600	*	*	*	*	*	*	*	*	*
1600-1700	*	*	*	*	*	*	*	*	*
1700-1800	*	*	*	*	*	*	*	*	*
1800-1900	*	*	*	*	*	*	*	*	*
1900-2000	*	*	*	*	*	*	*	*	*
2000-2100	*	*	*	*	*	*	*	*	*
2100-2200	*	*	*	*	*	*	*	*	*
2200-2300	*	*	*	*	*	*	*	*	*
2300-2400	*	*	*	*	*	*	*	*	*
Totals									
0700-1900	*	*	*	*	*	*	*	*	*
0600-2200	*	*	*	*	*	*	*	*	*
0600-0000	*	*	*	*	*	*	*	*	*
0000-0000	*	*	*	*	*	*	*	*	*
AM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		
PM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		

*** - No data.**

Site 3: NH 101 East of Tarbox Court (Westbound Only)

Figure 7 - Site shortly after traffic recorder was deployed (facing west).

Speed Statistics

Filter = 0:00 Monday, May 25, 2015 => 0:00 Saturday, May 30, 2015, >4 sec headway
Vehicles = 17484
Posted speed limit = 30 mph, Exceeding = 11888 (67.99%), Mean Exceeding = 33.59 mph
Limit 1 (PSL + 5) (30 * 100%) + 5 = 35 mph, Exceeding = 3039 (17.38%)
Limit 2 (PSL + 10) (30 * 100%) + 10 = 40 mph, Exceeding = 282 (1.61%)
Maximum = 57.5 mph, **Minimum** = 6.9 mph, **Mean** = 31.4 mph
85% Speed = 35.26 mph, **95% Speed** = 37.66 mph, **Median** = 31.60 mph
10 mph Pace = 27 - 37, **Number in Pace** = 14225 (81.36%)
Variance = 18.19, **Standard Deviation** = 4.26 mph

Hour Bins

Time	Bin		Min	Max	Mean	Median	85%	95%	>PSL 30 mph		Limit 1 35 mph PSL + 5		Limit 2 40 mph PSL + 10	
0000	104	0.6%	15.6	44.4	32.6	32.3	37.1	39.0	76	73.1%	33	31.7%	2	1.9%
0100	59	0.3%	24.1	46.9	33.0	32.8	36.5	38.8	49	83.1%	15	25.4%	2	3.4%
0200	53	0.3%	24.4	48.4	34.1	33.9	38.2	42.3	43	81.1%	20	37.7%	3	5.7%
0300	62	0.4%	25.6	47.0	35.0	35.0	39.2	42.7	52	83.9%	32	51.6%	6	9.7%
0400	146	0.8%	21.4	49.0	34.4	33.8	38.9	42.0	123	84.2%	64	43.8%	18	12.3%
0500	450	2.6%	14.1	50.0	33.8	34.1	37.7	40.5	380	84.4%	172	38.2%	29	6.4%
0600	957	5.5%	9.1	52.0	32.9	33.0	36.4	38.8	787	82.2%	279	29.2%	24	2.5%
0700	1230	7.0%	6.9	45.9	31.7	32.0	35.5	37.9	898	73.0%	237	19.3%	18	1.5%
0800	1181	6.8%	12.8	45.9	31.3	31.4	34.9	36.8	784	66.4%	168	14.2%	11	0.9%
0900	1083	6.2%	9.2	49.4	31.5	31.7	35.2	37.6	735	67.9%	189	17.5%	18	1.7%
1000	1069	6.1%	10.4	49.6	31.5	31.5	35.1	37.6	729	68.2%	185	17.3%	14	1.3%
1100	1052	6.0%	7.4	47.0	31.6	31.8	35.2	37.4	732	69.6%	184	17.5%	14	1.3%
1200	1133	6.5%	10.3	47.0	31.3	31.3	35.0	37.5	762	67.3%	177	15.6%	17	1.5%
1300	1127	6.4%	14.3	48.1	31.4	31.4	35.0	37.2	767	68.1%	171	15.2%	9	0.8%
1400	1175	6.7%	9.9	54.3	30.8	30.9	34.7	36.8	734	62.5%	159	13.5%	10	0.9%
1500	1155	6.6%	7.8	45.9	31.2	31.3	35.0	37.6	759	65.7%	185	16.0%	15	1.3%
1600	1164	6.7%	10.8	45.3	31.6	31.6	35.1	37.2	819	70.4%	199	17.1%	19	1.6%
1700	1129	6.5%	8.2	48.7	31.2	31.4	34.8	37.5	767	67.9%	167	14.8%	12	1.1%
1800	899	5.1%	11.9	45.0	31.5	31.7	35.1	37.6	627	69.7%	154	17.1%	14	1.6%
1900	735	4.2%	8.1	43.8	30.5	30.6	34.3	36.6	434	59.0%	80	10.9%	5	0.7%
2000	592	3.4%	12.0	46.3	29.9	30.0	33.4	36.3	301	50.8%	57	9.6%	5	0.8%
2100	404	2.3%	14.9	43.9	30.6	30.6	34.1	36.1	234	57.9%	43	10.6%	6	1.5%
2200	313	1.8%	14.1	57.5	29.9	30.1	34.0	36.1	159	50.8%	31	9.9%	6	1.9%
2300	212	1.2%	9.3	48.8	31.0	31.3	35.7	38.3	137	64.6%	38	17.9%	5	2.4%
----	**17484**	**100.0%**	**6.9**	**57.5**	**31.4**	**31.6**	**35.3**	**37.7**	**11888**	**68.0%**	**3039**	**17.4%**	**282**	**1.6%**

Weekly Vehicle Counts – (May 18 – May 24)

	Mon 18 May	Tue 19 May	Wed 20 May	Thu 21 May	Fri 22 May	Sat 23 May	Sun 24 May	Averages 1 - 5	1 - 7
Hour									
0000-0100	*	*	*	*	*	34	38	*	36.0
0100-0200	*	*	*	*	*	25	19	*	22.0
0200-0300	*	*	*	*	*	6	10	*	8.0
0300-0400	*	*	*	*	*	13	5	*	9.0
0400-0500	*	*	*	*	*	18	14	*	16.0
0500-0600	*	*	*	*	*	51	32	*	41.5
0600-0700	*	*	*	*	*	112	62	*	87.0
0700-0800	*	*	*	*	*	215	113	*	164.0
0800-0900	*	*	*	*	*	309	194	*	251.5
0900-1000	*	*	*	*	*	408	306	*	357.0
1000-1100	*	*	*	*	*	450	373	*	411.5
1100-1200	*	*	*	*	*	**596**	**424**	*	**510.0**
1200-1300	*	*	*	*	*	**563**	**490**	*	**526.5**
1300-1400	*	*	*	*	430	502	462	430.0	464.7
1400-1500	*	*	*	*	470	484	387	470.0	447.0
1500-1600	*	*	*	*	530	422	378	530.0	443.3
1600-1700	*	*	*	*	528	405	385	528.0	439.3
1700-1800	*	*	*	*	473	352	295	473.0	373.3
1800-1900	*	*	*	*	379	334	261	379.0	324.7
1900-2000	*	*	*	*	252	261	255	252.0	256.0
2000-2100	*	*	*	*	180	206	184	180.0	190.0
2100-2200	*	*	*	*	144	148	130	144.0	140.7
2200-2300	*	*	*	*	97	87	97	97.0	93.7
2300-2400	*	*	*	*	71	126	41	71.0	79.3
Totals									
0700-1900	*	*	*	*	*	5040	4068	*	4712.8
0600-2200	*	*	*	*	*	5767	4699	*	5386.5
0600-0000	*	*	*	*	*	5980	4837	*	5559.5
0000-0000	*	*	*	*	*	6127	4955	*	5692.0
AM Peak	*	*	*	*	*	1100	1100		
	*	*	*	*	*	596	424		
PM Peak	*	*	*	*	*	1200	1200		
	*	*	*	*	*	563	490		

*** - No data.**

Weekly Vehicle Counts – (May 25 – May 31)

Hour	Mon 25 May	Tue 26 May	Wed 27 May	Thu 28 May	Fri 29 May	Sat 30 May	Sun 31 May	Averages 1 - 5	Averages 1 - 7
0000-0100	29	13	24	22	20	39	39	21.6	26.6
0100-0200	15	11	12	11	15	25	20	12.8	15.6
0200-0300	8	11	8	16	14	16	12	11.4	12.1
0300-0400	4	14	16	15	17	13	14	13.2	13.3
0400-0500	12	46	34	35	29	19	9	31.2	26.3
0500-0600	35	126	130	129	122	59	24	108.4	89.3
0600-0700	82	365	376	387	354	115	51	312.8	247.1
0700-0800	125	**677**	**672**	**675**	**635**	262	114	**556.8**	**451.4**
0800-0900	197	603	575	565	560	358	188	500.0	435.1
0900-1000	294	429	399	456	431	451	297	401.8	393.9
1000-1100	309	417	400	386	387	473	344	379.8	388.0
1100-1200	**325**	368	395	357	436	**510**	**391**	376.2	397.4
1200-1300	400	418	386	397	442	**527**	391	408.6	423.0
1300-1400	**402**	382	382	417	415	519	**407**	399.6	417.7
1400-1500	363	388	440	470	430	469	379	418.2	419.9
1500-1600	389	443	504	429	496	452	310	452.2	431.9
1600-1700	308	**465**	**507**	**498**	**508**	418	323	**457.2**	**432.4**
1700-1800	331	446	443	448	494	355	289	432.4	400.9
1800-1900	264	276	298	332	381	430	192	310.2	310.4
1900-2000	211	171	173	217	281	331	186	210.6	224.3
2000-2100	153	136	125	172	232	243	110	163.6	167.3
2100-2200	99	86	86	96	146	112	63	102.6	98.3
2200-2300	64	69	59	56	116	117	46	72.8	75.3
2300-2400	32	39	44	58	74	67	17	49.4	47.3
Totals									
0700-1900	3707	5312	5401	5430	5615	5224	3625	5093.0	4902.0
0600-2200	4252	6070	6161	6302	6628	6025	4035	5882.6	5639.0
0600-0000	4348	6178	6264	6416	6818	6209	4098	6004.8	5761.6
0000-0000	4451	6399	6488	6644	7035	6380	4216	6203.4	5944.7
AM Peak	1100	0700	0700	0700	0700	1100	1100		
	325	677	672	675	635	510	391		
PM Peak	1300	1600	1600	1600	1600	1200	1300		
	402	465	507	498	508	527	407		

*** - No data.**

Weekly Vehicle Counts – (June 1 – June 7)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages	
	01 Jun	02 Jun	03 Jun	04 Jun	05 Jun	06 Jun	07 Jun	1 - 5	1 - 7
Hour									
0000-0100	12	*	*	*	*	*	*	12.0	12.0
0100-0200	6	*	*	*	*	*	*	6.0	6.0
0200-0300	15	*	*	*	*	*	*	15.0	15.0
0300-0400	11	*	*	*	*	*	*	11.0	11.0
0400-0500	34	*	*	*	*	*	*	34.0	34.0
0500-0600	118	*	*	*	*	*	*	118.0	118.0
0600-0700	369	*	*	*	*	*	*	369.0	369.0
0700-0800	656	*	*	*	*	*	*	656.0	656.0
0800-0900	605	*	*	*	*	*	*	605.0	605.0
0900-1000	*	*	*	*	*	*	*	*	*
1000-1100	*	*	*	*	*	*	*	*	*
1100-1200	*	*	*	*	*	*	*	*	*
1200-1300	*	*	*	*	*	*	*	*	*
1300-1400	*	*	*	*	*	*	*	*	*
1400-1500	*	*	*	*	*	*	*	*	*
1500-1600	*	*	*	*	*	*	*	*	*
1600-1700	*	*	*	*	*	*	*	*	*
1700-1800	*	*	*	*	*	*	*	*	*
1800-1900	*	*	*	*	*	*	*	*	*
1900-2000	*	*	*	*	*	*	*	*	*
2000-2100	*	*	*	*	*	*	*	*	*
2100-2200	*	*	*	*	*	*	*	*	*
2200-2300	*	*	*	*	*	*	*	*	*
2300-2400	*	*	*	*	*	*	*	*	*
Totals									
0700-1900	*	*	*	*	*	*	*	*	*
0600-2200	*	*	*	*	*	*	*	*	*
0600-0000	*	*	*	*	*	*	*	*	*
0000-0000	*	*	*	*	*	*	*	*	*
AM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		
PM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		

*** - No data.**

Walkability Checklist

How walkable is your community?

Take a walk with a child and decide for yourselves.

Everyone benefits from walking. These benefits include: improved fitness, cleaner air, reduced risks of certain health problems, and a greater sense of community. But walking needs to be safe and easy. Take a walk with your child and use this checklist to decide if your neighborhood is a friendly place to walk. Take heart if you find problems, there are ways you can make things better.

Getting started:

First, you'll need to pick a place to walk, like the route to school, a friend's house or just somewhere fun to go.

The second step involves the checklist. Read over the checklist before you go, and as you walk, note the locations of things you would like to change. At the end of your walk, give each question a rating. Then add up the numbers to see how you rated your walk overall.

After you've rated your walk and identified any problem areas, the next step is to figure out what you can do to improve your community's score. You'll find both immediate answers and long-term solutions under "Improving Your Community's Score..." on the third page.

SafeRoutes
National Center for Safe Routes to School

Pedestrian and Bicycle Information Center

U.S. Department of Transportation

Take a walk and use this checklist to rate your neighborhood's walkability.

How walkable is your community?

Location of walk _____

_____

Rating Scale:

1	2	3	4	5	6
awful	many problems	some problems	good	very good	excellent

1. Did you have room to walk?

☐ Yes ☐ Some problems:

- ☐ Sidewalks or paths started and stopped
- ☐ Sidewalks were broken or cracked
- ☐ Sidewalks were blocked with poles, signs, shrubbery, dumpsters, etc.
- ☐ No sidewalks, paths, or shoulders
- ☐ Too much traffic
- ☐ Something else _____

Locations of problems: _____

Rating: (circle one)
1 2 3 4 5 6

_____

_____

2. Was it easy to cross streets?

☐ Yes ☐ Some problems:

- ☐ Road was too wide
- ☐ Traffic signals made us wait too long or did not give us enough time to cross
- ☐ Needed striped crosswalks or traffic signals
- ☐ Parked cars blocked our view of traffic
- ☐ Trees or plants blocked our view of traffic
- ☐ Needed curb ramps or ramps needed repair
- ☐ Something else _____

Locations of problems: _____

Rating: (circle one)
1 2 3 4 5 6

_____

_____

3. Did drivers behave well?

☐ Yes ☐ Some problems: Drivers...

- ☐ Backed out of driveways without looking
- ☐ Did not yield to people crossing the street
- ☐ Turned into people crossing the street
- ☐ Drove too fast
- ☐ Sped up to make it through traffic lights or drove through traffic lights?
- ☐ Something else _____

Locations of problems: _____

Rating: (circle one)
1 2 3 4 5 6

_____

_____

4. Was it easy to follow safety rules? Could you and your child...

☐ Yes	☐ No	Cross at crosswalks or where you could see and be seen by drivers?
☐ Yes	☐ No	Stop and look left, right and then left again before crossing streets?
☐ Yes	☐ No	Walk on sidewalks or shoulders facing traffic where there were no sidewalks?
☐ Yes	☐ No	Cross with the light?

Locations of problems: _____

Rating: (circle one)
1 2 3 4 5 6

_____

_____

5. Was your walk pleasant?

☐ Yes ☐ Some unpleasant things:

- ☐ Needed more grass, flowers, or trees
- ☐ Scary dogs
- ☐ Scary people
- ☐ Not well lighted
- ☐ Dirty, lots of litter or trash
- ☐ Dirty air due to automobile exhaust
- ☐ Something else _____

Locations of problems: _____

Rating: (circle one)
1 2 3 4 5 6

_____

_____

How does your neighborhood stack up? Add up your ratings and decide.

1. _____
2. _____
3. _____
4. _____
5. _____

Total _____

26–30	Celebrate! You have a great neighborhood for walking.
21–25	Celebrate a little. Your neighborhood is pretty good.
16–20	Okay, but it needs work.
11–15	It needs lots of work. You deserve better than that.
5–10	It's a disaster for walking!

Now that you've identified the problems, go to the next page to find out how to fix them.

Now that you know the problems,
you can find the answers.

Improving your community's score...

	What you and your child can do immediately	What you and your community can do with more time
1. Did you have room to walk?		
Sidewalks or paths started and stopped Sidewalks broken or cracked Sidewalks blocked No sidewalks, paths or shoulders Too much traffic	• pick another route for now • tell local traffic engineering or public works department about specific problems and provide a copy of the checklist	• speak up at board meetings • write or petition city for walkways and gather neighborhood signatures • make media aware of problem • work with a local transportation engineer to develop a plan for a safe walking route
2. Was it easy to cross streets?		
Road too wide Traffic signals made us wait too long or did not give us enough time to cross Crosswalks/traffic signals needed View of traffic blocked by parked cars, trees, or plants Needed curb ramps or ramps needed repair	• pick another route for now • share problems and checklist with local traffic engineering or public works department • trim your trees or bushes that block the street and ask your neighbors to do the same • leave nice notes on problem cars asking owners not to park there	• push for crosswalks/signals/ parking changes/curb ramps at city meetings • report to traffic engineer where parked cars are safety hazards • report illegally parked cars to the police • request that the public works department trim trees or plants • make media aware of problem
3. Did drivers behave well?		
Backed without looking Did not yield Turned into walkers Drove too fast Sped up to make traffic lights or drove through red lights	• pick another route for now • set an example: slow down and be considerate of others • encourage your neighbors to do the same • report unsafe driving to the police	• petition for more enforcement • request protected turns • ask city planners and traffic engineers for traffic calming ideas • ask schools about getting crossing guards at key locations • organize a neighborhood speed watch program
4. Could you follow safety rules?		
Cross at crosswalks or where you could see and be seen Stop and look left, right, left before crossing Walk on sidewalks or shoulders facing traffic Cross with the light	• educate yourself and your child about safe walking • organize parents in your neighborhood to walk children to school	• encourage schools to teach walking safely • help schools start safe walking programs • encourage corporate support for flex schedules so parents can walk children to school
5. Was your walk pleasant?		
Needs grass, flowers, trees Scary dogs Scary people Not well lit Dirty, litter Lots of traffic	• point out areas to avoid to your child; agree on safe routes • ask neighbors to keep dogs leashed or fenced • report scary dogs to the animal control department • report scary people to the police • report lighting needs to the police or appropriate public works department • take a walk wih a trash bag • plant trees, flowers in your yard • select alternative route with less traffic	• request increased police enforcement • start a crime watch program in your neighborhood • organize a community clean-up day • sponsor a neighborhood beautification or tree-planting day • begin an adopt-a-street program • initiate support to provide routes with less traffic to schools in your community (reduced traffic during am and pm school commute times)
A Quick Health Check		
Could not go as far or as fast as we wanted Were tired, short of breath or had sore feet or muscles Was the sun really hot? Was it hot and hazy?	• start with short walks and work up to 30 minutes of walking most days • invite a friend or child along • walk along shaded routes where possible • use sunscreen of SPF 15 or higher, wear a hat and sunglasses • try not to walk during the hottest time of day	• get media to do a story about the health benefits of walking • call parks and recreation department about community walks • encourage corporate support for employee walking programs • plant shade trees along routes • have a sun safety seminar for kids • have kids learn about unhealthy ozone days and the Air Quality Index (AQI)

Need some guidance?
These resources might help...

Great Resources

WALKING INFORMATION

Pedestrian and Bicycle Information Center (PBIC)
UNC Highway Safety Research Center
730 Airport Road , Suite 300
Campus Box 3430
Chapel Hill, NC
27599-3430
Phone: (919) 962-2202
www.pedbikeinfo.org
www.walkinginfo.org

National Center for
Safe Routes to School
730 Martin Luther
King, Jr. Blvd., Suite 300
Campus Box 3430
Chapel Hill, NC 27599-3430
Toll-free 1-866-610-SRTS
www.saferoutesinfo.org

National Center for Bicycling and Walking
Campaign to Make America Walkable
1506 21st Street, NW
Suite 200
Washington, DC 20036
Phone: (800) 760-NBPC
www.bikefed.org

WALK TO SCHOOL DAY WEB SITES

USA event: www.walktoschool-usa.org
International: www.iwalktoschool.org

STREET DESIGN AND TRAFFIC CALMING

Federal Highway Administration
Pedestrian and Bicycle Safety Research Program
HSR - 20
6300 Georgetown Pike
McLean,VA 22101
www.fhwa.dot.gov/environment/bikeped/index.htm

Institute of Transportation Engineers
www.ite.org

Surface Transportation Policy Project
www.transact.org

Transportation for Livable Communities
www.tlcnetwork.org

WALKING COALITIONS

America Walks
P.O. Box 29103
Portland, Oregon 97210
Phone: (503) 222-1077
www.americawalks.org

PEDESTRIAN SAFETY

National Highway Traffic Safety Administration
Traffic Safety Programs
400 Seventh Street, SW
Washington, DC 20590
Phone: (202) 662-0600
www.nhtsa.dot.gov/people/injury/pedbimot/ped

SAFE KIDS Worldwide
1301 Pennsylvania Ave. NW
Suite 1000
Washington, DC 20004
Phone: (202) 662-0600
Fax: (202) 393-2072
www.safekids.org

WALKING AND HEALTH

US Environmental Protection Agency
Office of Children's Health Protection (MC 1107A)
Washington, DC 20460
Phone: 202-564-2188
Fax: 202-564-2733
www.epa.gov/children/
www.epa.gov/airnow/
www.epa.gov/air/urbanair/ozone/what.html
www.epa.gov/sunwise/uvindex.html
www.epa.gov/otaq/transp/comchoic/ccweb.htm

President's Task Force on Environmental Health Risks and
Safety Risks to Children
www.childrenshealth.gov

Centers for Disease Control and Prevention
Division of Nutrition and Physical Activity
Phone: (888) 232-4674
www.cdc.gov/nccdphp/dnpa/readyset
www.cdc.gov/nccdphp/dnpa/kidswalk/index.htm

Prevention Magazine
33 East Minor Street
Emmaus, PA 18098
www.itsallaboutprevention.com

Shape Up America!
6707 Democracy Boulevard
Suite 306
Bethesda, MD 20817
www.shapeup.org

ACCESSIBLE SIDEWALKS

US Access Board
1331 F Street, NW
Suite 1000
Washington, DC 20004-1111
Phone: (800) 872-2253;
(800) 993-2822 (TTY)
www.access-board.gov