FULLER ELEMENTARY SCHOOL
SAFE ROUTES TO SCHOOL ACTION PLAN

SafeRoutes

September 2015 • Keene, NH

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Acknowledgements

In 2015, Fuller Elementary School (FES) worked with the Southwest Region Planning Commission (SWRPC) to develop a Safe Routes to School Action Plan. A Safe Routes to School Committee made up of teachers and staff was formed to provide SWRPC staff with locally relevant guidance and input for this Action Plan. FES and SWRPC are grateful for the contributions provided by members of this committee, who are listed below.

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Fuller Safe Routes to Schools Committee

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INTRODUCTION

The Fuller Elementary School (FES) 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 two-mile radius of the school.

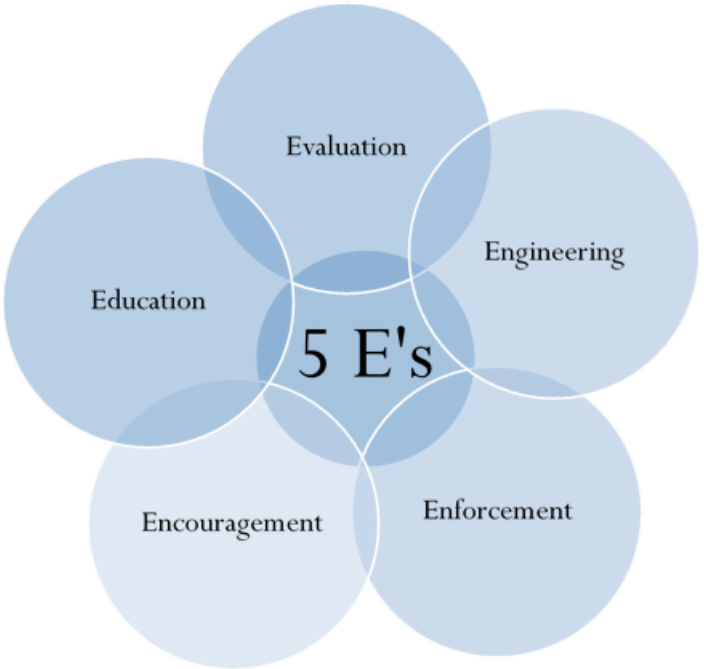
Project Overview

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.

- **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.
- **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.

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



- **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 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 Fuller Elementary School Wellness Committee to discuss the development of a SRTS Action Plan. Following this meeting, SWRPC staff began assessing walking and bicycling conditions around the school, and a Fuller Safe Routes to School committee consisting of school administration and staff was formed to provide locally relevant input and guidance to SWRPC. In the fall of 2015, SWRPC staff presented the Safe Routes to School Action Plan recommendations to this committee.

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

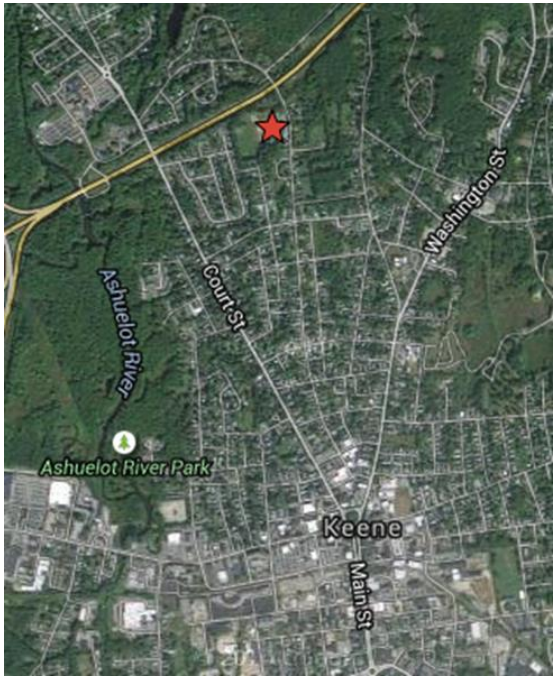
- Conducted field studies to review the behaviors and travel patterns of students, buses, and motorists at FES during student arrival and departure times;
- Distributed and analyzed parent and student surveys related to walking and biking behaviors;
- Conducted traffic volume counts at three locations in the school drop-off and pick-up areas;
- Gathered traffic speed data for Elm Street, and
- Gathered and analyzed accident data in a 1-mile radius of FES.

STUDY AREA

Fuller Elementary School (FES) is located in a densely populated residential neighborhood on Elm Street in Keene, approximately 1 mile from Central Square in Keene and about a half mile from the Cheshire Medical Center. Figures 2 and 3 display aerial views of the school in relation to surrounding neighborhoods. The school includes grades Kindergarten through fifth and enrolled 318 students in the 2014-2015 academic school year. Approximately 67% of the student population, or 213 students, lived within a one-mile radius of the school in 2014. Map 1 displays the extent of the FES study area and the relationship of the school with the surrounding neighborhoods and downtown area.

Primary access to Fuller Elementary School is from Elm Street. The parent pick-up and drop-off location is b the school and can be accessed from either Mort Avenue or Armory Street.

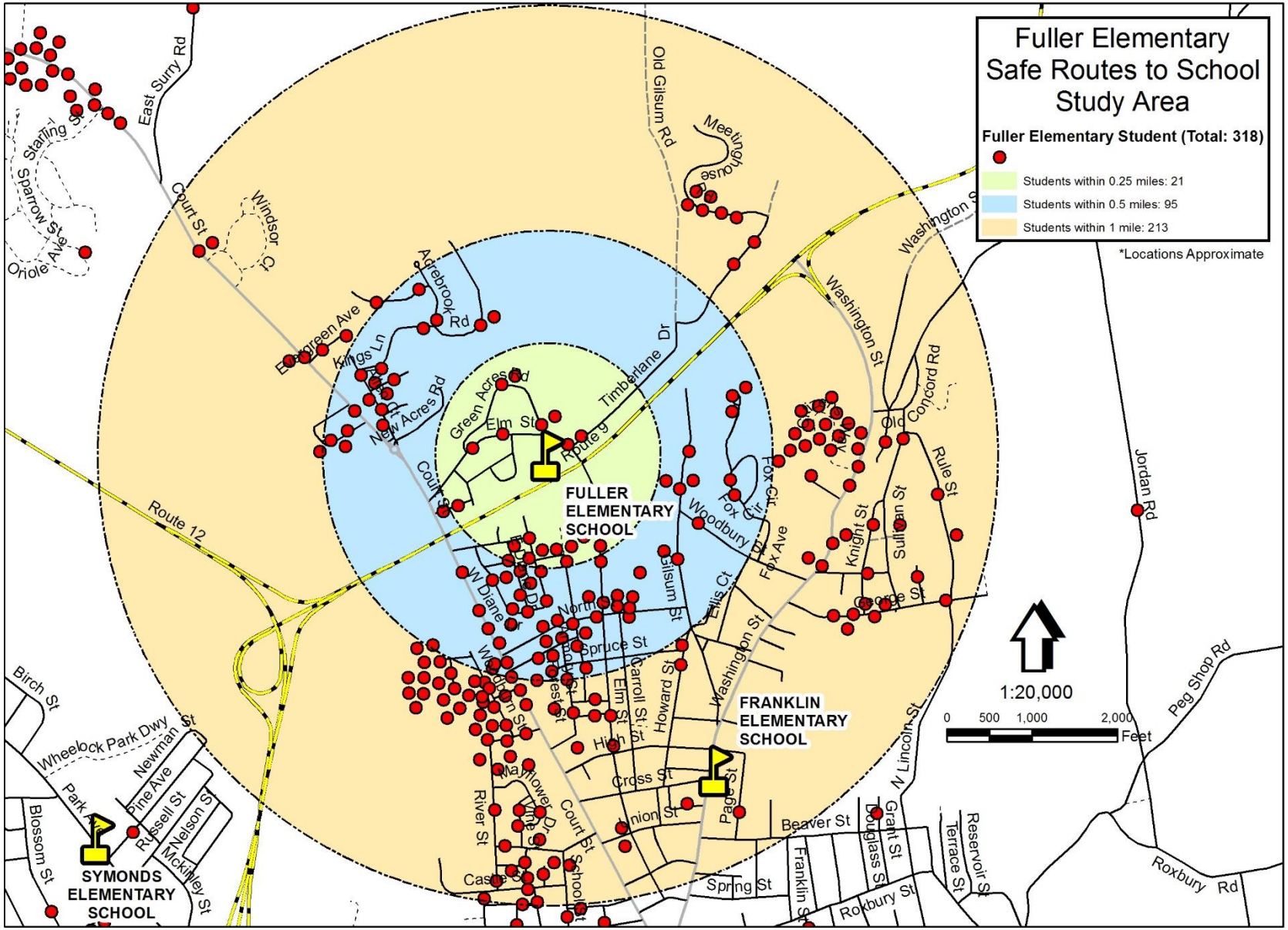
Figures 2 and 3. Aerial views of Fuller Elementary School.



★ = Fuller Elementary School

□ = Parent pick up and drop off location

Map 1. Fuller Elementary School Study Area.



EVALUATION OF EXISTING TRAVEL CONDITIONS

To better understand existing travel conditions within the study area, SWRPC staff conducted morning and afternoon field studies to review the behaviors and travel patterns of students, buses, and motorists at FES during drop-off and pick-up hours, collected and analyzed traffic speed, volume, and accident data, 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 included in the sections below.

School Arrivals and Departures

School begins at 8:20 am and ends at 3:00 pm. Bus loading and unloading occurs at the front entrance of the school in the parking lot off of Elm Street. Parent drop-off and pick-up occurs behind the school in the parking lot on the corner of Mort Avenue and Armory Street, although several parents were observed dropping their kids off in the bus zone while buses were present. Students who arrive late are dropped off in front of the school so they can check in at the main office.

There were two safety guards present during parent drop-off. In the morning, traffic flows in one direction through the parking lot from the entrance near Armory Street to the exit on Mort Avenue. The safety guards directed parents to keep moving through the line, however some parents let their children out of the car early and held up the line for several seconds. The average drop-off time was 20 seconds. In the afternoon, three safety guards were present to ensure children did not enter the parking lot until their parents came to meet them. Traffic congestion is a problem during afternoon pick-up; traffic enters and exits the pick-up area from multiple directions, and parents parking along both sides of the street on Armory and Mort created one-lane roads that were difficult for drivers to navigate. SWRPC staff identified the pick-up area as a safety concern for students walking to their car due to the high number of vehicles backing out of parking spaces and trying to get in or out of the pick-up area. The wait times experienced by parents varied from 30 minutes to 30 seconds, depending on when the parent arrived to pick up their child.

Above: Parents drop off their children in the morning.

The buses arrive between 8:10 a.m. and 8:20 a.m. in the morning, and drop off children directly in front of the main entrance to the school. Children are greeted as they exit the bus by a safety guard who directs the children to the back of the school to the playground. There were no major safety concerns noted by SWRPC staff for bus drop-off and pick-up.

Parent and In-Classroom Surveys

SWRPC staff worked with Fuller Elementary School faculty and administration to conduct the National SRTS 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 C of this document.

Parent Survey

A total of 46 households representing 76 students completed the Parent Survey. Of this sample, 33% of parents indicated they are not comfortable with their child walking or biking to school at any age. Fifty-six percent of parents surveyed were comfortable with their child walking at various different ages ranging from kindergarten to ninth grade, and 11% of parents were not sure or chose not to answer.

Parents cited numerous factors that influence their decision to either allow or not allow their child to walk/bike to and from school. Table 1 displays parent responses to this survey question. The predominant factor influencing parents is the safety of intersections and crossings along the route to school (noted by 65% of survey respondents). Distance to school, speed, the amount of traffic along route, and the lack of adults to walk or bike with were the second most influencing factors (indicated by 48% of survey respondents). Similarly, the state or existence of sidewalks or pathways, lack of crossing guards, and the effects of weather were the third most influencing factors for parents (noted by 43% of survey respondents). Other major factors noted on the survey included violence or crime, before or after school activities, time, and the convenience of driving.

Among the parents surveyed, 55% live less than a mile from school. Twenty six percent live between 1 and 2 miles away, and 17% live greater than 2 miles away.

Figure 4. Grade at which parents are comfortable with their child walking or biking to/from school.

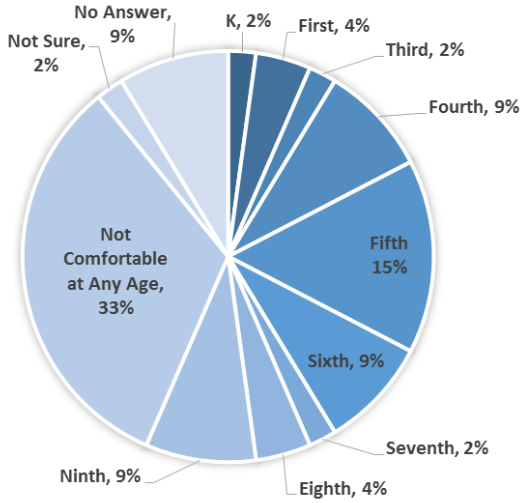


Table 1. Factors influencing decision to allow child to walk/bike to school.

Influencing Factor	% Respondents
Safety of intersections and crossings	65%
Distance	48%
Speed of traffic along route	48%
Amount of traffic along route	48%
Adults to walk or bike with	48%
Sidewalks or pathways	43%
Crossing guards	43%
Weather or climate	43%
Violence or crime	41%
Child's before or after school activities	39%
Time	35%
Convenience of driving	30%

Comments from Parent Survey:

Traffic/Route Conditions:

"The lack of sidewalks on Portland and the rate of speed in which vehicles travel on my child's route is the deciding factor in allowing my child to walk or bike ride to school."

"My son would like to bike to school, but there is too much traffic for me to feel comfortable with it."

"School does not actively discourage walking/bicycling, but environment/campus makes it difficult. Most alarming concern is traffic- speeds highly exceed posted limits at cross walks, pedestrian right-of-way rarely observed, even in front of school and sometimes even by school busses. On campus, pedestrians must traverse parking lots and bike racks not prominently featured."

Other Comments:

"I would feel comfortable allowing my child to walk or bike to school without an adult as long as they were with an older sibling."

"Crossing guards are very important! Other schools have this- why can't Fuller?"

A few of the general comments shared by parents on this survey are included above. Many of these parent comments emphasize that traffic conditions and the safety of crosswalks are their primary concerns.

The Parent Survey was also used as a tool to better understand how many students living within a 2 mile radius of Fuller Elementary currently walk or bike to school. Table 2 displays the number of students that arrive or depart school via walking, school bus, parent vehicle, carpooling, bicycling, or other mode 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 48% of survey respondents noted that their child arrives to school in a parent vehicle. Of these students, 50% live less than one mile from the school. A slightly lesser percentage of students (46%) depart school in a parent vehicle. The second

Table 2. Student mode of travel to and from school based on parent survey.

ARRIVAL MODE	# of Students	DEPARTURE MODE	# of Students
Walk	**6**	**Walk**	**5**
Less than 0.25 mi	5	Less than 0.25 mi	4
Between 0.5 mi - 1.0 mi	1	Between 0.5 mi - 1.0 mi	1
School Bus	**15**	**School Bus**	**18**
Less than 0.25 mi	1	Less than 0.25 mi	1
Between 0.25 mi - 0.5 mi	2	Between 0.25 mi - 0.5 mi	2
Between 0.5 mi - 1.0 mi	3	Between 0.5 - 1.0 mi	4
Between 1.0 mi - 2.0 mi	5	Between 1.0 mi - 2.0 mi	8
Greater than 2.0 mi	4	Greater than 2.0 mi	3
Parent Vehicle	**22**	**Parent Vehicle**	**21**
Less than 0.25 mi	4	Less than 0.25 mi	4
Between 0.25 mi - 0.5 mi	3	Between 0.25 mi - 0.5 mi	3
Between 0.5 mi - 1.0 mi	4	Between 0.5 mi - 1.0 mi	5
Between 1.0 mi - 2.0 mi	7	Between 1.0 mi - 2.0 mi	3
Greater than 2.0 mi	4	Greater than 2.0 mi	5
		Don't Know	1
Carpool	**2**	**Carpool**	**1**
Between 0.5 mi - 1.0 mi	1	Less than 0.25 mi	1
Don't Know	1		
Bicycle	**0**	**Bicycle**	**0**
Other	**1**	**Other**	**0**
Between 0.5 mi - 1.0 mi	1		

most common arrival and departure mode is by school bus (33% and 39% of survey responses, respectively). Among the parents who responded to the survey, 0.05% noted that their children arrived and/or departed school via carpool or other mode, and none indicated that their children bicycled to school.

In-Classroom Survey

The In-Classroom survey was administered by all classrooms at FES in late April and early May of 2015. Teachers surveyed students each morning and afternoon for three consecutive days (Tuesday – Thursday) on their mode of arrival to and departure from the school. On average, 180 students shared their arrival modes over the course of three days and 182 shared their departure modes.

Table 3. Student 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	16	9%	14	7%
Biking	1	0.6%	1	0.5%
Family Vehicle	92	51%	84	46%
Bus	67	37%	76	42%
Carpool	7	4%	9	5%
Transit	1	0.6%	0	0%
Other	1	0.7%	1	0.5%

The results of the survey, detailed in Table 3, show that an average of 16 students arrive to school via walking and 14 students depart on foot, which is roughly 9% and 7% of total respondents, respectively. Only 1 student (0.5% of survey respondents) reported arriving and departing via bicycle. On average, 67 students (37% of respondents) rode the bus to school and 76 students (42% of respondents) rode the bus home. The opposite trend was recorded for students traveling to and from school in a family vehicle; 92 students arrived in a family vehicle whereas 84 departed in a family vehicle (51% and 46% of survey respondents, respectively). An average of 8 students arrived and departed in a carpool over the three days of the survey (about 4.5% of survey respondents).

Traffic Volume and Speeds

To better understand vehicular travel conditions near FES, SWRPC staff conducted traffic volume counts on Mort Avenue, Armory Street, and the school entrance. Traffic volume and speed data were also collected on Elm Street directly in front of the school. Figure 5 identifies the location of the traffic counters. Figure 6 displays the average weekday traffic for Tuesday through Thursday at each traffic counter site, measured in vehicles per day. Table 4, which corresponds with Figure 5, displays the average traffic volume (7:00 am – 7:00 pm) experienced along each road segment as well as the average traffic volume during peak morning (8:00 am - 9:00 am) and afternoon (3:00 pm - 4:00 pm) travel times, in vehicles per hour. This data shows that, in general, there is more vehicular traffic during peak morning hours than afternoon hours at the drop-off and pick-up areas. The only exception is Elm Street, which has higher average traffic volumes in the afternoon. The full traffic study can be found in Appendix D.

Figure 5. Traffic counter locations.

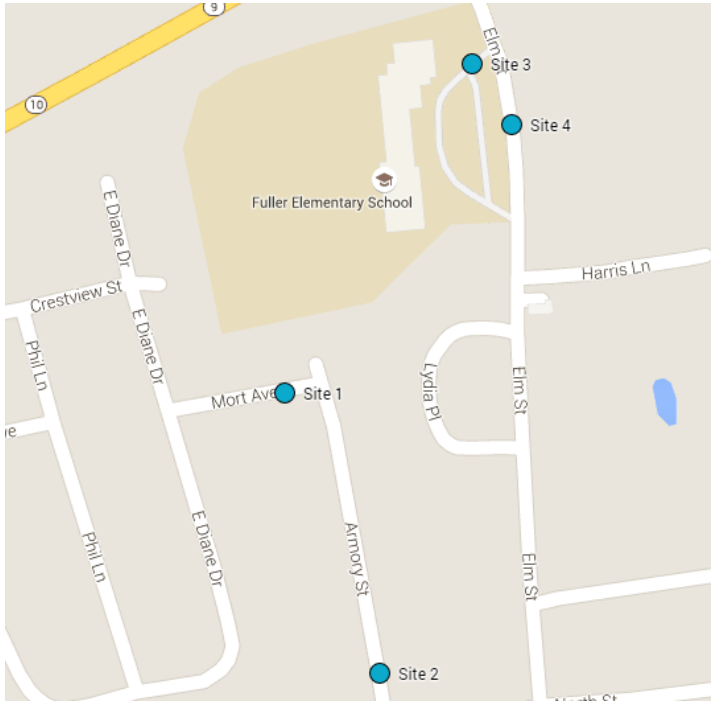


Figure 6. Average weekday traffic, in vehicles per day.

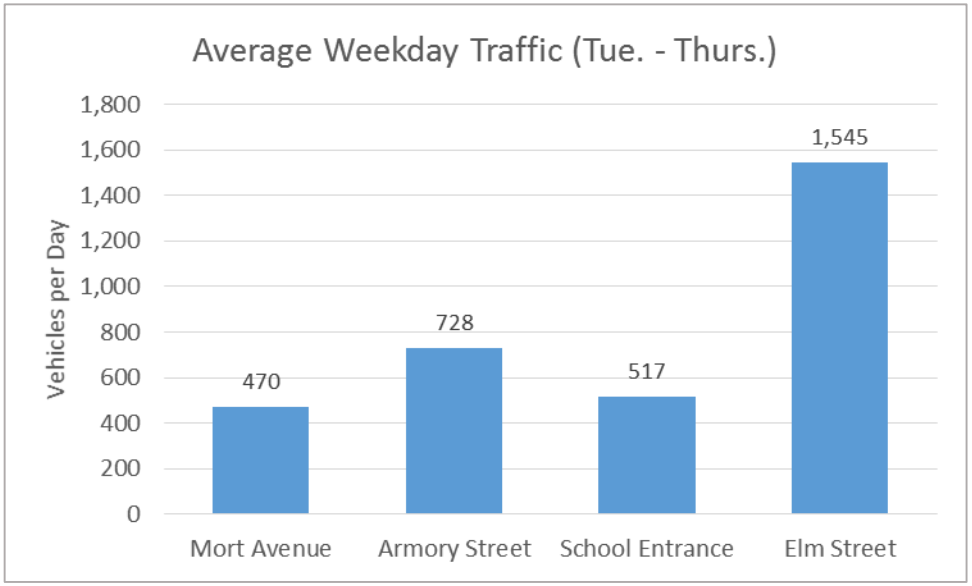


Table 4. Average hourly traffic volume, in vehicles per hour.

Counter ID	Daily Average 7 am – 7 pm	Peak Morning 8 am – 9 am	Peak Afternoon 3 pm – 4 pm
1	32	97	70
2	50	144	89
3	41	150	48
4	107	115	159

SWRPC staff installing a traffic counter at Site 3 in the school entrance.

In addition to collecting traffic volume data, SWRPC staff also collected speed statistics for Site 4 on Elm Street directly in front of the school. Table 5 shows the speed statistics for this site. The posted speed limit is 30 miles per hour (mph), however during school drop-off and pick-up hours the speed limit is 20 mph in the school zone, which is indicated by a school zone sign with flashing lights. In general, traffic does move more slowly during student arrival and departure times, i.e. between 8 am and 9 am and 3 pm and 4 pm. However, in the morning about 15% of vehicles were recorded going faster than 30 mph, which is more than 10 mph above the school zone speed, and about 5% of vehicles were recorded going faster than 33 mph. A similar trend was recorded for the afternoon, although vehicles were recorded going slightly faster. This suggests that, while the majority of motorists are within 5 mph of the school zone speed limit, a fairly large number of drivers are speeding during peak morning and afternoon hours when children are most likely to be walking to and/or from school.

Table 5. Statistics for traffic counter on Elm Street. Data collected May 18 – May 22, 2015.

Site 4 (Elm St.)	Total # Vehicles	Minimum Speed (mph)	Maximum Speed (mph)	Median Speed (mph)	85% Speed (mph)	95% Speed (mph)
Total (24 hours)	5,550	7.0	60.6	28.0	32.7	35.4
Morning (8 am - 9 am)	422	11.8	40.7	25.7	30.0	33.3
Afternoon (3 pm - 4 pm)	582	9.6	43.2	26.7	31.6	34.2

Accident/Crash Data

Between 2004 and 2013, there were 1,380 accidents reported within a 1-mile radius of Fuller Elementary School, excluding limited access highways such as NH 9. During this timeframe, there were a total of 33 pedestrian crashes and 22 bicyclist crashes, 1 reported accident that resulted in fatality, 4 that resulted in serious injury, and 70 that resulted in possible injury. There were a total of 35 accidents reported between 8:00 am – 8:30 am on weekdays, and a total of 55 accidents were reported between 3:00 pm – 3:30 pm on weekdays. Table 6 gives the number of crashes that occurred within a 1-mile radius of Fuller School by year, and Table 7 shows the number of accidents that were reported on selected roads.

Table 6. Reported accidents by year in a 1-mile radius of Fuller school, excluding limited access highways such as NH 9.

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
# Crashes	119	168	79	64	74	188	170	221	91	206

Table 7. Reported accidents for selected roads in the Study Area.

Reported Crashes*	Elm Street	Armory Street	Court Street	Washington Street
Total	31	2	107	72
Bicyclist	2	0	4	5
Pedestrian	1	0	3	1

** Reported crashes for 2003-2013, within a 1-mile radius of Fuller Elementary School.*

RECOMMENDATIONS

Education Recommendations

Education is an essential component of improving safe walking and biking conditions. FES 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 Fuller Elementary School, as appropriate.
- Share information on student bicycle and pedestrian safety with the FES 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.

Above: 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 (for example, the Keene Recreation Center).
  - 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 the mayor 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.

- **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. The walking school bus could begin at a central location such as the Keene Recreation Center. Tips for organizing a walking school bus include:
  - Designate a staff member or teacher to coordinate with volunteers and families (if it is a formal school program).
  - 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, such as inclement weather or 2-hour delay.

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

- **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, to share lessons learned from developing a successful "Walk, Roll, & Ride" program.
    - Identify a program coordinator, such as a PE teacher or another staff member that is enthusiastic about the program.
    - 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.
    - Recognize and reward participation.
    - Track participation.
    - Make changes as needed—the program will change over time to fit the unique needs of your school community.

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

- 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.

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 to address speeding on Elm Street.** This could include increasing patrols during peak morning and afternoon hours when the school speed zone is in effect, posting portable speed trailers or active speed monitors that show motorists' speeds as they approach the school, and/or creating a traffic complaint hotline that would allow community members to directly report traffic problems to law enforcement.
- **Assess the need for a crossing guard on Elm Street and on Court Street.** Sixty five percent of parents who responded to the parent take-home survey noted that the safety of intersections and crossings influenced their decision to allow their child to walk or bike to school. Adult crossing guards remind drivers that pedestrians are present and help children develop the skills needed to safely cross the street at all times. FES should look into the need for a crossing guard on Elm Street and Court Street, and work with the City to hire a crossing guards, if needed.

The picture above shows a crosswalk on Elm Street in front of Fuller Elementary School.

- **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 should ensure the continued presence of adult safety guards during parent drop-off to help make sure students do not leave school grounds until their guardian has arrived to pick them up.

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 Fuller Elementary School are listed below.

- **Work with the City of Keene to address speeding on Elm Street.** In addition to the enforcement recommendations above, the school may want to meet with the City to explore options for traffic calming on Elm Street.

- **Work with the City of Keene to address traffic congestion in the parent drop-off area.** The school may want to consider working with the City of Keene to address traffic flow problems on Armory Street and Mort Avenue, especially during parent pick-up times. A potential solution could be to temporarily turn Armory Street and Mort Avenue into one-way roads during parent pick-up times and/or to only allow parking on one side of the road.
- **Assess the need for re-designing the parent drop-off area.** Several parents noted that the parking lot used for drop-off and pick-up has parking spaces that are too small for larger vehicles. Also, one parent commented that making the parking lot one-way with angled parking could help make it safer. The school may want to consider setting up a meeting with the City to discuss options for repainting the parking lot with larger spaces and/or angled parking.
- **Consider formalizing the existing trail that connects the school to East Diane Drive.** Currently, there is a short, informal path that connects the school's athletic field to E. Diane Drive. In order to preserve this path into the future, the school should consider working with landowners that abut this trail to formalize it as an official path that students can use to walk to school.

An informal trail connecting Diane St. and the school athletic field.

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, Fuller Elementary School had already collected baseline data on student travel modes 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.
- **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. A copy of this survey can be found in Appendix C.

- **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 once every two to three years. A copy of this survey can be found in Appendix B.
- **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 or a task force consisting of parents, staff, and community members should consider taking this task on.

Community members conduct a walkability audit in Highland Park, Randolph County WV.

FUNDING FOR SAFE ROUTES TO SCHOOLS

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.

Keene Capital Improvement Plan:

The school should evaluate the City of Keene's plans for developing sidewalks and crosswalks and advocate for improvements on major walking and biking routes to school from adjacent neighborhoods by contacting the City's Planning and Public Works Departments.

APPENDICES

Appendix A: Fuller Elementary School Field Review Summary

Appendix B: National Safe Routes to Schools Parent Survey

Appendix C: National Safe Routes to Schools In-Classroom Student Tally

Appendix D: Fuller Elementary School Traffic Study

Appendix E: National Safe Routes to Schools Walkability Checklist

FULLER ELEMENTARY SCHOOL FIELD REVIEW SUMMARY

On May 15, 2015 SWRPC staff visited Fuller Elementary School 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

AM

- Parent drop-off and pick-up occurs behind the school in the parking lot on the corner of Mort Avenue and Amory Street. Traffic flows in one direction through the parking lot from the entrance near Amory Street to the exit on Mort Avenue.
- In the morning, parents have the option to park on the far side of the parking lot and walk their kids to the playground, or they can drive through the drop-off lane, which is marked using traffic cones.
- There were two safety guards present wearing safety vests during morning drop-off.
- Some parents in the drop-off lane let their children out of the car early, which held up the line of cars. The safety guards made an effort to direct these parents to pull up all the way before dropping off their children.
- Several parents parked on Amory Street and walked their children to the school in lieu of going through the parking lot.
- Several parents were observed dropping off children in the front of the school in the bus zone during the regular drop-off time.
- The average parent drop-off time was 20 seconds.



Left: The parent drop-off location with the traffic cones set up for the drop-off lane. **Middle:** Parents dropping off their children in the morning. **Right:** Children walk down the pathway from the parent drop-off location to the schoolyard.

PM

- In the afternoon, parents meet their children at the entrance to the schoolyard to walk them to the car.
- Children waiting to be picked up must stay behind the white painted line on the pathway from the schoolyard to the parking lot.
- Three safety guards wearing safety vests were present to supervise parent pick-up on the day the site was observed.
- Parking space is limited in the afternoon and the parking lot filled up quickly. Parents started arriving at 2:30 to pick up their children.
- Kindergarteners are let out at 2:55 p.m. and the rest of the grades are let out at 3:00 p.m. Usually, pick up is over by 3:10 p.m.
- A couple of parents mentioned to SWRPC staff that parking spaces in the lot are too small to accommodate larger vehicles. As a result, many parents do not park inside the lines of the parking spaces.
- Many parents park along Mort Avenue and Amory Street to pick up their children, effectively turning these roads into one-way streets. This is a bigger issue in the winter when there are snow banks.
- The average pick-up time varied depending on when the parent arrived. Parents who arrived early to get a good parking spot were usually the first to leave, however they ended up waiting the longest (up to 30+ minutes). Parents who arrived after 3:00 p.m. on average took about 2 minutes to pick up their children and exit the pick-up area.



Left: Every spot in the parking lot was full by 2:50 p.m. with parents waiting to pick up their children. **Middle:** Parents wait by the entrance of the schoolyard to pick up their children and walk them to the car. **Right:** A parent walks with her child to their car parked on Mort Avenue.

BUSES

- The bus drop-off and pick-up zone is in the front of the school.

- The bus zone is restricted to buses and staff only in the afternoon; parents are not allowed to pick up their kids here unless they arrive after the before school lets out.
- Buses enter the parking lot from the North entrance, drop off the children directly in front of the main entrance to the school, and exit the parking lot from the South entrance.
- Children are greeted as they exit the bus by a safety guard who directs the children to the back of the school to the playground.
- In the morning, there were four buses that arrived between 8:10 a.m. and 8:20 a.m. and two buses that arrived after the bell rang (at 8:21 and 8:25 a.m.). Of these buses, 3 were full-sized, two were short buses, and one was the YMCA bus.

Left: Buses line up in front of the school to drop off children.

Right: A safety guard greets children as they exit the school bus and directs them to walk around to the back of the school to play in the playground until the bell rings.

SPEED

- There are school zone signs on all routes leading into the school that flash during morning drop-off and afternoon pick-up times. The speed limit is 20 mph when these signs are flashing.
- Traffic on Elm Street tends to speed; several cars and trucks were observed speeding through crosswalks and intersections at 30 mph or greater speeds when school zone signs were flashing.
- Several parents who walked their kids to school mentioned that traffic tends to speed along Elm Street.
- Traffic calming devices such as speed bumps or raised crosswalks in front of the school could be helpful for slowing down traffic in front of the school.

WAYFARING

- Entrances and exits to the school are clearly marked with “Enter” and “Exit” signs.
- Vehicle speed limits are clearly defined during school pick-up and drop-off times; at other times, the speed limit is 30 mph.
- Walking and biking routes to the school are not defined with wayfaring signs.
- Pedestrian crossings are marked by yellow “pedestrian crossing” signs, white painted “yield” markings, and white painted ladder markings.

Left: A sign posted at the entrance to the school clearly defines this area as a bus-only zone for the afternoon pick up time. **Right:** The exit is clearly marked by an "Exit" sign and a "Do Not Enter" sign.

LIGHTING

- There are two light posts in the front of the school in the staff parking lot. There are also several lights mounted on the outside walls of the school building.

BIKE USE / FACILITIES

- There are two bike racks in front of the school, each of which can hold about 20 bicycles. On the date the site was surveyed there were no bicycles present on the bike racks.
- There are no bike lanes, sharrow markings, or “Share the Road” signs on routes leading to school for bicyclists.

This is one of two bike racks located in front of the school for children to use.

SIDEWALKS

- Paved sidewalks are present on almost all of the neighborhood roads surrounding the school.
- Sidewalks are present on both sides of Elm Street in front of the school and on one side of Elm Street further away from the school.

- Paved paths on school grounds are generally in good condition; there is a path that children use to walk from the front of the school to the playground behind the school and a path that connects the parent pick-up/drop-off area to the playground.


Left: Paved asphalt pathways on school grounds are generally in good condition. **Middle:** A paved sidewalk is present on one side of Amory Street. **Right:** Paved sidewalks are present on both sides of Elm Street in front of the school.

TRAILS

- There is a short dirt trail that connects East Diane Street to the athletic field behind the school.
- This trail runs along a row of hedges and has a sidewalk that leads up to it on East Diane Street.
- There are several trails on the hill next to the school that do not lead anywhere; children are not allowed on these trails.

The picture above shows the dirt trail connecting East Diane Street to the school's athletic field.

CROSSINGS

- There are no crossing guards posted at any of the crosswalks near the school.
- Crossings are painted with white ladder stripes and are marked with yellow "pedestrian crossing" signs and white painted "Yield" signs.
- According to a parent who walks to school, motorists on Elm Street do not always stop for pedestrians waiting at the crosswalk, even when the parent is present.
- Traffic speeds on Elm Street could be dangerous for children trying to cross the street in front of the school.

- The presence of a crossing guard or traffic calming measures at one or both of the crosswalks in front of the school would increase safety for children walking to school.


Left: This picture shows the crosswalk on Elm Street near the entrance to the parking lot as seen by traffic coming from the north. **Middle:** This picture shows the crosswalk on Elm Street near the entrance to the parking lot as seen by traffic coming from the south. **Right:** This picture shows the crosswalk on Elm Street near the exit to the school parking lot as seen by traffic coming from the north.

ENVIRONMENTAL CONDITIONS

- Parking areas, sidewalks, and pathways were clean and free of debris/obstacles.
- Emissions from exhaust could be an issue in the afternoon if parents leave their cars running while waiting to pick up their children. "No Idling" signs in this area could help reduce this risk.
- In general, walking routes are pleasant to walk, however there is some noise from the overpass that goes over Elm Street.

DRIVER BEHAVIOR

- In general, motorists proceeded with caution in the parent pick-up and drop-off area.
- Motorists on Elm Street clearly did not pay attention to the flashing school zone speed limit signs.
- Some parents who parked on Mort Avenue or Amory Street to pick up their children made U-turns to exit the pick-up and drop-off area.

POLICIES

- Children must wear a helmet when they ride a bike to school.

- Children are not allowed outside when the temperature is 15 degrees or lower.
- Friends, relatives, or non-custodial parents are required to have written permission to pick up a student from school.

OTHER NOTES

- According to the safety guards, in past years the parent drop-off was located in front of the school. It was moved to the back of the school due to safety concerns with traffic backing up onto Elm Street, buses and cars mingling, and conflicts between pedestrians crossing Elm Street and parents exiting the parking lot.
- In the winter, the safety guard shovels a path from the parking lot on Mort Avenue to the pathway to the schoolyard for children to use when they are dropped off by their parents. It would be safer if this informal path were paved and regularly maintained during winter months by the City or school maintenance staff.
- The white line on the pathway from the schoolyard to the pick-up/drop-off area needs to be re-painted (See picture below on left). Children must wait behind this line to be picked up by their parents.
- There is a large hole in the fence next to the highway (See picture below on right).

Left: The painted white line that children must wait behind until they are picked up, circled in red, is fading and needs to be repainted.

Right: There is a large hole in the fence separating the schoolyard from the highway.

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.

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	Student Tally	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
	S= sunny R= rainy O=overcast SN=snow	Number in class when count made	-	-	-	Only with Children from your family	Riding with children from other families	City bus, subway, etc.	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.

Fuller Elementary School

Traffic Studies

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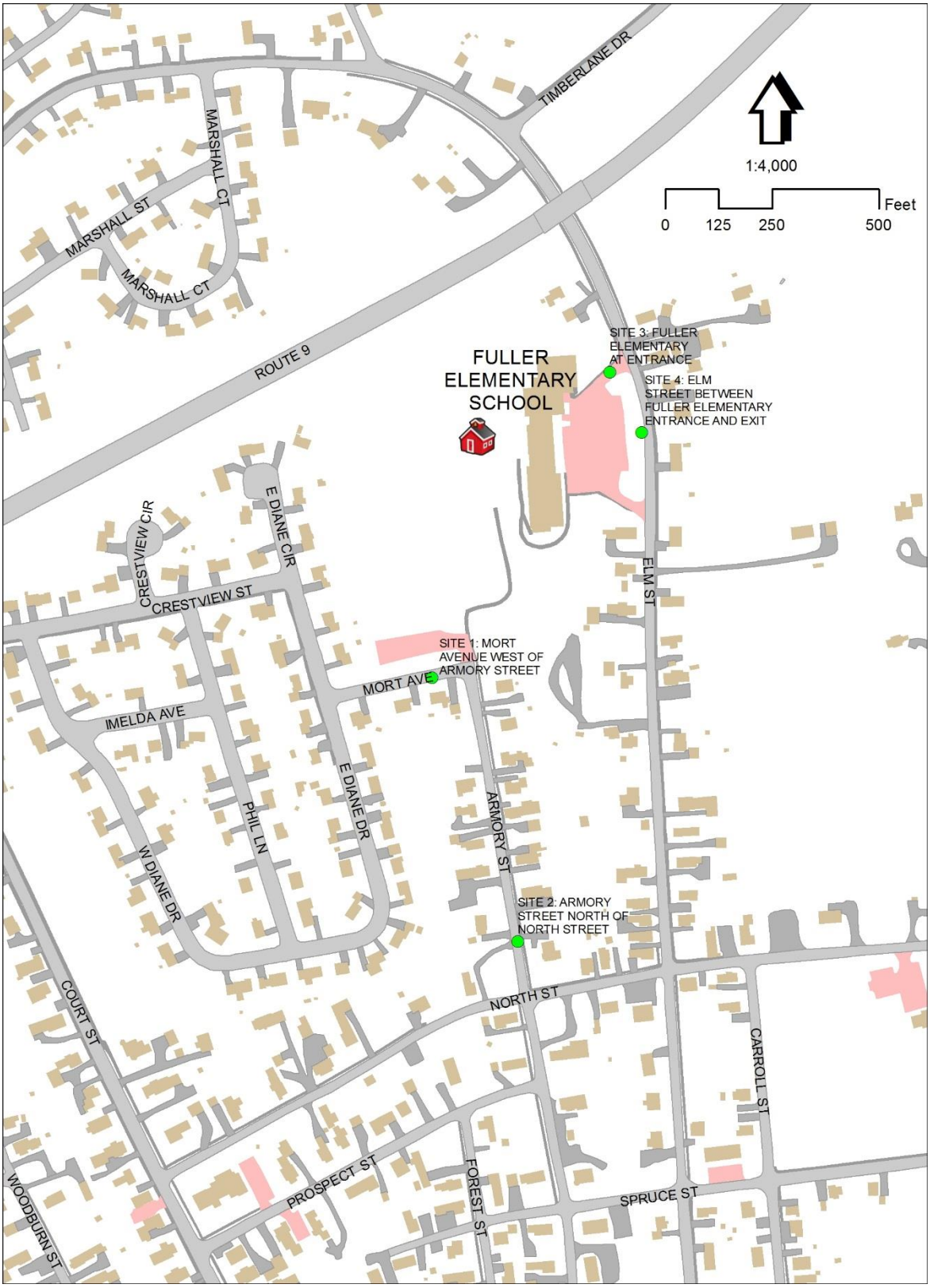
Figure 1 – Site Map



Summary

Figure 2 – Average traffic volume (vehicles per day)

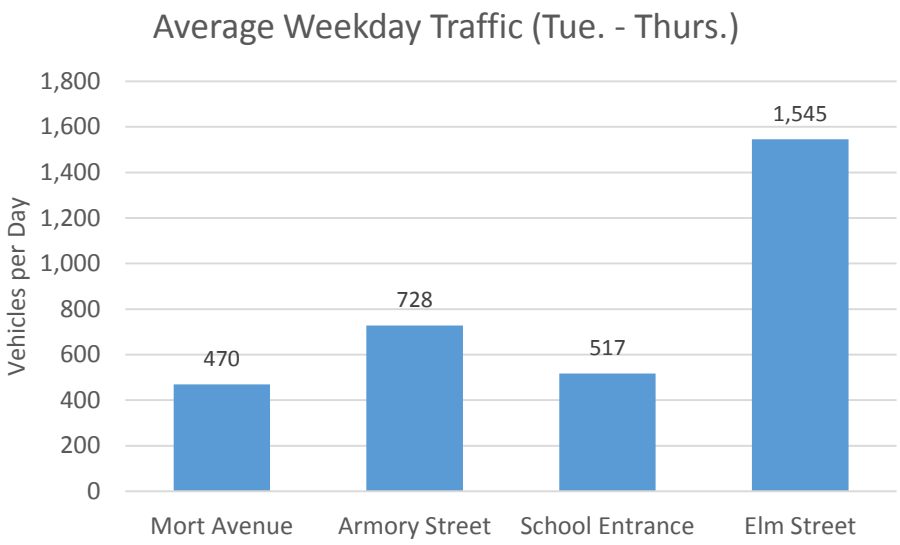
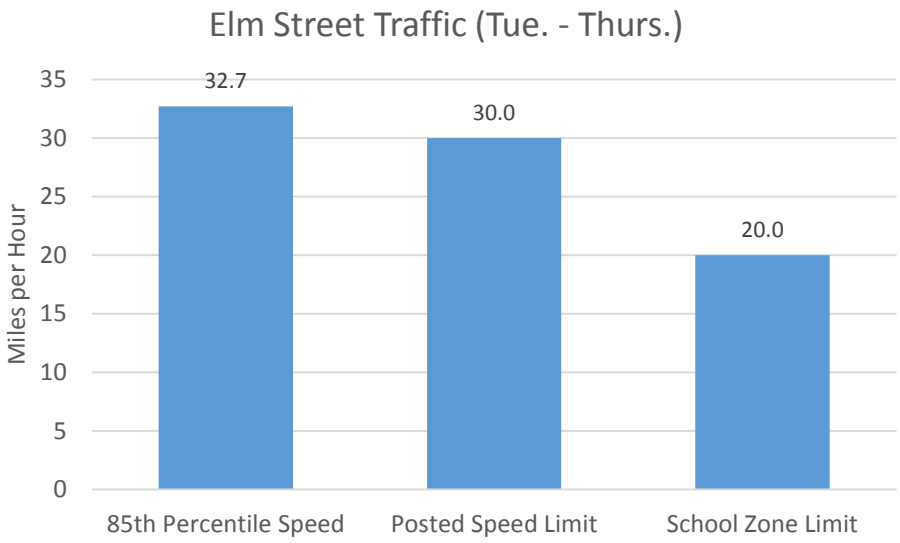


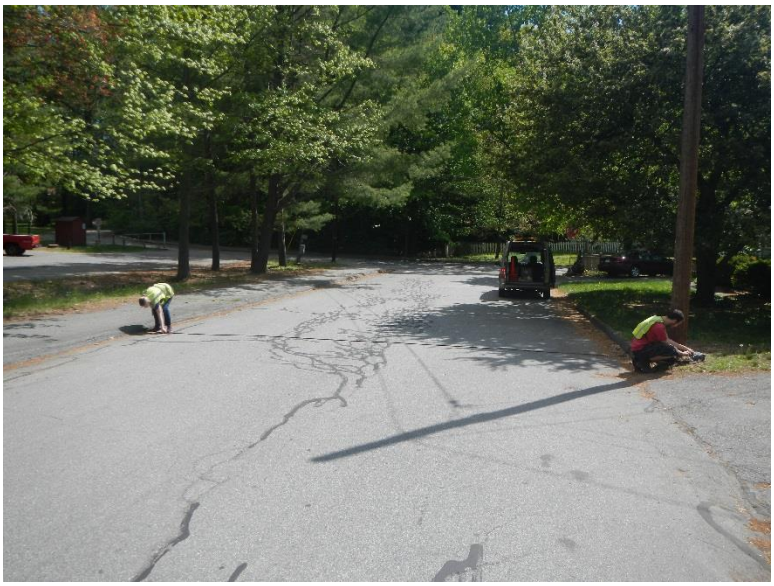
Figure 3 – Posted Speeds and Observed 85th percentile Speed (mph)



Site 1: Mort Avenue west of Armory Street

Figure 4 - Traffic recorder location, facing west (utility pole at left)

Figure 5 - Traffic recorder location, facing east (utility pole at right)



Traffic 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	*	3	1	1	2	*	*	1.5	1.5
0200-0300	*	1	0	0	0	*	*	0.3	0.3
0300-0400	*	2	0	0	0	*	*	0.5	0.5
0400-0500	*	1	1	1	2	*	*	1.3	1.3
0500-0600	*	0	0	1	2	*	*	0.8	0.8
0600-0700	*	8	6	6	7	*	*	6.5	6.5
0700-0800	*	15	19	14	16	*	*	15.8	15.8
0800-0900	*	**110**	**90**	**92**	80	*	*	**93.0**	**93.0**
0900-1000	*	2	8	13	12	*	*	8.3	8.3
1000-1100	*	6	11	14	*	*	*	9.3	9.3
1100-1200	*	11	12	14	*	*	*	11.3	11.3
1200-1300	13	16	19	24	*	*	*	17.5	17.5
1300-1400	14	8	19	23	*	*	*	15.5	15.5
1400-1500	44	36	47	48	*	*	*	43.0	43.0
1500-1600	45	67	**86**	56	*	*	*	**62.8**	**62.8**
1600-1700	14	18	30	29	*	*	*	22.3	22.3
1700-1800	43	70	32	57	*	*	*	50.0	50.0
1800-1900	**48**	20	23	**62**	*	*	*	38.3	38.3
1900-2000	38	**72**	37	61	*	*	*	51.5	51.5
2000-2100	12	14	10	12	*	*	*	11.3	11.3
2100-2200	6	10	1	3	*	*	*	5.0	5.0
2200-2300	0	3	4	7	*	*	*	3.0	3.0
2300-2400	0	2	2	3	*	*	*	1.8	1.8
Totals									
0700-1900	*	375	392	444	*	*	*	386.9	386.9
0600-2200	*	479	446	525	*	*	*	461.2	461.2
0600-0000	*	484	451	534	*	*	*	465.9	465.9
0000-0000	*	491	453	537	*	*	*	470.2	470.2
AM Peak	*	0800	0800	0800	*	*	*		
	*	110	90	92	*	*	*		
PM Peak	1800	1900	1500	1800	*	*	*		
	48	72	86	62	*	*	*		

*** - No data.**

Site 2: Armory Street north of North Street

Figure 6 – Site after installation (facing north).

Figure 7 – Facing south

Traffic 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	5	*	*	1.0	1.0
0100-0200	*	7	4	2	4	*	*	4.3	4.3
0200-0300	*	0	0	0	0	*	*	0.0	0.0
0300-0400	*	2	0	0	0	*	*	0.3	0.3
0400-0500	*	3	3	4	3	*	*	3.3	3.3
0500-0600	*	6	5	4	1	*	*	3.3	3.3
0600-0700	*	14	13	13	13	*	*	12.8	12.8
0700-0800	*	18	22	28	22	*	*	22.3	22.3
0800-0900	*	**143**	**139**	**150**	159	*	*	**147.3**	**147.3**
0900-1000	*	7	11	19	13	*	*	12.0	12.0
1000-1100	*	16	17	18	*	*	*	16.3	16.3
1100-1200	*	15	20	19	*	*	*	17.3	17.3
1200-1300	25	37	34	31	*	*	*	31.5	31.5
1300-1400	37	18	27	20	*	*	*	24.8	24.8
1400-1500	64	69	65	77	*	*	*	68.0	68.0
1500-1600	66	88	**109**	69	*	*	*	82.8	82.8
1600-1700	18	36	42	52	*	*	*	36.5	36.5
1700-1800	**93**	**97**	70	**125**	*	*	*	**95.8**	**95.8**
1800-1900	45	40	36	68	*	*	*	46.8	46.8
1900-2000	48	79	41	64	*	*	*	57.5	57.5
2000-2100	19	27	20	20	*	*	*	21.3	21.3
2100-2200	9	21	9	6	*	*	*	10.8	10.8
2200-2300	4	4	9	17	*	*	*	8.3	8.3
2300-2400	4	4	3	10	*	*	*	4.5	4.5
Totals									
0700-1900	*	581	589	673	*	*	*	601.2	601.2
0600-2200	*	721	671	775	*	*	*	703.4	703.4
0600-0000	*	729	683	801	*	*	*	716.2	716.2
0000-0000	*	746	695	811	*	*	*	728.2	728.2
AM Peak	*	0800	0800	0800	*	*	*		
	*	143	139	150	*	*	*		
PM Peak	1700	1700	1500	1700	*	*	*		
	93	97	109	125	*	*	*		

*** - No data.**

Site 3: Fuller Elementary Entrance (One-Way)

Figure 8 - Site during installation (facing west)

Traffic Counts

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages	
	18 May	19 May	20 May	21 May	22 May	23 May	24 May	1 - 5	1 - 7
Hour									
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	*	0	0	0	4	*	*	0.8	0.8
0500-0600	*	7	0	6	0	*	*	3.0	3.0
0600-0700	*	10	11	15	5	*	*	9.8	9.8
0700-0800	*	98	87	97	103	*	*	96.3	96.3
0800-0900	*	**120**	**157**	**172**	147	*	*	**148.3**	**148.3**
0900-1000	*	27	28	13	25	*	*	22.8	22.8
1000-1100	*	16	18	16	*	*	*	16.3	16.3
1100-1200	*	21	20	12	*	*	*	17.0	17.0
1200-1300	21	24	20	26	*	*	*	22.0	22.0
1300-1400	16	16	28	17	*	*	*	18.8	18.8
1400-1500	30	35	45	30	*	*	*	34.5	34.5
1500-1600	37	48	**57**	**39**	*	*	*	**44.5**	**44.5**
1600-1700	**38**	**54**	33	35	*	*	*	39.3	39.3
1700-1800	35	23	29	19	*	*	*	25.8	25.8
1800-1900	21	4	5	14	*	*	*	10.3	10.3
1900-2000	4	0	4	8	*	*	*	3.8	3.8
2000-2100	0	1	1	6	*	*	*	1.5	1.5
2100-2200	0	0	3	3	*	*	*	1.3	1.3
2200-2300	0	4	0	0	*	*	*	0.8	0.8
2300-2400	2	0	0	0	*	*	*	0.5	0.5
Totals									
0700-1900	*	483	522	486	*	*	*	495.6	495.6
0600-2200	*	493	541	517	*	*	*	511.8	511.8
0600-0000	*	497	541	517	*	*	*	513.1	513.1
0000-0000	*	504	541	522	*	*	*	516.8	516.8
AM Peak	*	0800	0800	0800	*	*	*		
	*	120	157	172	*	*	*		
PM Peak	1600	1600	1500	1500	*	*	*		
	38	54	57	39	*	*	*		

*** - No data.**

Site 4: Elm Street Between Fuller Elementary Entrance and Exit

Figure 9 - Site during installation (facing south)

Traffic Counts

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages	
	18 May	19 May	20 May	21 May	22 May	23 May	24 May	1 - 5	1 - 7
Hour									
0000-0100	*	1	3	5	11	*	*	5.0	5.0
0100-0200	*	5	3	1	3	*	*	3.0	3.0
0200-0300	*	1	4	1	2	*	*	2.0	2.0
0300-0400	*	3	0	1	4	*	*	2.0	2.0
0400-0500	*	2	4	7	5	*	*	4.5	4.5
0500-0600	*	23	17	14	14	*	*	17.0	17.0
0600-0700	*	43	45	37	44	*	*	42.3	42.3
0700-0800	*	**119**	110	108	97	*	*	108.5	108.5
0800-0900	*	91	**118**	**135**	127	*	*	**117.8**	**117.8**
0900-1000	*	61	65	70	72	*	*	67.0	67.0
1000-1100	*	79	70	94	*	*	*	81.0	81.0
1100-1200	*	56	83	89	*	*	*	76.0	76.0
1200-1300	64	72	88	105	*	*	*	82.3	82.3
1300-1400	114	79	76	104	*	*	*	93.3	93.3
1400-1500	120	120	119	109	*	*	*	117.0	117.0
1500-1600	**170**	**169**	155	153	*	*	*	**161.8**	**161.8**
1600-1700	135	161	**157**	138	*	*	*	147.8	147.8
1700-1800	158	134	126	**169**	*	*	*	146.8	146.8
1800-1900	91	90	80	92	*	*	*	88.3	88.3
1900-2000	70	73	55	83	*	*	*	70.3	70.3
2000-2100	53	48	53	60	*	*	*	53.5	53.5
2100-2200	31	31	29	47	*	*	*	34.5	34.5
2200-2300	10	7	9	17	*	*	*	10.8	10.8
2300-2400	16	17	8	10	*	*	*	12.8	12.8
Totals									
0700-1900	*	1231	1247	1366	*	*	*	1287.3	1287.3
0600-2200	*	1426	1429	1593	*	*	*	1487.8	1487.8
0600-0000	*	1450	1446	1620	*	*	*	1511.3	1511.3
0000-0000	*	1485	1477	1649	*	*	*	1544.8	1544.8
AM Peak	*	0700	0800	0800	*	*	*		
	*	119	118	135	*	*	*		
PM Peak	1500	1500	1600	1700	*	*	*		
	170	169	157	169	*	*	*		

*** - No data.**

Speed Statistics

Filter = 12:00 Monday, May 18, 2015 => 10:00 Friday, May 22, 2015
Vehicles = 5550
Posted speed limit = 30 mph, Exceeding = 1910 (34.41%), Mean Exceeding = 33.05 mph
Limit 1 (PSL+5) (30 * 100%) + 5 = 35 mph, Exceeding = 356 (6.41%)
Limit 2 (PSL+10) (30 * 100%) + 10 = 40 mph, Exceeding = 50 (0.90%)
Maximum = 60.6 mph, **Minimum** = 7.0 mph, **Mean** = 28.1 mph
85% Speed = 32.70 mph, **95% Speed** = 35.39 mph, **Median** = 28.02 mph
10 mph Pace = 23 - 33, **Number in Pace** = 4070 (73.33%)
Variance = 24.13, **Standard Deviation** = 4.91 mph

Hour Bins (Partial days)

Time	Bin		Min	Max	Mean	Median	85%	95%	>PSL 30 mph		Limit 1 35 mph PSL+5		Limit 2 40 mph PSL+10	
0000	19	0.3%	25.8	60.6	32.5	31.9	34.9	60.6	11	57.9%	2	10.5%	1	5.3%
0100	12	0.2%	24.5	35.4	31.6	33.7	35.1	35.4	9	75.0%	2	16.7%	0	0.0%
0200	8	0.1%	12.3	40.2	27.6	28.0	37.6	40.2	2	25.0%	1	12.5%	1	12.5%
0300	8	0.1%	21.6	36.2	28.6	27.9	35.8	36.2	3	37.5%	2	25.0%	0	0.0%
0400	18	0.3%	24.9	41.4	30.7	30.3	34.3	41.4	10	55.6%	1	5.6%	1	5.6%
0500	66	1.2%	11.0	49.7	28.9	29.3	35.6	42.2	30	45.5%	10	15.2%	4	6.1%
0600	160	2.9%	13.6	42.3	29.9	29.8	35.5	38.0	78	48.8%	24	15.0%	1	0.6%
0700	396	7.1%	10.1	45.8	27.1	26.6	31.3	34.6	98	24.7%	17	4.3%	3	0.8%
0800	422	7.6%	11.8	40.7	25.7	25.7	30.0	33.3	65	15.4%	8	1.9%	1	0.2%
0900	256	4.6%	14.4	40.3	28.1	27.7	31.7	35.0	79	30.9%	13	5.1%	1	0.4%
1000	222	4.0%	7.5	41.8	27.2	27.3	31.7	34.5	59	26.6%	9	4.1%	2	0.9%
1100	220	4.0%	8.5	42.8	28.3	28.4	32.4	35.2	78	35.5%	13	5.9%	3	1.4%
1200	308	5.5%	10.2	46.0	28.2	28.4	32.9	35.1	96	31.2%	16	5.2%	3	1.0%
1300	344	6.2%	13.5	42.5	28.0	27.8	32.6	35.7	121	35.2%	20	5.8%	7	2.0%
1400	431	7.8%	7.0	40.2	27.7	27.7	32.3	35.1	146	33.9%	24	5.6%	2	0.5%
1500	582	10.5%	9.6	43.2	26.7	26.7	31.6	34.2	145	24.9%	20	3.4%	1	0.2%
1600	526	9.5%	10.6	42.4	28.8	28.9	32.9	35.4	204	38.8%	32	6.1%	1	0.2%
1700	521	9.4%	12.1	46.6	29.3	29.6	33.9	36.9	245	47.0%	53	10.2%	6	1.2%
1800	332	6.0%	7.4	56.3	28.6	29.0	33.0	35.4	138	41.6%	22	6.6%	1	0.3%
1900	266	4.8%	9.4	39.7	28.3	28.4	32.9	35.6	99	37.2%	21	7.9%	0	0.0%
2000	206	3.7%	16.0	45.9	29.3	28.9	33.4	37.3	83	40.3%	19	9.2%	6	2.9%
2100	134	2.4%	9.8	51.2	29.2	29.5	34.4	38.8	62	46.3%	18	13.4%	2	1.5%
2200	43	0.8%	18.5	43.1	30.4	29.4	34.8	37.5	22	51.2%	5	11.6%	1	2.3%
2300	50	0.9%	10.9	41.3	30.4	31.7	34.0	38.1	27	54.0%	4	8.0%	2	4.0%
----	**5550**	**100.0%**	**7.0**	**60.6**	**28.1**	**28.0**	**32.7**	**35.4**	**1910**	**34.4%**	**356**	**6.4%**	**50**	**0.9%**

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