

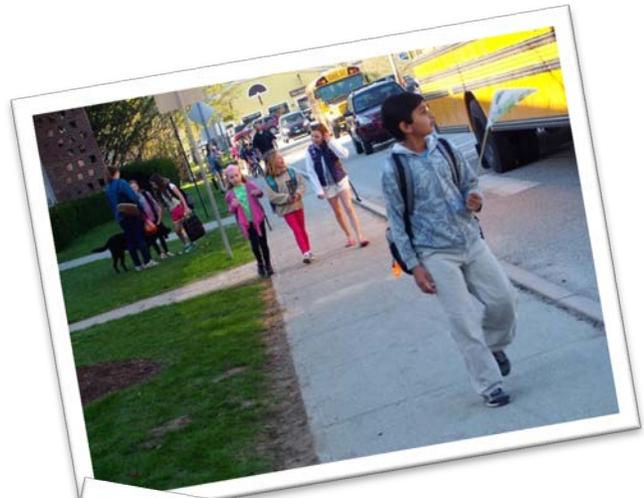
**VERMONT**  
Safe Routes to  
**SCHOOL**



**Manchester  
Elementary  
Middle  
School**

**Safe Routes to  
School Travel Plan**

**June 2013**



*Prepared with assistance from the VT SRTS Resource Center*

*SafeRoutesVT.org*

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## INTRODUCTION

This Travel Plan represents the work of the Manchester Elementary Middle School Safe Routes to School Team. Our school is a Silver Level Partner with the Vermont Safe Routes to School Resource Center. We believe creating and maintaining this Travel Plan is a good way to ensure an on-going Safe Routes to School (SRTS) program at our school.

Our SRTS team consists of parents, teachers, and other community stakeholders who have provided input, guidance, and oversight in writing our plan.



Manchester Elementary Middle School front entrance

The ideas and recommendations developed during this process will guide us in creating a well-balanced approach to building our SRTS program at Manchester Elementary Middle School (MEMS). Our school team will use this document as a resource to plan our encouragement, education, enforcement, and evaluation efforts with assistance from the VT SRTS Resource Center.

The Vermont Agency of Transportation (VTrans), through the Vermont SRTS Resource Center, has provided technical assistance in producing this plan. With the help of the Resource Center, we have identified infrastructure improvements that would have a positive impact on walking

### The Five E's

SRTS combines many different approaches to make it safer for children to walk and bicycle to school and to increase the number of children doing so.

**Engineering** strategies create safer environments for walking and bicycling to school through improvements to the infrastructure surrounding schools. These improvements focus on reducing motor vehicle speeds and conflicts with pedestrians and bicyclists, and establishing safer and fully accessible crossings, walkways, trails and bikeways.

**Education** programs target children, parents, caregivers and neighbors, teaching how to walk and bicycle safely and informing drivers on how to drive more safely around pedestrians and bicyclists. Education programs can also incorporate health and environment messages.

**Enforcement** strategies increase the safety of children bicycling and walking to school by helping to change unsafe behaviors of drivers, as well as pedestrians and bicyclists. A community approach to enforcement involves students, parents or caregivers, school personnel, crossing guards and law enforcement officers.

**Encouragement** activities promote walking and bicycling to school to children, parents and community members. Events such as Walk to School Day, contests such as a Frequent Walker/Bicyclist challenge, or on-going programs such as a Walking School Bus or Bicycle Train can promote and encourage walking and bicycling as a popular way to get to school.

**Evaluation** is an important component of SRTS programs that can be incorporated into each of the other E's. Collecting information before and after program activities or projects are implemented allow communities to track progress and outcomes, and provide information to guide program development.

- Excerpted from "Safe Routes to School: A Transportation Legacy", the report of the National Safe Routes to School Task Force

and biking to school. These infrastructure recommendations are considered planning level and will require further engineering analysis to determine feasibility. It is our hope that our recommendations can be the basis for grants and/or improvements initiated by the Town of Manchester.

Members of the Manchester Elementary Middle School SRTS Team	
<b>Sarah Merrill</b> Principal	<b>Carol Baringer</b> School Nurse
<b>Paul McGunn</b> Police Officer	<b>Brian Jennings</b> P.E. Teacher
<b>Andy Putney</b> Parent	<b>Gary Mears</b> Transportation Coordinator
<b>Mark Anders</b> Regional Planner, BCRC	<b>Allison Langsdale</b> Regional Planner, BCRC
<b>Kathleen O'Reilly</b> School Nurse Liaison	<b>Nate Severance</b> Student
<b>Lee Krohn</b> Town Planner	<b>Stacey DeCesare</b> Interested Party, Nurse SVC/RRMC

## TEAM VISION

The SRTS program at MEMS aligns with the community's efforts towards promoting walking and biking. The SRTS program goals of combining engineering, education, enforcement, evaluation, and encouragement strategies (also known as the Five E's) to improve the safety and health of students who walk and bike to school, fit our school and town values.

Our vision for MEMS (and the surrounding neighborhoods) is:

- To be a school where more students safely bicycle and walk to school
- To encourage a more physically active student body
- To incorporate walking and biking safety into school curricula
- To be a community where residents prefer to walk and bike to destinations over driving
- To build community support and awareness to make Manchester a model walking and biking friendly community
- To increase bus ridership in the student body both to and from school

This Travel Plan outlines MEMS’s intentions for making walking to and from school more sustainable and safer for students and the community. Through our SRTS program we hope to reach 25% of our students walking or biking to school during year one. We believe this goal is attainable through encouraging more walking and biking in town and through educating students on safe walking and biking practices.

**ABOUT THIS PLAN**

Our SRTS team met three times with the VT SRTS Resource Center to develop and adopt this SRTS Travel Plan. Each meeting provided education on the benefits of SRTS and highlighted successful program components and strategies. The “engineering meeting” included a guided walk audit of the areas around our school. We also discussed education, encouragement, enforcement, and evaluation strategies which helped identify needed and complimentary programs to support proposed engineering strategies.

Meeting Date	Content and Outcomes
April 2013	<p><b>Kick-off Meeting: How the VT SRTS Travel Plan Works</b></p> <ul style="list-style-type: none"> <li>- Award of the planning assistance grant</li> <li>- Overview of the planning process</li> </ul> <p>Engineering Meeting</p> <ul style="list-style-type: none"> <li>- Team visioning</li> <li>- Opportunity and barrier discussions</li> <li>- Walk audit</li> </ul>
May 2013	<p><b>Plan Review</b></p> <ul style="list-style-type: none"> <li>- Reviewed the draft plan</li> <li>- Observed arrival and dismissal</li> <li>- Identified roles and continued steps for non-engineering recommendations</li> </ul>
June 2013	<p><b>Plan Adoption</b></p> <ul style="list-style-type: none"> <li>- Adopted Plan</li> <li>- Discussed continuation of non-infrastructure recommendations</li> </ul>

## TRAVEL PLAN CONTEXT

### MANCHESTER ELEMENTARY MIDDLE SCHOOL AND TOWN OF MANCHESTER OVERVIEW

Manchester Elementary Middle School is located in Manchester, VT, a small town with a population of approximately 4,000 year-round residents. Manchester is a regionally significant shopping and ski destination with retail outlet shopping, several nearby ski resorts, and three state-recognized historic districts.

Manchester Elementary Middle School is located on Memorial Avenue, just off of Main Street – a Class 1 Town Highway, adjacent to Depot Street, a major shopping corridor. The speed limit on Main Street is 25 miles per hour near the school. The street has curbing on both sides of the street and sidewalks along the majority of the street on at least one side.

The SRTS program at MEMS is a key component in the school's efforts to improve the health of its students and community as well as to reduce traffic congestion in and around the school campus.

Several years ago, the State of Vermont passed Complete Streets legislation which took effect July 1, 2011. Complete Streets policies ensure that state and local transportation agencies consider all users in the design and operation of the right of way to make roads safer and more accessible for everyone regardless of age or ability. Complete Streets policies, working in tandem with the SRTS travel plan, will help to define Manchester as a walkable, bikeable, and sustainable community.



Context map of the school and Town of Manchester

## CURRENT SCHOOL DEMOGRAPHICS

MEMS had a total of 392 students enrolled for the 2012-2013 school year. Our school serves grades K-8. Manchester Elementary Middle School provides busing to all enrolled students.

Demographic	Count	Percentage of student body
Free/Reduced Lunch	151	39%
Students with Disabilities	0	0%
Limited English proficient students	6	1.5%
<b>Distance From School</b>		
Students living within 1/4 mile of school	8	2%
Students living within 1/2 mile of school	53	14%
Students living within 1 mile of school	160	41%
Students living within 2 miles of school	253	65%
Students in grades K-3	155	40%
Students in grades 3-6	237	60%

## CURRENT STUDENT TRAVEL MODES

Travel Mode	Walk	Bike	School Bus	Family Vehicle	Carpool	Public Transit	Other
Percentage of Student Body (AM)	1%	0.7%	30%	67%	1%	0%	0%
Percentage of Student Body (PM)	5%	0.8%	32%	60%	3%	0%	0%

Data based on SRTS Student Tallies administered Spring 2013.

## SCHOOL ARRIVAL AND DISMISSAL PROCEDURES

Manchester Elementary Middle School relies on policies, practices, and support activities to ensure a safe and orderly process for arrival and dismissal, regardless of how students travel to school. Parents are reminded of these procedures in the student handbook and in newsletters that are mailed to students' homes.

The morning bell for Manchester Elementary Middle School rings at 8:30 am. There are three buses that make two trips in both the morning and afternoon. The first buses arrive at school at 7:50 am and again at 8:25 am after the second run, dropping students off on the north side of school. Student in grades K-4 and 5-8 then proceed to their respective fields to play before the bell rings. Students walking, biking, and travelling by car arrive staggered before



Bus drop-off during arrival

school starts – typically between 8:15 am and 8:30 am. Students travelling by bike currently park in front of the main entrance. Parents dropping off their children park in the lot west of Memorial Avenue, then cross the road to reach the school. This procedure creates congestion and a high number of conflicts between pedestrians and parent vehicles driving on Memorial Avenue.

Dismissal procedures begin at 3:00 pm with bus riders leaving first. There are two waves of bus dismissal due to the buses' multiple runs. Bus riders on the first route depart, followed by car riders/walkers/bikers in grades K-4, then 5-6, and finally 7-8. After this release of car riders/walkers/and bikers, the second wave of bus riders is released.

Arrival		
Travel Mode	Procedure	Time
Walk	Arrive staggered	7:30-8:30 am
Bike	Arrive staggered	7:30-8:30 am
School Bus	Arrive at designated times	7:50 am & 8:25 am
Family Vehicle	Arrive staggered	8:20-8:30 am

Dismissal		
Travel Mode	Procedure	Time
Bus	Dismissed through front door	3:00 pm & 4:30 pm
Family Vehicle	Dismissed by grade - Parents park in the lot to the west of Memorial Avenue and wait for their children there.	3:10 pm
Walk	Dismissed by grade through the main door	3:10 pm
Bike	Dismissed by grade through the main door	3:10 pm

**EXISTING TRAVEL HABITS**

Students travel from all directions to Manchester Elementary School, but primary access to the school grounds occurs via Main Street and Memorial Avenue. Just over 40% of the student population lives within a mile of the school on or adjacent to roads with sidewalks. These students are most likely to begin walking or riding a bike to school with the team’s support. Students living east of U.S. 7 are probably less likely to walk or bike, as the highway presents a significant barrier along the route. Students living more than 1.5 miles from school are typically more dispersed, living on dead-end, cul de sac streets or arterial streets that do not provide designated walking and biking facilities. These students are unlikely to walk or bike to school without dedicated paths. These students may be best served by busing or walking school bus sites located closer to school. On May 16, 2013, (the day of our safety observation) one student was observed bicycling to school and three students walking to school.



The first arrivals to school - by bike, bus, and family vehicle

The SRTS team identified the following barriers to walking to school based on the results of Parent Surveys conducted in April and May 2013:

- Safety of intersections and crossings
- Speed of traffic along route
- Sidewalks or pathways are not present along entire walking route
- Weather or climate
- Distance

Many of the issues in the list above can be addressed with either infrastructure or non-infrastructure strategies (or in some cases both). We kept these concerns in mind when picking the strategies that we want to accomplish in the upcoming school year, 2013-2014.

## KEY ISSUES

The team identified the following barriers when developing this Travel Plan:

*Issue: A high number of parents drive their children to school resulting in a chaotic atmosphere in the school parking lot at arrival and dismissal times.*

The volume of vehicular traffic in the school parking lot at arrival and dismissal times, combined with unsafe driving behavior by parents, creates a dangerous atmosphere for pedestrians and bicyclists on and around the school grounds. The current location of drop-off and pick-up for private vehicles, to the west of Memorial Ave., forces students to cross the road to reach the school, navigating heavy private-vehicle traffic. A crossing guard wearing MUTCD-compliant reflectorized apparel is stationed by the police department at the middle crosswalk on Memorial Avenue during arrival. This position changes to the crosswalk at the intersection of Memorial Avenue and Main Street during dismissal. Nevertheless, not all students cross at these locations, and the perceived danger caused by traffic discourages parents from supporting walking on and around the school grounds. Addressing the chaotic atmosphere of the school parking lot may begin with constant enforcement of a circulation plan, but actually solving the issue requires less parent vehicles on school grounds and therefore more children walking to school.



Students cross amidst parent vehicles dropping off children.

*Issue: Bus ridership at the school is unpopular.*

Riding the bus to and from school is not popular for a variety of reasons. The frequency of stops along bus routes creates bus rides of disproportionately long length versus the short distance they live from school. Many middle school students simply view riding the bus as “uncool.”

*Issue: The intersection of Main Street and Memorial Avenue has limited visibility and does not provide a safe crossing for students approaching the school.*

Main Street is a busy commercial street that serves as the primary entrance to the school grounds. In addition to high vehicular traffic volumes along the road, the intersection of Main Street and Memorial Avenue is very busy at school arrival and dismissal periods, with limited crosswalk visibility for motorists.



Parking along Main Street impairs crosswalk visibility when in use.

*Issue: The lack of sidewalks on School Street, one of the main entries to the school does not provide a safe walking / biking environment for students.*

School Street is one of two entrance streets to MEMS. The street intersects with Bonnett Street, a Class 1 Town Highway with curbed sidewalks. There are currently no sidewalks along School Street providing no designated facility for pedestrians to access the school grounds.

*Issue: Many residential streets such as Barnumville Road lack designated pedestrian or bike facilities.*

Barnumville Road serves as a connection along the route to school for a number of students. The lack of designated pedestrian facilities along this road discourages students from walking to school.



A bridge connects existing paths at Riley Rink and Dana Thompson Park

*Issue: The existing off-road path at Dana Thompson Recreational Park and Riley Rink is not connected to adjacent roads or neighborhoods where students could access it.*

The existing pathway (appx. 1.5 miles), connects directly to the school grounds and provides the foundation for a unique opportunity for students to walk or bike to school on a facility completely separated from motor vehicle traffic. As a nearly closed-loop, however, the path does not provide significant connectivity to other pedestrian facilities in order to function as a significant route to or from school.

## OVERVIEW: TRAVEL PLAN RECOMMENDATIONS

This Travel Plan is comprised of several sections detailing activities and programs for MEMS to implement now and projects for us to develop over time with local officials.

### 16-Month SRTS Activity Calendar

Our team will pursue a smaller subset of items in the non-engineering plan during the next 16 months. We will review our work periodically, adding additional activities that will build the SRTS program momentum. The Calendar is located in **Appendix A**.

### Engineering Recommendations

With assistance from the Vermont SRTS Resource Center, we have identified short, medium and long-term engineering treatments to make walking and bicycling to school safer for our students. Engineering Recommendations can be found in **Appendix C**, along with Typical Infrastructure recommendations in **Appendix B**. Additional information on how to begin implementing the infrastructure recommendations can be found in **Appendix H**.

### Non-Engineering Plan

This Travel Plan identifies best practice education, encouragement, enforcement, and evaluation activities and programs suitable for our school. Information on the advantages and considerations for each strategy, and resources to help us implement each, are included in the **Appendix F**.

### Snow Removal Toolkit

Snow, sleet, slush, ice, and rain impact all modes of transportation, and the timely clearance and removal of the elements are essential for the functionality and accessibility of a Safe Routes to School program. A Snow Removal Toolkit can better inform communities about snow removal policies and procedures, providing tools to increase compliance and safety. Snow removal recommendations are located in **Appendix G**.

## NON-ENGINEERING TRAVEL PLAN

We identified a number of activities and programs to promote walking and biking to school. These activities and programs, while grouped by “The Five E’s”, are dependent upon each other for their individual success. We plan to work on our highest priority programs this year, following up with other programs in successive years. We used the timeframe below to determine when to initiate programs:

Type	Short	Medium	Long
Encouragement, Education, Enforcement, Evaluation	<i>What we plan to do this school year</i>	<i>What we plan to do next school year</i>	<i>What we plan to do starting in two years</i>

## EDUCATION STRATEGIES

The education strategies included in our 16-month activity calendar are aimed at providing all students with safe pedestrian walking skills. Our education activities this year include:

- Provide educational materials in backpack mail on walking and bicycling safety and proper helmet.
- Provide education materials for parents in the school newsletter regarding proper drop-off procedures and general safe-driving behaviors.
- Publish an article in the local newspaper about Walk to School Day events including safety tips.
- Establish 7<sup>th</sup> and 8<sup>th</sup> grade mentors for younger students to teach safe riding skills and to help younger students with bike maintenance.
- Incorporate Walk Smart/Bike Smart Vermont! Curriculum into 2012/2013 school year. K-2 participated in Introduction to Walking in the winter and K-4 will participate in the Walk Smart curriculum in the spring.
- Teach the Bike Smart curriculum in PE class starting in the 2013/2014 school year. The curriculum will include a full day on bike safety, including bike inspections, helmet fittings, and discount helmet offerings. The local police department and local bicycle shop will be invited to help with the event.

## ENCOURAGEMENT STRATEGIES

Encouragement strategies included in our 16-month activity calendar will help students and their parents feel more comfortable and confident about walking and bicycling to school. Our encouragement activities this year will include:

- Host a Vermont Intergenerational Walk and Roll to School Day event in May.
- Encourage students to create reminder posters for Walk and Roll to School Day.
- Coordinate with police to implement a “Caught Being Good” program, to reward positive biking and walking behavior.
- Investigate early dismissal for walkers and bikers.
- Raffle-off prizes for walker/biker punch card participants.
- Establish park and walk sites and a remote bus drop-off site.
- Launch “Walking Wednesdays.”
- Encourage students to decorate bike racks to foster ownership and increase usage.

## ENFORCEMENT STRATEGIES

Our SRTS enforcement strategies are aimed both at changing the behavior of drivers and making the neighborhood safer and more secure for students walking to and from school. Our enforcement activities this year will include:

- Work with local law enforcement officers to communicate and address unsafe motorist behaviors better.
- Provide positive reinforcement to students displaying safe and healthy behaviors (Caught Being Good Program).



A parent blocks a crosswalk to drop off children

- Place a temporary speed trailer/feedback machine at roadside locations near the school.
- Coordinate with local law enforcement on event days.

## EVALUATION STRATEGIES

Evaluation is an important component of our SRTS program. We plan to complete regular in-classroom student tallies and evaluation tools such as the student tally and parent survey forms provided by the National Center for Safe Routes to School (NCSRTS). We first administered these in April 2013, which provided base line information on student travel behavior. Parent surveys will help us measure the effectiveness of SRTS efforts over time and were completed in May 2013.

We will continue to conduct annual walk audits to evaluate the existing walking and biking environment as well as monitor the progress of recommended projects.

Other evaluation strategies we will work on after this year are:

- Administer parent surveys annually to capture opinions of new parents and changes in overall parental perceptions.
- Collect student tally data each year to measure progress toward goals.
- Keep the SRTS Travel plan updated and use it as a tool for increased SRTS activities.

Evaluation Tool	Leader	Schedule
Parent Surveys	Carol Baringer	Annually
Student Tallies	Carol Baringer	Annually
Walk Audits	SRTS Team	Annually, within first two months of school

## ENGINEERING TRAVEL PLAN

Our goal for engineering improvements is to enhance the physical environment along walking and biking routes that students use. Engineering improvements generally fall into three categories: providing sidewalks and paths, improving crossings, and implementing infrastructure associated with improving the safety and efficiency of school drop-off and pick-up practices. Descriptions of typical engineering recommendations can be found in **Appendix B**.



The town's recent collaboration with VTrans resulted in high-quality pedestrian facilities along Main Street/Route 7A.

We recognize that infrastructure improvements can take time to complete and are a collaborative effort between Manchester Elementary Middle School, the Town of Manchester and potentially the Vermont Agency of Transportation (VTrans) to implement the projects. For example, a sidewalk can take three to four years to construct if it is a federally-funded project following the VTrans Local Transportation Facilities (LTF)/SRTS process. The following short, medium, and long timeframes are a guide for anticipated project completion, but actual timeframes may vary:

Short term	Within 2 years
Medium term	Within 5 years
Long term	Longer than 5 years

The SRTS team prioritized the infrastructure improvements as high, medium, or low. The factors affecting this ranking include:

- Locations with specific safety concerns

- Locations along existing student walking or bicycling routes, or with a significant number of school family residences
- Locations that are priorities for the school community

Engineering Recommendations for specific locations in the vicinity of Manchester Elementary Middle School can be found in **Appendix C**.

## CONSIDERATIONS FOR DESIGN AND FUNDING

### Design

- All infrastructure recommendations in this plan are considered “planning level” and will require further engineering analysis, design, or public input before implementation.
- Recommended changes to existing traffic patterns (adding a signal, adding a stop sign, changing lane patterns, etc.) will require a study to evaluate the potential impact that the recommendation could have on existing traffic conditions.
- ADA compliance will need to be evaluated for all recommendations at the time of design. ADA guidelines recommend particular design features to accommodate persons with disabilities. ADA design considerations for curb ramps, sidewalks and paths, include appropriate slopes, landing areas, surface conditions, and use of detectable warning materials for visually impaired pedestrians, among other design features.
- Drainage, existing utilities, and all other environmental impacts will need to be considered when constructing new or refurbished sidewalk structures, and all proper permits will need to be obtained.
- Right-of-way was not evaluated as a part of this project. Recommendations assume that sufficient right-of-way exists or that a method to gain needed right-of-way will be identified as the project progresses. Any work that is required within State Highway right-of-way will require a 1111 permit from the area District Transportation Facility.
- VTrans district office staff will be involved in the planning and design process for any recommendation made on the State system.
- All infrastructure recommendations should comply with federal, state, and local standards including the American Association of State Highway and Transportation Officials’ (AASHTO) Policy on Geometric Design of Highways and Streets and the Manual on Uniform Traffic Control Devices (MUTCD).
- Refer to the Vermont Pedestrian and Bicycle Facility Planning and Design Manual for guidelines on pedestrian and bicycle accommodations.

## Funding

- A variety of funding sources may be used for the recommendations. For example, projects requiring right-of-way acquisition or existing utilities relocation are not typically eligible with SRTS funds, but may be funded through other sources. The use of locally available funds can help decrease overall project costs and schedule.

More information on the types of projects eligible for SRTS funding through VTrans can be found online at: [saferoutes.vermont.gov/getting\\_started/funding](http://saferoutes.vermont.gov/getting_started/funding).

## ATTACHMENTS

- A. Non-Infrastructure Strategies Calendar
- B. Typical Infrastructure Recommendations
- C. Location-Specific Engineering Recommendations (Location Key and Recommendations Tables)
- D. Manchester Elementary Middle School Student Population Locator
- E. Student Travel Tally/Parent Survey Reports, April and May 2013
- F. Non-Engineering Strategies Resource Guide
- G. Snow Removal Toolkit
- H. Infrastructure Strategies Resource Guide
- I. MEMS SRTS Program Enrollment Form
- J. Walk to School Day Permission Slip
- K. MEMS Anti-Bullying Policy

APPENDIX A

NON-INFRASTRUCTURE STRATEGIES CALENDAR







APPENDIX B

TYPICAL INFRASTRUCTURE RECOMMENDATIONS

## APPENDIX B TYPICAL INFRASTRUCTURE RECOMMENDATIONS

The following infrastructure recommendations are typical treatments used in SRTS projects. These recommendations may or may not be included in this travel plan. The basic information is provided to give an overall understanding and implementation guidance on each treatment.

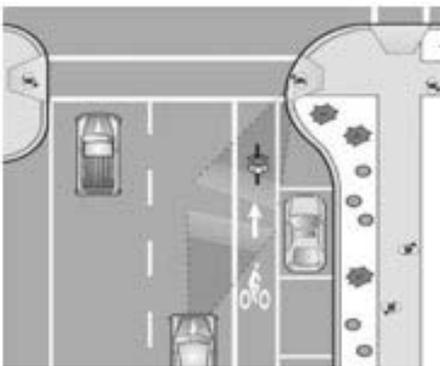


### Rectangular Rapid Flashing Beacons:

Rectangular rapid flashing beacons (RRFB), as shown to the left, are warning beacons used to increase visibility of students and all pedestrians as they cross the roadway at uncontrolled crosswalks. This type of signal is pedestrian-activated, i.e., the signal will only flash if a pedestrian has pushed a button, indicating that they need to cross the street. Any proposed RRFB locations need to meet current guidance provided in the interim approval of the Manual on Uniform Traffic Control Devices (MUTCD). For proposed uncontrolled crosswalks on state maintained roads, VTrans approval and justification are needed.

### Curb Extensions:

Curb extensions, as shown below, are recommended to reduce pedestrian crossing distances (and thus exposure to traffic) and to slow motor vehicle turning speeds at intersections. Curb extensions located along school bus routes should effectively calm traffic, but not impede buses from making the turn. Design considerations should include the appropriate design vehicle, maintenance concerns, and snow plow accommodations depending on the roadway jurisdiction.



### Curb Radius Reductions:

Curb radius reductions are recommended to slow motor vehicle turning speeds and to reduce pedestrian crossing distances (and thus exposure to traffic). Curb radius reductions involve

tightening the motor vehicle turning radius at an intersection, as shown to the left, without extending the curb line into a parking lane. Curb radius reductions located along school bus routes should effectively calm traffic but not impede buses from making the turn. Design considerations for curb radius reductions include the appropriate design vehicle depending on the roadway jurisdiction and ADA compliance.

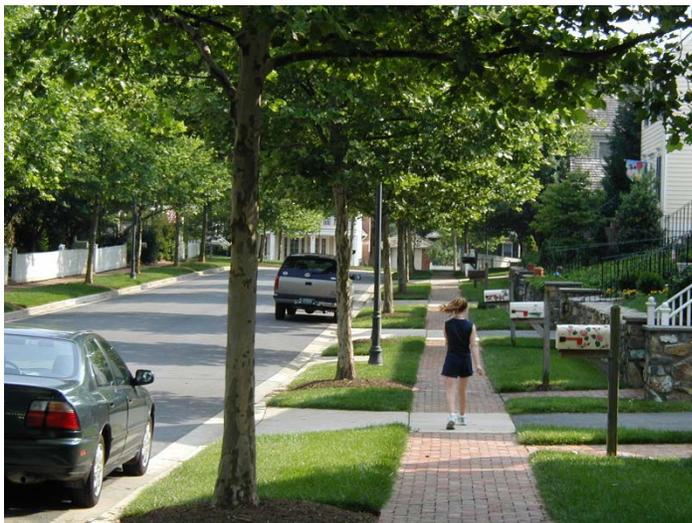
High Visibility Crosswalks:

High visibility crosswalk striping improves the visibility of pedestrians to motorists. Different striping patterns can be used and the most common patterns are variations of the ladder style, shown right. Reflective durable materials should be used to resist decay.



Sidewalks and buffers:

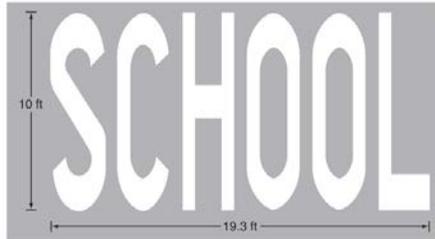
One of our long-term goals is to establish a well-connected sidewalk network throughout the neighborhoods so that families can walk for more of their daily trips, rather than drive. Sidewalks are the most effective when they include a buffer. This buffer increases pedestrian comfort and safety and can also serve as a place for pedestrian “overflow”, especially closer to the school where groups of walkers are largest. Based on Vermont Pedestrian and Bicycle



Facility Planning and Design Manual, the preferred design for sidewalks is a minimum six foot wide sidewalk with a minimum two foot wide buffer for local roadways with curbs. For downtowns and village centers on roadways with curbs, the preferred design for sidewalks is a minimum eight foot wide sidewalk with a minimum four foot wide buffer. For roadways without curbs, the buffer should be a minimum of five feet. Available right of way will impact the ultimate design of the sidewalk.

### School Zone Identification:

School pavement markings are recommended to alert motorists that they are entering a school zone where pedestrians may be present both along and crossing the roadway. New pavement markings can work with existing school zone signs to reinforce the message to motorists about the school zone. The detail provided in the figure below is an excerpt of the MUTCD.



### Speed Feedback Signs:

Communities may use a mobile “speed trailer” that can be placed in locations where motorists exceed the speed limit often enough that passive enforcement is appropriate. Permanently installed feedback signs, shown right, provide ongoing information to motorists about the speed at which they are traveling. SRTS recommended any potential feedback signs be strategically located at main access points.



For towns interested in reducing the speed limit of a roadway, an engineering study needs to be conducted by the town. Approval from VTrans is needed for state maintained roads.

### Pedestrian Refuge Island:

A Pedestrian refuge island, as shown right, may be used to narrow the roadway, reduce motor vehicle speeds, and improve pedestrian crossings. In locations with crosswalks, these islands improve pedestrian safety and access by reducing crossing distances and enable pedestrians to cross roadways in two stages. Pedestrian refuge islands should be used on multi-lane roadways or roadways with insufficient vehicular gaps to pedestrians to safely cross. Prior to design, a gap study should be conducted. Other considerations for pedestrian refuge islands include ADA compliance, maintenance concerns, and snow plow accommodations.



## APPENDIX C

### LOCATION SPECIFIC ENGINEERING RECOMMENDATIONS

## Appendix C: Location-Specific Engineering Recommendations

Safe Routes to School engineering strategies create safer environments for walking and bicycling to school through improvements to infrastructure in and around school grounds. These improvements focus on reducing motor vehicle speeds and conflicts with pedestrians and bicyclists, as well as establishing safer and fully accessible crossings, walkways, trails, and bikeways.

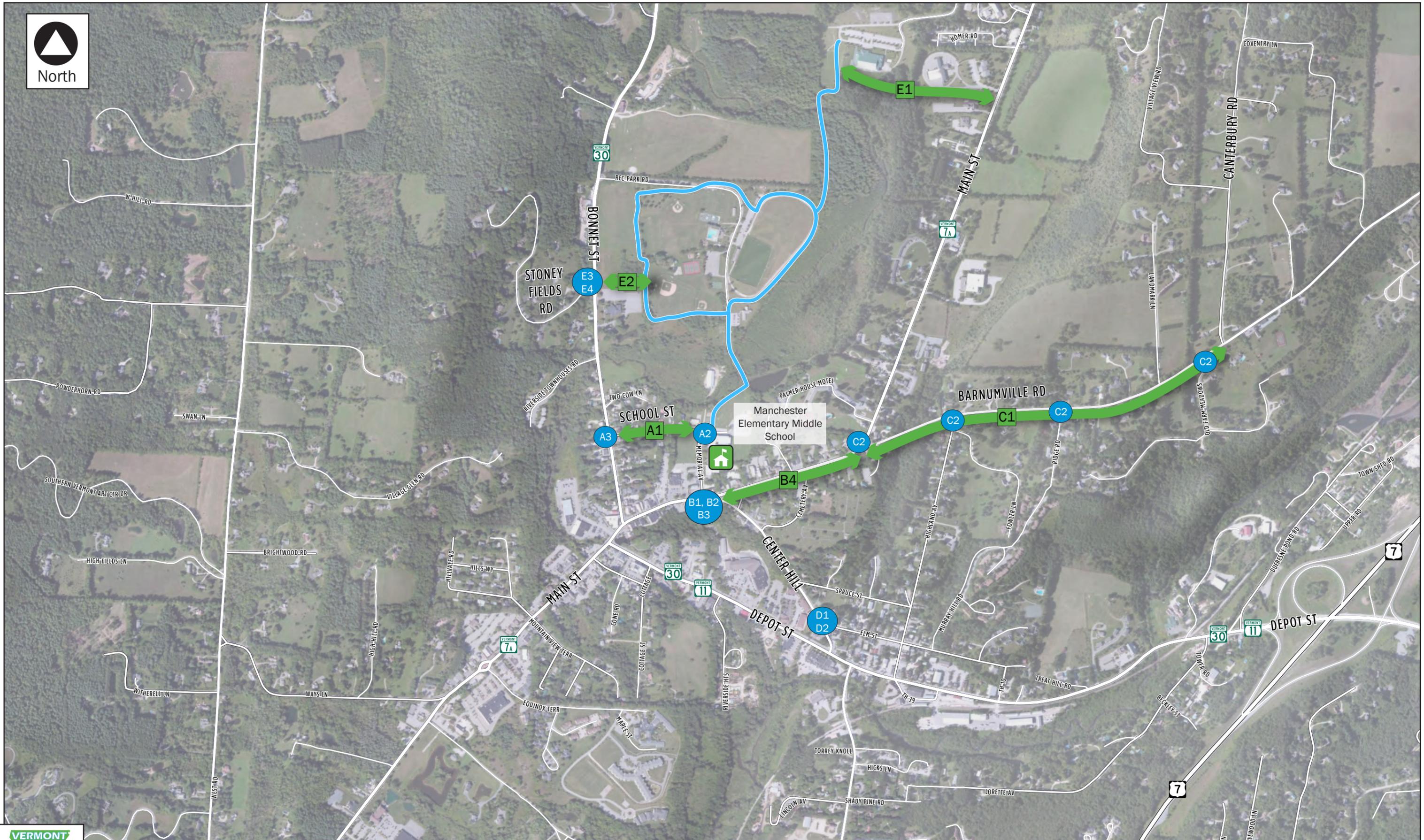
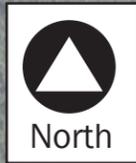
The following tables provide a summary of the engineering strategies recommended for Manchester Elementary Middle School (MEMS). These recommendations were developed by Toole Design Group, LLC based on input from the MEMS SRTS Team. The tables include an estimate of the amount of time that is likely needed to implement the recommended improvements at each site (Estimated Time Frame). The table also indicates the priority of the proposed improvements at each site for the MEMS SRTS Team (Team Priority).

**These recommendations are for planning purposes only and may require further engineering analysis, design, or public input before implementation and shall be in full compliance with the Manual on Uniform Traffic Control Devices for Streets and Highways, (MUTCD) Latest Edition adopted by the state.**

The summary table provided below is followed by information about implementation and a map which shows where the recommendation sites are located in relation to the school.

## Description of Streets with Engineering Recommendations

Street name	Classification of Town Highways	Speed Limit	Curb/No curb & Surface
School Street	Class 3	25	No Curb, Asphalt
Bonnett Street, VT Route 30	Class 1	30	Curb, Asphalt
Main Street, VT Route 7A	Class 1	25	Curb, Asphalt
Barnumville Road	Class 2	25-35	No Curb, Asphalt
Center Hill Road	Class 2	30	Curb, Asphalt



# Manchester Elementary Middle School Location Key

Manchester, VT  
June 2013



School Location



Existing Off-Street Path

Segment Improvement

Intersection/Spot Improvement



Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
<p>A</p> <p>School Street</p> <p>School Street is a two-way, Class 3 residential roadway running east-west from Bonnet Street to Memorial Avenue on the school grounds.</p>	<p>School Street provides one of two roadway entries to the school grounds along with Memorial Avenue. It is the point of entry for walkers or bikers approaching the school from the north along Bonnet Street.</p> <p>School Street is a curbless, asphalt paved street without sidewalks and thereby does not provide a designated space for pedestrians to access the school grounds.</p>	<p>A1. Construct an ADA-compliant sidewalk along the south side of School Street from Bonnet Street to the existing crosswalk on the north side of Memorial Avenue (appx. 850 ft.).</p>	<p>Medium Term</p>	<p><input checked="" type="checkbox"/> <i>Safety concerns.</i></p> <p><input checked="" type="checkbox"/> <i>Existing walking or bicycling routes.</i></p> <p><input checked="" type="checkbox"/> <i>Priorities for the school community.</i></p>	<p>Medium</p>
		<p>A2. Construct ADA-compliant curb ramps at both ends of the crosswalk on the north end of Memorial Avenue.</p>	<p>Medium Term</p>		
		<p>A3. Install a high-visibility, durable, block-pattern crosswalk across Bonnet Street, connecting the School Street sidewalk (A1) and the existing sidewalk running N/S on the West side of Bonnet Street. Construct ADA-compliant curb ramps at both ends of the crosswalk.</p>	<p>Medium Term</p>		

Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
<p>B</p> <p>Main Street/VT Route 7A</p> <p>Main Street is a two-way, Class 1 roadway that serves as one of two primary streets through Manchester and a primary walking route to school.</p> <p>Sidewalks run along the north side from the Town Municipal Complex through the town center to Ways Lane. Sidewalks run along the south side of the road from Center Hill Road westbound to Taconic Road/Ekwanok Country Club.</p> <p>A crossing guard is positioned in the afternoon at the intersection of Memorial Avenue and Main Street.</p>	<p>Main Street is a busy commercial street that serves as the primary entrance to the school grounds for pedestrians, bicyclists, and motorists.</p> <p>The intersection of Main Street and Memorial Avenue was observed to be very busy at arrival and dismissal times. Pedestrians crossing Main Street at this location are not highly visible to motorists due to the size of the intersection and existing on-street parking on the north side of Main Street.</p>	<p>B1. Restrict parking during school hours in the curbside space on the north side of Main Street nearest the crosswalk at the intersection with Memorial Avenue. Signage should be installed at the space to prohibit parking during school arrival and dismissal times. The existing handicapped parking space should be moved into the remaining parking spaces on the same side, or across the street as dictated by accessibility needs.</p>	<p>Short Term</p>	<p><input checked="" type="checkbox"/> <i>Safety concerns.</i></p> <p><input checked="" type="checkbox"/> <i>Existing walking or bicycling routes.</i></p> <p><input checked="" type="checkbox"/> <i>Priorities for the school community.</i></p>	<p>High</p>
		<p>B2. Install an in-street pedestrian crossing sign (R1-6a) at the location of the existing crosswalk.</p>	<p>Short Term</p>		
		<p>B3. Install curb extensions with ADA-compliant curb ramps on the east side of the intersection of Memorial Avenue and Main Street at the existing crosswalk location. Curb extension construction must maintain sufficient roadway width for snow plows.</p>	<p>Long Term</p>		
		<p>B4. Install ADA-compliant sidewalks along the south side of Main St from Center Hill Road to Barnumville Road, (appx. 1500 ft.).</p>	<p>Long Term</p>		

Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
<p>C</p> <p>Barnumville Road</p> <p>Barnumville Road is a two-way, Class 2 residential roadway running from New Ireland Road on the east to Main Street on the west.</p>	<p>Barnumville Road connects to a number of residential streets to the east of the school. It could serve as a walking or biking route for a number of students, but it currently lacks any walking or biking facility.</p>	<p>C1. Install an ADA-compliant sidewalk or sidepath on the south side of the road from Main Street on the west to Canterbury Road on the east (appx. 3750 ft.).</p>	<p>Long Term</p>	<p><input checked="" type="checkbox"/> <i>Safety concerns.</i></p> <p><input checked="" type="checkbox"/> <i>Existing walking or bicycling routes.</i></p> <p><input checked="" type="checkbox"/> <i>Priorities for the school community.</i></p>	<p>Medium</p>
		<p>C2. Install ADA-compliant curb ramps and stripe high-visibility, durable, block-pattern crosswalks on the south side of Barnumville Road at each intersection, including Main Street, Highland Avenue, Ridge Road, and Old Farm Meadows.</p>	<p>Long Term</p>		

Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
<p>D</p> <p>Center Hill Road</p> <p>Center Hill Road is a two-way, Class 2 roadway running from Depot Street in the south to Main Street in the north.</p> <p>An existing sidewalk runs along the west side of Center Hill Road from Depot Street to Main Street.</p> <p>An existing sidewalk runs along the north side of Elm Street from Murray Hill Road to Center Hill Road</p>	<p>Students currently live on Elm Street and a MEMS walking school bus meets at the parking lot at the intersection of Center Hill Road and Elm Street.</p> <p>There is no crosswalk connecting the sidewalk on Elm Street (which intersects Center Hill Road on the east) to the sidewalk along the west side of Center Hill Road.</p> <p>Residents must now cross Center Hill Road from Elm Street without a crosswalk.</p>	<p>D1. Stripe a high-visibility, durable, block-pattern crosswalk across Center Hill Road on the north side of the intersection with Elm Street.</p> <p>D2. Install ADA-compliant curb ramps on either side of the crosswalk (D1) on the north side of the intersection with Elm Street.</p>	<p>Short Term</p> <p>Short Term</p>	<p><input checked="" type="checkbox"/> <i>Safety concerns.</i></p> <p><input checked="" type="checkbox"/> <i>Existing walking or bicycling routes.</i></p> <p><input checked="" type="checkbox"/> <i>Priorities for the school community.</i></p>	<p>High</p>

Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
<p>E</p> <p>Off-Road Path at Dana Thompson Recreational Park and Riley Rink</p> <p>An off-road path currently connects the school grounds to the Dana Thompson Recreational Park and further connects to Riley Rink.</p>	<p>The existing trails provide about 1.5 miles of comfortable, off-road biking and walking paths. They are mostly recreational in nature and connect to few commercial or residential areas directly.</p> <p>Extending the path north and west would help to provide safe routes to school for students and community members living farther to the north and west.</p> <p>New path connections will require necessary easements, permits, and parcel ownership verification for any proposed path alignment. Pathways utilizing VT public right-of-way must also be ADA-compliant year round, including snow removal. Lighting should also be provided for security along the path.</p>	<p>E1. Work with the Town to develop a formal path connection through the Municipal Complex and out to existing sidewalks on Main Street where an informal connection currently exists (appx. 1500 ft.).</p>	<p>Medium Term</p>	<p><input checked="" type="checkbox"/> <i>Safety concerns.</i></p> <p><input checked="" type="checkbox"/> <i>Existing walking or bicycling routes.</i></p> <p><input checked="" type="checkbox"/> <i>Priorities for the school community.</i></p>	<p>Low</p>
		<p>E2. Explore the option of creating an off-road path connecting the existing path at Dana Thompson Recreational Park to Stoney Fields Road, running just north of St Paul’s Church (appx. 700 ft.).</p>	<p>Long Term</p>		
		<p>E3. Stripe a high-visibility, durable, block-pattern crosswalk across Bonnet Street to connect Stoney Fields Road with the path extensions (E2). Install ADA-compliant curb ramps on either side of the crosswalk .</p>	<p>Long Term</p>		
		<p>E4. Install pedestrian warning signs (W11-2, W16-7P) at the crosswalk and in advance of the crosswalk (W11-2, W16-9P) on either side.</p>	<p>Long Term</p>		

APPENDIX D

STUDENT POPULATION LOCATOR

# Manchester Elementary Middle School

## Student Locator

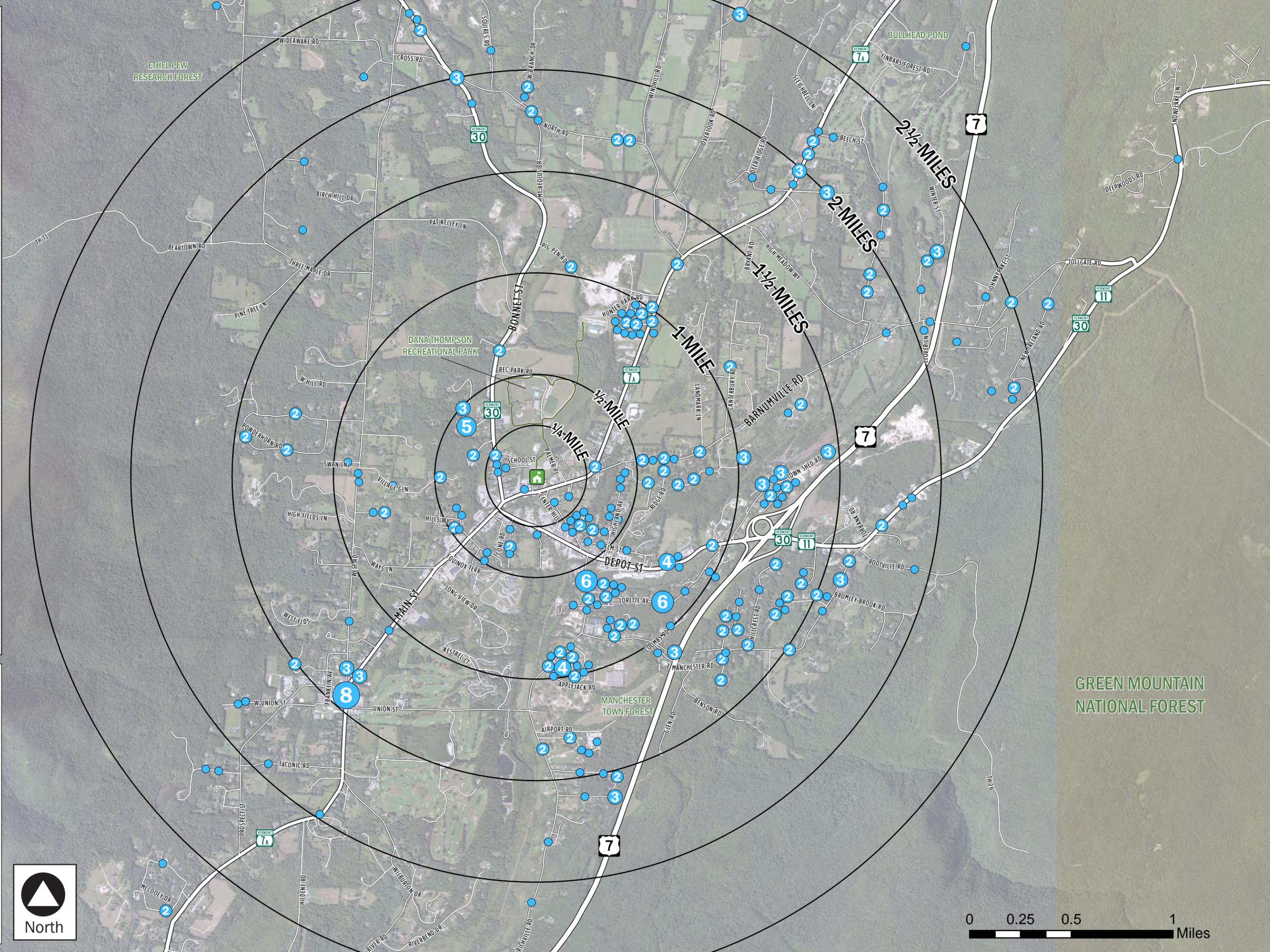
Manchester, VT  
May 2013

-  School Location
-  Student Residence
-  Multiple Student Residences

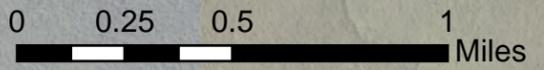


## Student Count

- 8 Students within ¼ mile
- 53 Students within ½ mile
- 160 Students within 1 mile
- 253 Students within 1½ miles
- 307 Students within 2 miles
- 351 Students within 2½ miles
- 66 Students beyond 2½ miles
- 417 Total Students



GREEN MOUNTAIN NATIONAL FOREST



APPENDIX E

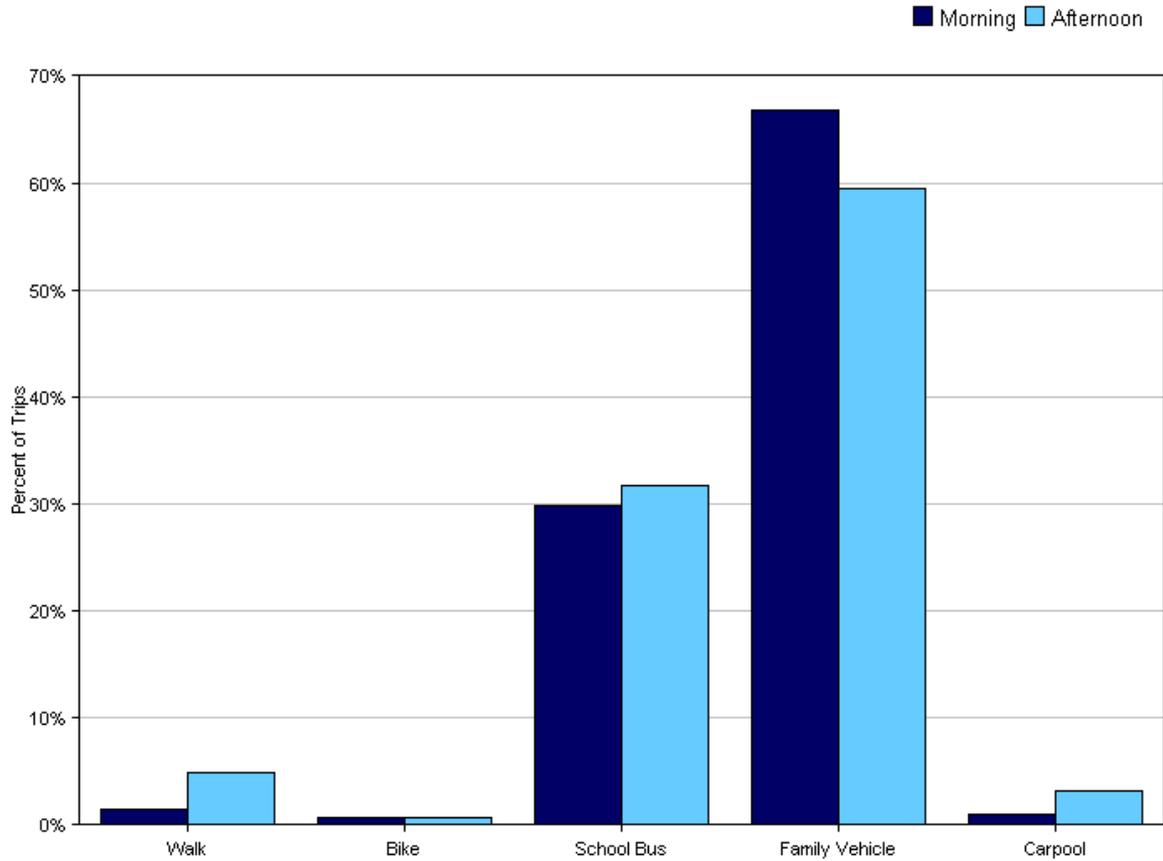
STUDENT TRAVEL TALLY / PARENT SURVEY REPORTS

## Tally Report Summary

<b>Program Name:</b>	Manchester Elementary/Middle School	<b>Month and Year Collected:</b>	April 2013
<b>School Name:</b>	Manchester Elementary/Middle School	<b>Set ID:</b>	11637
<b>School Enrollment:</b>	392	<b>Date Report Generated:</b>	04/17/2013
<b>Enrollment within Grades Targeted by SRTS Program:</b>	392	<b>Number of Classrooms Included in Report:</b>	28
<b>Number of Classrooms in School:</b>	28		

This report contains information from parents about their children's trip to and from school. The data used in this report were collected using the in-class Student Travel Tally questionnaire from the National Center for Safe Routes to School.

### Morning and Afternoon Travel Mode Comparison

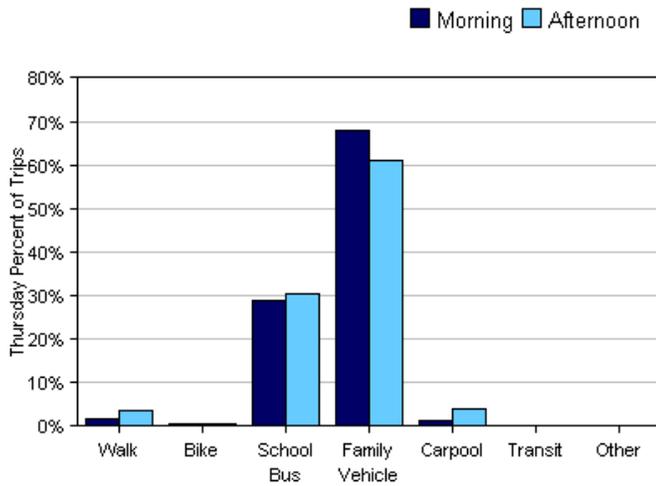
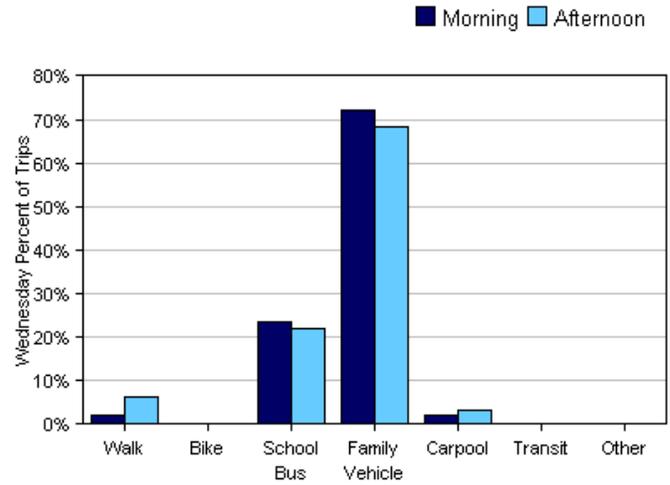
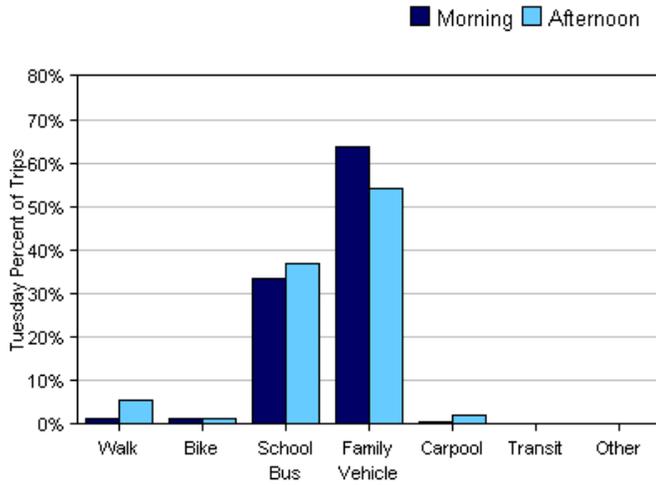


### Morning and Afternoon Travel Mode Comparison

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	670	1%	0.7%	30%	67%	1%	0%	0%
Afternoon	662	5%	0.8%	32%	60%	3%	0%	0%

Percentages may not total 100% due to rounding.

### Morning and Afternoon Travel Mode Comparison by Day

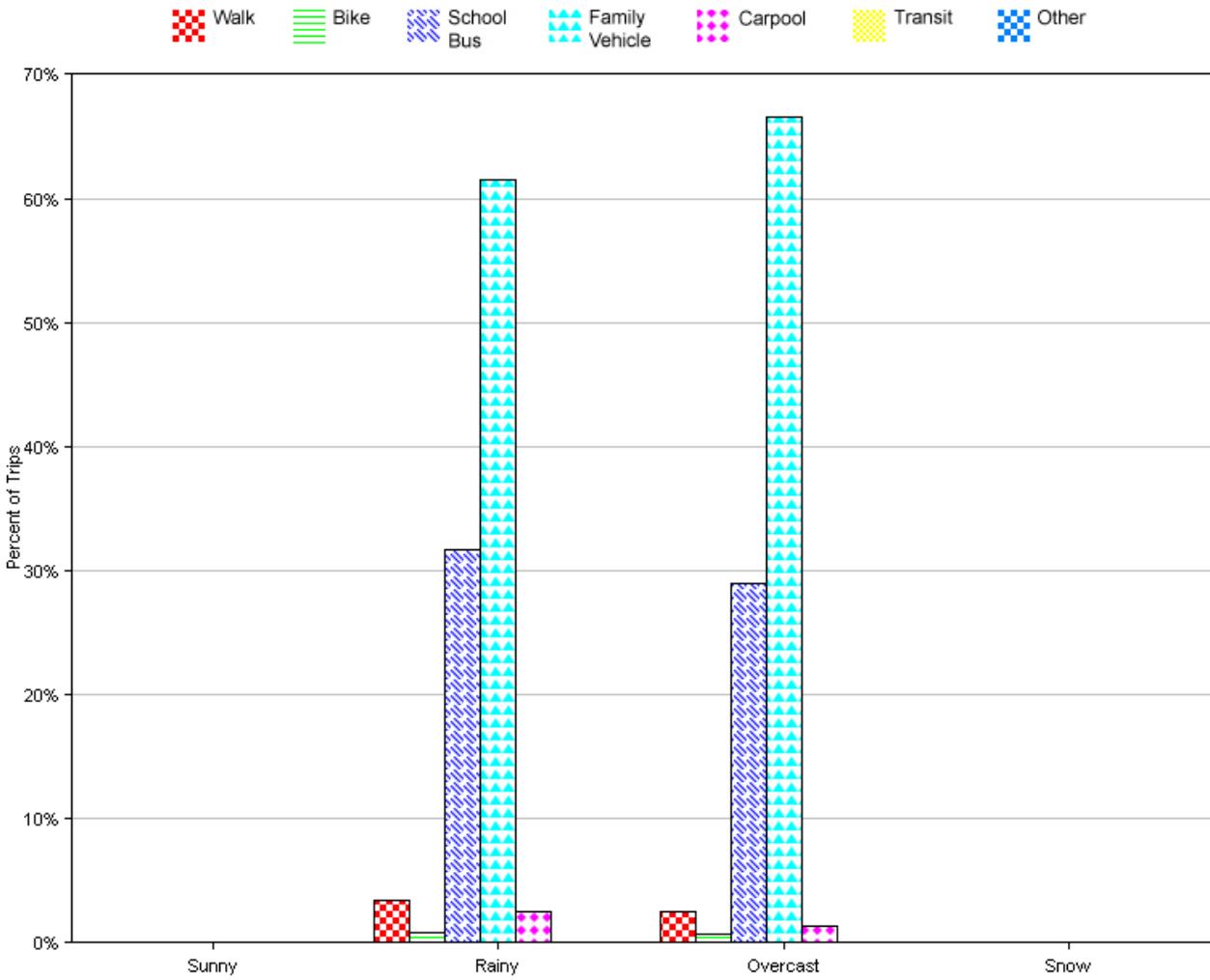


### Morning and Afternoon Travel Mode Comparison by Day

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Tuesday AM	250	1%	1%	34%	64%	0.4%	0%	0%
Tuesday PM	246	6%	1%	37%	54%	2%	0%	0%
Wednesday AM	97	2%	0%	24%	72%	2%	0%	0%
Wednesday PM	95	6%	0%	22%	68%	3%	0%	0%
Thursday AM	323	2%	0.6%	29%	68%	1%	0%	0%
Thursday PM	321	4%	0.6%	31%	61%	4%	0%	0%

Percentages may not total 100% due to rounding.

### Travel Mode by Weather Conditions



### Travel Mode by Weather Condition

Weather Condition	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Sunny	0	0%	0%	0%	0%	0%	0%	0%
Rainy	890	3%	0.8%	32%	62%	2%	0%	0%
Overcast	442	2%	0.7%	29%	67%	1%	0%	0%
Snow	0	0%	0%	0%	0%	0%	0%	0%

Percentages may not total 100% due to rounding.

## Parent Survey Summary

<b>Program Name:</b>	Manchester Elementary/Middle School	<b>Month and Year Collected:</b>	April 2013
<b>School Name:</b>	Manchester Elementary/Middle School	<b>Set ID:</b>	9588
<b>School Enrollment:</b>	392	<b>Date Report Generated:</b>	06/10/2013
<b>Enrollment within Grades Targeted by SRTS Program:</b>	392	<b>Number of Questionnaires Analyzed for Report:</b>	10
<b>Number of Questionnaires Distributed:</b>	392		

This report contains information from parents about their children's trip to and from school. The report also reflects parents' perceptions regarding whether walking and bicycling to school is appropriate for their child. The data used in this report were collected using the Survey about Walking and Biking to School for Parents form from the National Center for Safe Routes to School.

\*\*Because less than 30 questionnaires are included in this report, each graph and table display counts rather than percentage information.

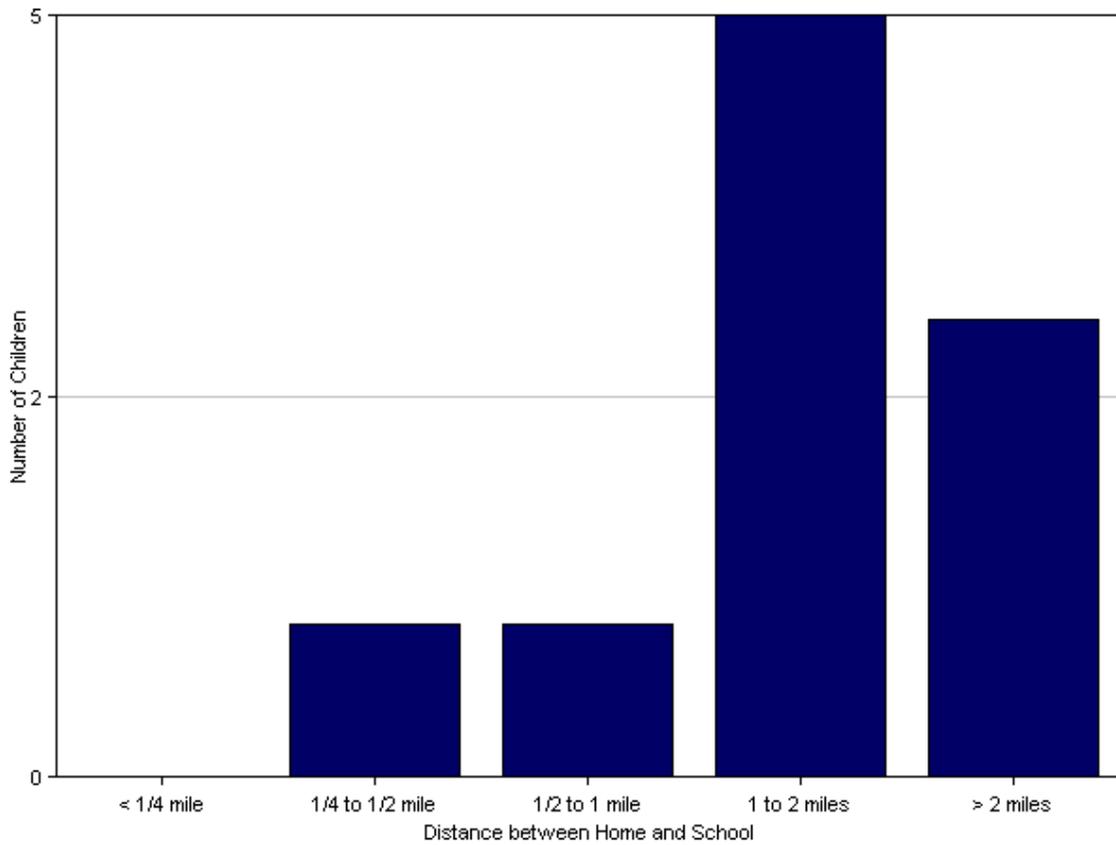
**Grade levels of children represented in survey**

No responses were collected for this question in any of the surveys in this set.

**Grade levels of children represented in survey**

No responses were collected for this question in any of the surveys in this set.

### Parent estimate of distance from child's home to school



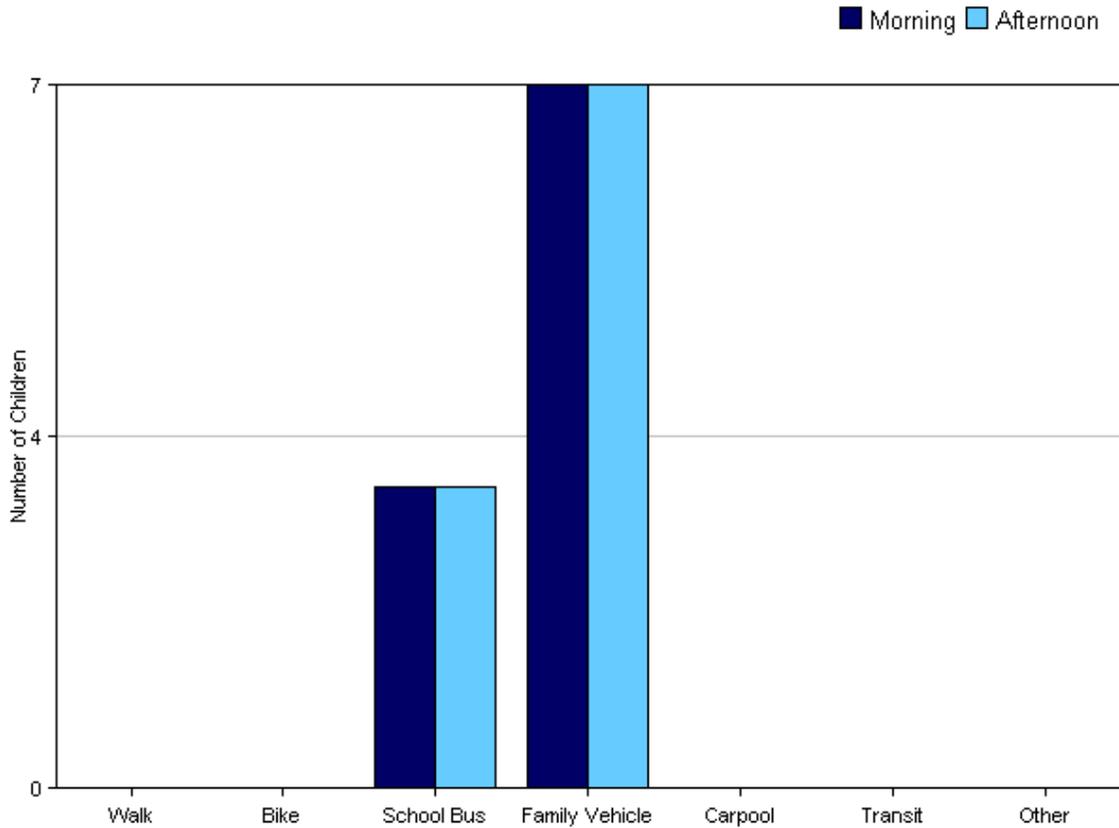
### Parent estimate of distance from child's home to school

Distance between home and school	Number of children
Less than 1/4 mile	0
1/4 mile up to 1/2 mile	1
1/2 mile up to 1 mile	1
1 mile up to 2 miles	5
More than 2 miles	3

Don't know or No response: 0

Numbers rather than percents are displayed because the number of respondents for this question was less than 30.

### Typical mode of arrival at and departure from school



### Typical mode of arrival at and departure from school

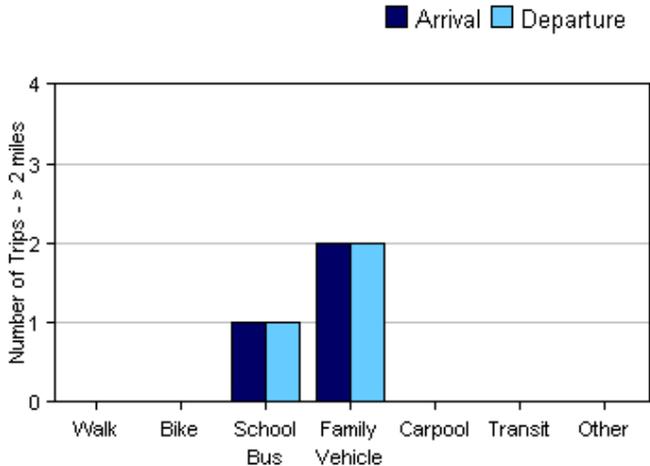
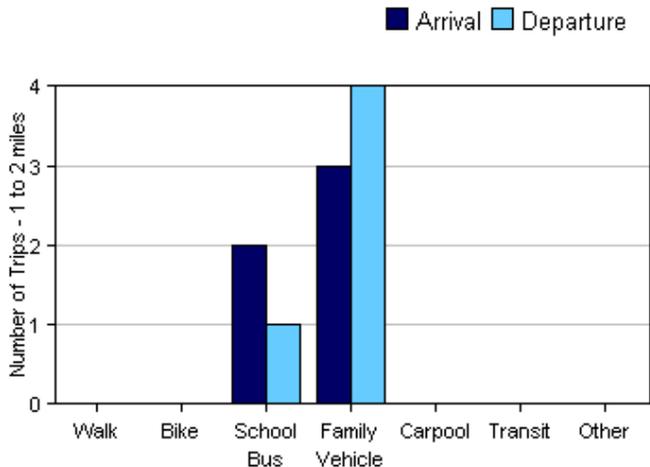
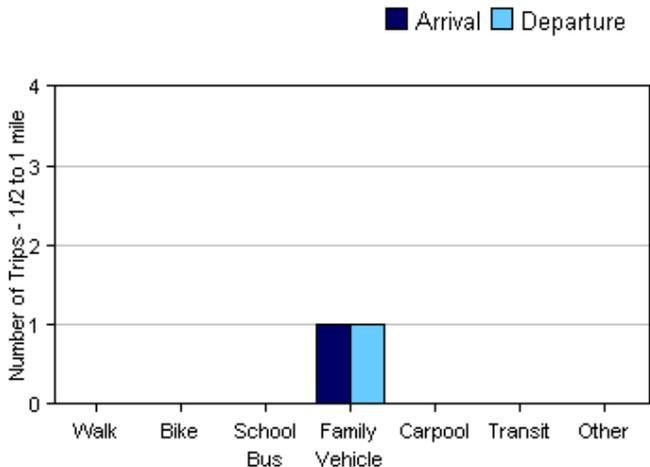
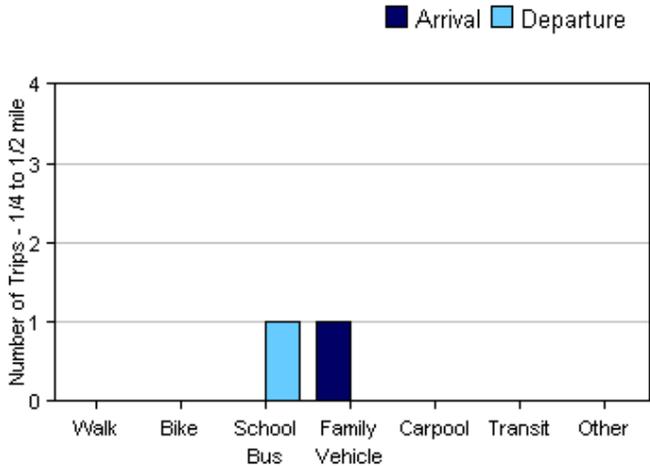
Time of Trip	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	10	0	0	3	7	0	0	0
Afternoon	10	0	0	3	7	0	0	0

No Response Morning: 0

No Response Afternoon: 0

Numbers rather than percents are displayed because the number of respondents for this question was less than 30.

# Typical mode of school arrival and departure by distance child lives from school



## Typical mode of school arrival and departure by distance child lives from school

### School Arrival

Distance	Number within Distance	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Less than 1/4 mile	0	0	0	0	0	0	0	0
1/4 mile up to 1/2 mile	1	0	0	0	1	0	0	0
1/2 mile up to 1 mile	1	0	0	0	1	0	0	0
1 mile up to 2 miles	5	0	0	2	3	0	0	0
More than 2 miles	3	0	0	1	2	0	0	0

Don't know or No response: 0

Numbers rather than percents are displayed because the number of respondents for this question was less than 30.

### School Departure

Distance	Number within Distance	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Less than 1/4 mile	0	0	0	0	0	0	0	0
1/4 mile up to 1/2 mile	1	0	0	1	0	0	0	0
1/2 mile up to 1 mile	1	0	0	0	1	0	0	0
1 mile up to 2 miles	5	0	0	1	4	0	0	0
More than 2 miles	3	0	0	1	2	0	0	0

Don't know or No response: 0

Numbers rather than percents are displayed because the number of respondents for this question was less than 30.

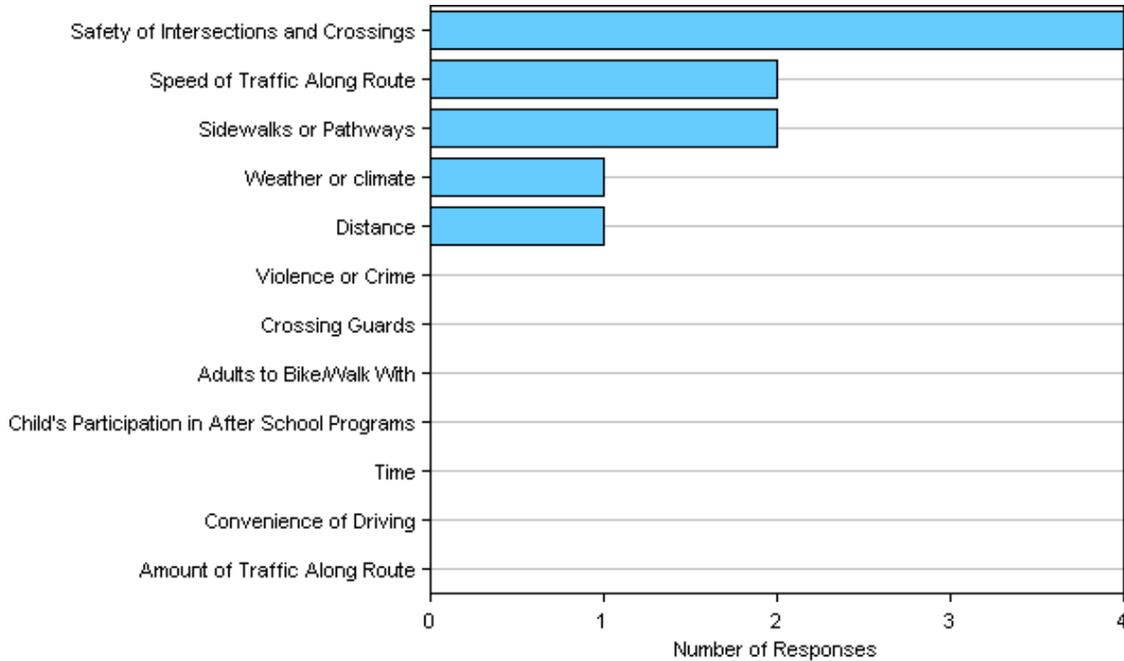
**Number of children who have asked for permission to walk or bike to/from school by distance they live from school**

Asked Permission?	Number of Children	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles
Yes	6	0	1	1	3	1
No	4	0	0	0	2	2

Don't know or No response: 0

Numbers rather than percents are displayed because the number of respondents for this question was less than 30.

**Issues reported to affect the decision to not allow a child to walk or bike to/from school by parents of children who do not walk or bike to/from school**



**Issues reported to affect the decision to allow a child to walk or bike to/from school by parents of children who already walk or bike to/from school**

Issue	Child does not walk/bike to school	Child walks/bikes to school
Safety of Intersections and Crossings	4	0
Speed of Traffic Along Route	2	0
Sidewalks or Pathways	2	0
Weather or climate	1	0
Distance	1	0
Violence or Crime	0	0
Crossing Guards	0	0
Adults to Bike/Walk With	0	0
Child's Participation in After School Programs	0	0
Time	0	0
Convenience of Driving	0	0
Amount of Traffic Along Route	0	0
<b>Number of Respondents per Category</b>	<b>10</b>	<b>0</b>

No response: 0

Note:

--Factors are listed from most to least influential for the 'Child does not walk/bike to school' group.

**Parents' opinions about how much their child's school encourages or discourages walking and biking to/from school**

Level of support	Number of children
Strongly Encourages	0
Encourages	1
Neither	8
Discourages	0
Strongly Discourages	0

**Parents' opinions about how much fun walking and biking to/from school is for their child**

Level of fun	Number of children
Very Fun	1
Fun	5
Neutral	4
Boring	0
Very Boring	0

**Parents' opinions about how healthy walking and biking to/from school is for their child**

How healthy	Number of children
Very Healthy	9
Healthy	1
Neutral	0
Unhealthy	0
Very Unhealthy	0

## Comments Section

SurveyID	Comment
1027747	I think if we lived in town I would be in favor of my child riding his bike or walking to school but we live too far.
1027749	Obviously there are a few problems with this survey knowing our children are getting to and from school safely is paramount. The weather plays a big role in how we get kids to school. Bike lanes would be great and use of sidewalks.
1027759	If there was a sidewalk on Bamumville Road my kids would walk to/from happily. They do walk sometimes, but not regularly- especially in the winter when there are snowbanks and nowhere to walk. I love the idea of encouraging kids to walk or bike!!
1027761	Your question about the issues affecting our decision to allow/not allow our kids to walk/ride only allowed us to answer ONE answer, yet the question state to chose as many as apply. Thank you!

APPENDIX F

NON-ENGINEERING STRATEGIES RESOURCE GUIDE

NON-ENGINEERING STRATEGIES RESOURCE GUIDE

Strategy	E's	Advantages	Considerations	Resources
<p><b>Walking and Biking Safety Curriculum and/or Assembly</b></p> <p>These lessons can be held in the fall to promote Walk to School Day. Guest speakers teach the students pedestrian and bicycle safety skills that they can use when walking and biking to school.</p> <p>Instruction as a part of school curriculum is also vital to ensuring on-going learning of bicycle and pedestrian safety and development of skills.</p>	<p>Education, Encouragement</p>	<ul style="list-style-type: none"> <li>• Assures all children learn bicycle and pedestrian safety skills</li> <li>• Establishes habits that benefit children throughout their lives, regardless of whether they currently walk or bike to school</li> <li>• Establishes consistent messages for young pedestrians and bicyclists</li> <li>• Provides a refresher for parents if take home materials are provided in conjunction with the assembly. It's never too late to correct bad habits.</li> <li>• Events can make learning fun, and help strengthen community ties with event organizers and participants.</li> </ul>	<ul style="list-style-type: none"> <li>• Best taught using a combination of methods, including one-time instruction (e.g. assemblies), multi-lesson classroom curricula, and skills practice (e.g. bicycle safety fairs).</li> <li>• Requires able and willing instructors</li> <li>• Should be age-appropriate</li> <li>• Bicycle safety education may require an outside instructor, e.g. a police officer.</li> </ul>	<ul style="list-style-type: none"> <li>• Walk Smart/Bike Smart Vermont! <a href="http://healthandlearning.org/documents/WalkSmartBikeSmartFINAL2008_001.pdf">http://healthandlearning.org/documents/WalkSmartBikeSmartFINAL2008_001.pdf</a></li> <li>• National Highway Traffic Safety Administration Pedestrian Safety Lessons <a href="http://www.nhtsa.gov/ChildPedestrianSafetyCurriculum">http://www.nhtsa.gov/ChildPedestrianSafetyCurriculum</a></li> <li>• WalktoSchool.org - Classroom activities that encourage walking and biking. <a href="http://www.walktoschool.org/eventideas/classroom.cfm">www.walktoschool.org/eventideas/classroom.cfm</a></li> <li>• Willie Whistle - The National Highway Traffic Safety Association has created a video to help teach children pedestrian safety skills. <a href="http://www.nhtsa.gov/people/injury/willie/willie.zip">http://www.nhtsa.gov/people/injury/willie/willie.zip</a></li> <li>• See Partner Resource CD for more materials</li> </ul>

Strategy	E's	Advantages	Considerations	Resources
<p><b>Continue to Participate in Walk to School Day</b></p> <p>Walk to School Day is a one-day event that celebrates walking and biking to school in which Burke Town School already participates.</p> <p>Generally this event is scheduled for the first full week in October along with Vermont Walk and Roll to School Day in May. Why not use this strategy multiple times a year?</p>	<b>Education, Encouragement</b>	<ul style="list-style-type: none"> <li>• Excellent kick-off event for Safe Routes to School program</li> <li>• Generates enthusiasm for walking and biking</li> <li>• Way to raise community awareness about safety issues</li> <li>• Can be as simple as a few kids and parents meeting to walk to school or very elaborate celebrations</li> <li>• Can be folded into studies of international cultures as it is an international event</li> <li>• Date is flexible- to be counted by the National Center for Safe Routes to school the event need only take place before Dec 1.</li> </ul>	<ul style="list-style-type: none"> <li>• Preparations for elaborate celebrations must begin several months in advance to allow time to identify partners, plan activities, and promote the event</li> <li>• Should provide bicycle and pedestrian safety information to children and parents</li> <li>• International Walk to School Day takes place in October but some schools organize multiple Walk to School Day (or “Walk and Roll Day”) events over the course of the school year (e.g. one in the fall and one in the spring).</li> </ul>	<ul style="list-style-type: none"> <li>• U.S. Walk to School Day website (provides resources and event registration): <a href="http://www.walktoschool.org">www.walktoschool.org</a></li> <li>• International Walk to School Day website: <a href="http://www.iwalktoschool.org/">www.iwalktoschool.org/</a></li> <li>• Plan and promote your Walk to School Day event <a href="http://saferoutes.vermont.gov/sites/saferoutes/files/PDFs/How%20To%20-%20Special%20Events.pdf">http://saferoutes.vermont.gov/sites/saferoutes/files/PDFs/How%20To%20-%20Special%20Events.pdf</a></li> <li>• Include students when it is too far or unsafe <a href="http://saferoutes.vermont.gov/sites/saferoutes/files/Including%20Students%20When%20It%20s%20Too%20Far%20or%20Unsafe%20VT.pdf">http://saferoutes.vermont.gov/sites/saferoutes/files/Including%20Students%20When%20It%20s%20Too%20Far%20or%20Unsafe%20VT.pdf</a></li> <li>• See Partner Resource CD for more materials</li> </ul>
<p><b>Frequent Walker/Bicyclist Program or Walking Wednesdays</b></p> <p>Track and reward students who walk and bicycle to school. Can be an individual competition or a competition among classes.</p>	<b>Encouragement</b>	<ul style="list-style-type: none"> <li>• Provides positive reinforcement for walking and bicycling.</li> <li>• Children respond to incentives.</li> <li>• Can include all students.</li> <li>• Can include walking and bicycling beyond the trip to school.</li> </ul>	<ul style="list-style-type: none"> <li>• Necessary to identify a coordinator.</li> <li>• Establish a simple record-keeping system.</li> <li>• Establish age-appropriate goals.</li> <li>• Consider giving rewards to parents as well, since parents are often involved in the commute to school.</li> </ul>	<ul style="list-style-type: none"> <li>• Frequent Walker Punch card template <a href="http://saferoutes.vermont.gov/sites/saferoutes/files/PDFs/VT_SRTS_Punchcard_v2_110825-1.png">http://saferoutes.vermont.gov/sites/saferoutes/files/PDFs/VT_SRTS_Punchcard_v2_110825-1.png</a></li> <li>• Vermont Challenge: Walk Across America <a href="http://saferoutes.vermont.gov/sites/saferoutes/files/PDFs/The%20VT%20Challenge%20-%20Walk%20Across%20Vermont%21.pdf">http://saferoutes.vermont.gov/sites/saferoutes/files/PDFs/The%20VT%20Challenge%20-%20Walk%20Across%20Vermont%21.pdf</a></li> <li>• Tips for creating a walking and bicycling route map <a href="http://saferoutes.vermont.gov/sites/saferoutes/files/PDFs/Tips%20for%20Creating%20Walking%20and%20Bicycling%20Route%20Maps.pdf">http://saferoutes.vermont.gov/sites/saferoutes/files/PDFs/Tips%20for%20Creating%20Walking%20and%20Bicycling%20Route%20Maps.pdf</a></li> <li>• See Partner Resource CD for more materials</li> </ul>

Strategy	E's	Advantages	Considerations	Resources
<p><b>Traffic Enforcement (Staff)</b></p> <p>This can be an ongoing program for school staff. This could work well in conjunction with PBIS.</p>	<p><b>Education, Enforcement, Encouragement</b></p>	<ul style="list-style-type: none"> <li>• Crossing guards play an important role in helping children cross the street at key locations, reminding drivers of the presence of pedestrians, and making parents feel more comfortable about letting their children walk and bicycle to school.</li> <li>• Staff and crossing guards can also reward students with Paws of Praise in order to reinforce positive behavior.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires some training and coordination with crossing guards</li> </ul>	<ul style="list-style-type: none"> <li>• Adult School Crossing Guard Guidelines (NCSRTS) <a href="http://guide.saferoutesinfo.org/crossing_guard/pdf/crossing_guard_guidelines_web.pdf">http://guide.saferoutesinfo.org/crossing_guard/pdf/crossing_guard_guidelines_web.pdf</a></li> <li>• Florida School Crossing Guard Training Guidelines <a href="http://saferoutesinfo.org/program-tools/florida-school-crossing-guard-training-guidelines">http://saferoutesinfo.org/program-tools/florida-school-crossing-guard-training-guidelines</a></li> <li>• Lessons from Florida's Crossing Guard Program <a href="http://saferoutesinfo.org/events-and-training/srts-webinars/lessons-floridas-crossing-guard-program">http://saferoutesinfo.org/events-and-training/srts-webinars/lessons-floridas-crossing-guard-program</a></li> <li>• See Partner Resource CD for more materials</li> </ul>

Strategy	E's	Advantages	Considerations	Resources
<p><b>Bicycle Safety Fair</b></p> <p>This is a single-day event that promotes bicycle safety. At the bicycle safety fair, students can borrow bicycles or bring their own.</p>	<b>Education, Encouragement</b>	<ul style="list-style-type: none"> <li>• Events such as bike safety fairs make learning fun and can help strengthen community ties with event organizers and participants.</li> <li>• At the bicycle safety fair students learn safety skills such as how to properly wear a helmet and how to behave while bike riding. The bicycle safety fair can also have a closed “test course” for the students to ride along. This helps the students to practice in a safe environment and gain confidence in their decision-making skills.</li> <li>• Possible partners for this include the Caledonia County Sheriff’s Department or Kingdom Trails.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires able and willing instructors</li> <li>• Should be age-appropriate</li> <li>• Bicycle safety education may require an outside instructor, e.g. a police officer.</li> <li>• These events require planning and materials to share with students</li> </ul>	<ul style="list-style-type: none"> <li>• Teaching a Bicycle Safety Fair in Vermont <a href="http://www.vtbikeped.org/what/VT_Safety_Fair_Curriculum.pdf">http://www.vtbikeped.org/what/VT_Safety_Fair_Curriculum.pdf</a></li> <li>• Bicycling Life page on bicycle safety fairs: <a href="http://www.bicyclinglife.com/SafetySkills/BicycleRodeo.htm">http://www.bicyclinglife.com/SafetySkills/BicycleRodeo.htm</a></li> <li>• An organizer’s guide to bicycle safety fairs <a href="http://www.bike.cornell.edu/pdfs/Bike_Rodeo_404.2.pdf">http://www.bike.cornell.edu/pdfs/Bike_Rodeo_404.2.pdf</a></li> <li>• Easy steps to properly fit a bicycle helmet <a href="http://www.nhtsa.gov/people/injury/pedbimot/bike/EasyStepsWeb/">http://www.nhtsa.gov/people/injury/pedbimot/bike/EasyStepsWeb/</a></li> </ul>
<p><b>Walk Audit/Parent Surveys / Student tallies</b></p> <p>The team will meet annually (ideally in August before school starts) to review the accomplishments from the previous year and set new goals for the upcoming school year.</p>	<b>Evaluation</b>	<ul style="list-style-type: none"> <li>• Establishes baseline information on student travel behavior and perceived barriers to walking and biking</li> <li>• Helps determine existing needs</li> <li>• Helps determine success of SRTS efforts and identify needed adjustments</li> </ul>	<ul style="list-style-type: none"> <li>• Best to conduct initial surveys before SRTS measures have been implemented</li> <li>• Requires teacher buy-in and administrative organization</li> <li>• Getting parents to fill out and return surveys can be a challenge. Follow up is necessary. Consider a contest among classes for highest rate of return.</li> </ul>	<ul style="list-style-type: none"> <li>• Student In-Class Travel Tally Form: <a href="http://www.saferoutesinfo.org/resources/evaluation_student-in-class-travel-talley.cfm">http://www.saferoutesinfo.org/resources/evaluation_student-in-class-travel-talley.cfm</a></li> <li>• Parent Survey Form: <a href="http://www.saferoutesinfo.org/resources/evaluation_parent-survey.cfm">http://www.saferoutesinfo.org/resources/evaluation_parent-survey.cfm</a></li> <li>• Instructions for Survey Administration: <a href="http://www.saferoutesinfo.org/resources/evaluation_instructions.cfm">http://www.saferoutesinfo.org/resources/evaluation_instructions.cfm</a></li> <li>• Instructions for Data Entry: <a href="http://www.saferoutesinfo.org/resources/evaluation_cover-sheets.cfm">http://www.saferoutesinfo.org/resources/evaluation_cover-sheets.cfm</a></li> </ul>

Strategy	E's	Advantages	Considerations	Resources
<p><b>Walking School Buses/ Bicycle Trains</b></p> <p>Walking school buses and bicycle trains are adult supervised groups of students walking and/or bicycling to school.</p>	<p><b>Education, Encouragement</b></p>	<ul style="list-style-type: none"> <li>• Adult supervision on the walk to school</li> <li>• Can be loosely structured or highly organized</li> <li>• Can include a meeting point in a parking lot so children and parents who must drive can participate.</li> <li>• Adults can rotate who will lead each time.</li> </ul>	<ul style="list-style-type: none"> <li>• Need to identify routes where conditions support walking and there is sufficient demand for supervised walking</li> <li>• Requires parents willing to walk with children and learn about how Walking school buses are organized and conducted.</li> <li>• More organized structure requires considerable planning</li> </ul>	<ul style="list-style-type: none"> <li>• How to start a walking school bus or bike train <a href="http://guide.saferoutesinfo.org/walking_school_bus/pdf/wsb_guide.pdf">http://guide.saferoutesinfo.org/walking_school_bus/pdf/wsb_guide.pdf</a></li> </ul>
<p><b>Drive Safe Campaigns</b></p> <p>Some parents are not aware of how their driving behavior can put walking students at risk. This teaches parents how their unsafe driving habits can put their children in danger.</p>	<p><b>Education</b></p>	<ul style="list-style-type: none"> <li>• Has the ability to effect positive change in the community and around the school</li> <li>• Improves the safety of the walking environment</li> <li>• Good drivers can help to set the example for good behavior. This is especially true for helping to control speeds.</li> </ul>	<ul style="list-style-type: none"> <li>• This requires a person to organize and administer the campaign.</li> <li>• May not be effective at schools where parent/teacher organizations are weak</li> <li>• Law enforcement officers would be great at speaking at the campaign events. Sometimes, due to their heavy schedules that can be difficult to pin down.</li> <li>• A good way to contact parents is at back to school night and PTA meetings. Starting at the beginning of the year helps to prevent bad habits from starting. Law enforcement officers (or other teachers) can hold a brief assembly to explain the dangers of unsafe driving in school areas.</li> <li>• Law enforcement officers can provide a demonstration of how difficult it is to quickly stop a moving vehicle at 50, 40 and 30 mph. The National Center has information on how the speed of the vehicle can affect the severity of injury that the pedestrian experiences in a crash.</li> </ul>	<ul style="list-style-type: none"> <li>• Driving Around Schools: Keeping Children Safe <a href="http://apps.saferoutesinfo.org/lawenforcement/resources/driving_tips.cfm">http://apps.saferoutesinfo.org/lawenforcement/resources/driving_tips.cfm</a></li> <li>• Parents, Avoid Becoming a Traffic Hazard <a href="http://www.aaamidatlantic.com/FetchFile.ashx?id=e55bfa26-a70d-4e17-afde-073b86cc9975">http://www.aaamidatlantic.com/FetchFile.ashx?id=e55bfa26-a70d-4e17-afde-073b86cc9975</a></li> </ul>

Strategy	E's	Advantages	Considerations	Resources
<p><b>Crossing Guard Appreciation Day</b></p> <p>Crossing guards help our children cross the road safely in the mornings and afternoons, in all weather conditions. Remind them that you appreciate their service and dedication. Students can create thank you cards that they deliver themselves during their walks home, or teachers and administrators can honor them formally during a school assembly.</p>	<p><b>Encouragement</b></p>	<ul style="list-style-type: none"> <li>• Maintains a positive relationship between the crossing guards and the school/community.</li> <li>• Can inspire crossing guards to continue to be reliable, safety figures.</li> <li>• Creates an opportunity to remind students why it is important to practice safe walking skills.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires coordination between the crossing guards, school administrators and school instructors.</li> <li>• May require materials to create the thank-you cards.</li> <li>• Is most effective with newsletter and in-school announcements.</li> <li>• Relatively inexpensive strategy</li> </ul>	<ul style="list-style-type: none"> <li>• Active Transportation Alliance webpage for Crossing Guard Appreciation Day <a href="http://www.activetrans.org/crossingguard">http://www.activetrans.org/crossingguard</a></li> </ul>

APPENDIX G

SNOW REMOVAL TOOLKIT

## SNOW REMOVAL TOOLKIT

Prompt and effective snow, ice, and slush clearance on sidewalks along Safe Routes to School is critical for maintaining safe biking and walking conditions. Snow removal of bicycle and pedestrian accommodations that are designated school routes should be planned for. According to the VT Pedestrian and Bicycle Facility Design Manual Section 10.5.1, local policies should treat the clearance of snow from walkways as equally important as clearance of snow from roadways in order to maintain year-round accessibility.

### **Guidelines**

The responsibility of all snow and ice clearance generally falls upon the property owner of the facility. A municipality's highway department is typically responsible for snow and ice removal on roads and sidewalks on public property. Private roads and sidewalks on private property are the responsibility of the property owner.

A clear, unobstructed pathway at a minimum of 48" wide should be provided on all sidewalks, curb ramps, and through crosswalks. Snow, slush, and ice should be cleared from sidewalks, to provide a clear path of 48", ideally, within 12 hours after a storm event. Designated portions of the roadway for bicycle use should also be cleared since, even in winter, some experienced bicyclists commute by bicycle.

Pedestrian walkways, curb ramps, and crosswalks or bicycle facilities should not be used for areas of snow storage. Additional consideration should also be taken to maintain adequate sight distances at all intersections and to prevent snow storage from building up too close to walkways.

Paved shared-use paths that are designated routes to school should be kept clear of snow so that students can walk to school year-round. Snow clearance is not a consideration for natural surface paths that are used for winter activities which also allow students to cross-country ski or snow-shoe to school.

### **Recommendations**

The following six basic recommendations can assist a community in developing a strategy to improve sidewalk snow and ice clearance.

1. Create a norm of snow and ice clearance through social awareness campaigns.
2. Identify a municipal point person for snow removal.
3. Determine priority sidewalks and paths for snow clearance.
4. Improve monitoring and enforcement.
5. Design sidewalks for easier snow removal.

6. Train municipal and private snow plowing personnel on the guidelines for pedestrian and bicycle facility clearance (i.e., 48" clear path and priority routes.)

### **Monitoring and Enforcement**

There are three primary ways in which the clearance of sidewalks can be monitored and enforced;

1. Identify who monitors and enforces.
2. Define penalties and how they will be enforced.
3. Implement a social awareness campaign.

APPENDIX H

INFRASTRUCTURE STRATEGIES RESOURCE GUIDE

Strategy	Advantages	Considerations	Resources	Actions
<p><b>Wide Paved Shoulders</b></p> <p>Wide paved shoulders are created by striping a roadway to provide space for a shoulder and a travel way for motor vehicles. Wide paved shoulders can be created by adding pavement to one or both sides of the paved roadway or by narrowing travel lanes.</p> <p>Current Vermont State Standards recommend ten-foot minimum travel lanes for state and local roads.</p>	<ul style="list-style-type: none"> <li>• Provide room for pedestrians when there is no sidewalk or other facility.</li> <li>• Provide a clear space for bicyclists that is separated from the motor vehicle travel way.</li> <li>• Research has shown that by narrowing travel lanes, motor vehicle speeds might also be reduced.</li> </ul>	<ul style="list-style-type: none"> <li>• Lane markings need to be bright and maintained to clearly delineate the motor vehicle travel lane. When lane markings fade, the travelway for motor vehicles appears to be wider, which tends to encourage motorists to travel at higher speeds.</li> <li>• When adding pavement to widen the roadway and accommodate shoulders, the base material for the shoulder needs to be integrated well with the base material under the existing road to minimize the potential for pavement cracking and settling that would create hazardous conditions for bicyclists and motorist.</li> <li>• The <i>Vermont State Standards</i> provide detailed information on appropriate travel lane and paved shoulder widths for different classifications of state roads. These standards also provide a guide for appropriate lane and shoulder widths for town roads.</li> <li>• Other considerations include right-of-way, drainage, grading, existing signs and structures, and utilities.</li> </ul>	<ul style="list-style-type: none"> <li>• Vermont State Standards <a href="http://www.aot.state.vt.us/progdev/standards/statabta.htm">http://www.aot.state.vt.us/progdev/standards/statabta.htm</a></li> </ul>	<ul style="list-style-type: none"> <li>• For town roads, start with discussions with the appropriate, Selectboard, Board of Trustees, or City Council (municipal legislators) and town officials, such as road commissioner and/or town engineer to determine the municipality’s policies on travel lanes widths. Provide background information on the benefits of narrower travel lanes for speed reduction and safer conditions for pedestrians and bicyclists.</li> <li>• Review shoulder widening proposals with municipal officials. If sufficient pavement exists, suggest conducting an experiment with temporary striping to provide wider shoulders.</li> <li>• Follow up the experiment with feedback and request for comments from municipal officials and community.</li> </ul>

Strategy	Advantages	Considerations	Resources	Actions
<p><b>Speed Feedback Signs</b></p> <p>Speed feedback signs, either temporary or permanent, show motorists how fast they are traveling as calculated by radar.</p>	<ul style="list-style-type: none"> <li>Speed feedback signs tend to slow motorists and remind motorists of the posted speed limits.</li> </ul>	<ul style="list-style-type: none"> <li>Speed feedback signs on state roads must follow the State’s placement guidelines for state roads. Installing a feedback sign requires a highway access permit from the State.</li> <li>Permanent signs may be appropriate at school zones; elsewhere temporary signs, set up for short periods at various locations, can be more effective.</li> <li>Speed feedback signs, including those installed through VTrans funded projects on state roads, require a maintenance and care agreement with the local municipality.</li> </ul>	<ul style="list-style-type: none"> <li><i>Guidelines for the Use of Radar Speed Feedback Signs on the State Highway System</i>  <a href="http://www.aot.state.vt.us/documents/3014_Guidelines_on_the_Use_of_Radar_Speed_Feedback_Signs.pdf">http://www.aot.state.vt.us/documents/3014_Guidelines_on_the_Use_of_Radar_Speed_Feedback_Signs.pdf</a></li> <li><i>Classification of Vermont Roads</i>  <a href="http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/">http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/</a></li> </ul>	<ul style="list-style-type: none"> <li>Review the State’s speed feedback sign guidelines to be sure the proposed location is acceptable.</li> <li>Contact the municipality to determine the appropriate person to contact regarding the placement of speed feedback signs, either temporary or permanent. Check with the local police or sheriff to see if they have a portable trailer that can be used on a temporary basis as a trial.</li> <li>Contact the responsible party to understand their process for the placement of speed feedback signs and whether the sign should be temporary or permanent. Follow the process for installation of the speed feedback sign.</li> <li>If a temporary feedback sign was installed, review the results with the municipality to determine if it has been successful. If successful, suggest the municipality install a permanent speed feedback sign.</li> <li>Permanent feedback signs are an eligible use for SRTS funds. Check with the regional planning commission about this and other potential funding sources.</li> </ul>

Strategy	Advantages	Considerations	Resources	Actions
<p><b>High-visibility Crosswalks</b></p> <p>High-visibility crosswalks are roadway markings designating a location for pedestrians to cross a roadway.</p> <p>High-visibility crosswalks are typically in locations that are convenient to pedestrians and visible to motorists.</p> <p>High-visibility crosswalks must be installed with reflective durable material.</p>	<ul style="list-style-type: none"> <li>• Crosswalks provide notification to both pedestrians and motorists to where pedestrians may be crossing the roadway.</li> <li>• Pedestrians have the right-of-way when in a crosswalk and motorists are supposed to stop their vehicles until the pedestrian has cleared the roadway.</li> </ul>	<ul style="list-style-type: none"> <li>• Pedestrians should assume that a motorist may not see them or stop.</li> <li>• Crosswalks should have a receiving facility, such as a path, sidewalk, or adequate shoulder for use by pedestrians on either end.</li> <li>• Crosswalks may be marked with different striping patterns but the most common pattern is the ladder style. Further considerations may be needed for crosswalks at unsignalized intersections and at mid-block locations to determine if the crosswalk is warranted.</li> <li>• Crosswalks are not appropriate for every location as they may give the pedestrian a perceived sense of safety that may not exist.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i> <a href="http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html">http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html</a></li> <li>• <i>Vermont's Guidelines for the Installation of Crosswalk Markings and Pedestrian Signing at Marked and Unmarked Crossings</i> <a href="http://www.aot.state.vt.us/progdev/Sections/highway%20info/DocumentsRoadwayPages/TrafficOpsCrosswalk%20Guidelines%202004.pdf">http://www.aot.state.vt.us/progdev/Sections/highway%20info/DocumentsRoadwayPages/TrafficOpsCrosswalk%20Guidelines%202004.pdf</a><i>Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations</i> <a href="http://www.fhwa.dot.gov/publications/research/safety/04100/04100.pdf">http://www.fhwa.dot.gov/publications/research/safety/04100/04100.pdf</a></li> <li>• <i>Classification of Vermont Roads</i> <a href="http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/">http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/</a></li> </ul>	<ul style="list-style-type: none"> <li>• For all classifications of roadways, state and local, consult with the regional planning commission about the appropriateness of the proposed location for a crosswalk.</li> <li>• Follow-up with the municipal road commissioner, planner, or engineer to seek their guidance and support.</li> <li>• For non-state roads, after gaining appropriate endorsements, work with the appropriate local official or employee to get the high-visibility crosswalk installed in the proper and safe location.</li> <li>• For state roads, work with the regional planning commission to get a formal study to determine if a crosswalk is warranted and safe.</li> </ul>

	Advantages	Considerations	Resources	Actions
<p><b>Shared-use Paths</b></p> <p>Shared-use paths are separate facilities for non-motorized users such as bicyclists and pedestrians. Typically these facilities have their own right-of-way rather than sharing a right-of-way with a roadway.</p>	<ul style="list-style-type: none"> <li>• Provides a safe place for non-motorized users that are typically separated from motor vehicles.</li> <li>• Shared-use paths appeal to users of all different skill levels, particularly those with basic or beginner skills.</li> </ul>	<ul style="list-style-type: none"> <li>• Shared-use paths should typically be a minimum of ten feet wide and paved with asphalt.</li> <li>• Guidelines for the construction of shared-use paths can be found in the <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i>.</li> <li>• Further considerations are needed at intersections of the shared-use path and roadways to ensure safety for all users.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i>  <a href="http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html">http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html</a></li> </ul>	<ul style="list-style-type: none"> <li>• Work with the municipal planning office, road commissioner, administrator, or other municipal officials to gain their support for the proposed shared-use path.</li> <li>• Work with municipal partners to engage the regional planning commission with the project in terms of funding or other support for an initial alignment study to determine the appropriate shared-use path alignment and end points. This study will help the community understand where the shared-use path may be located as well as the issues that will need to be addressed, the types of permits that will be needed, and the potential cost for developing the shared-use path as proposed. This study, done with community input, will help the community decide if they want to proceed further with the project.</li> <li>• If the community wishes to continue to pursue a shared-use path, work with the municipal partner to understand potential funding sources and the various requirements involved in obtaining them.</li> </ul>

Strategy	Advantages	Considerations	Resources	Actions
<p><b>Bicycle Routes/ Bicycle Pedestrian Warning Signs</b></p> <p>Bicycle route signs are officially designated routes for bicyclists through municipalities; they are typically used to focus bicycle travel onto roadways most suited for it.</p> <p>Bicycle and/or Pedestrian present warning signs (with an image of a bicycle and a pedestrian) provide a notice to motorists, that bicyclists or pedestrians are likely to be present.</p>	<ul style="list-style-type: none"> <li>• Bicycle route signs assist bicyclists in determining the best route for their travel.</li> <li>• Warning signs raise safety conditions for bicyclists due to greater awareness by motorists of bicyclists on the road.</li> </ul>	<ul style="list-style-type: none"> <li>• The number and location of bicycle routes and signs should be carefully studied by the community prior to implementation. Measures should be taken to reduce sign clutter.</li> <li>• Bicycle route signs and warning signs must meet the guidelines provided in the <i>Manual on Uniform Traffic Control Devices</i> (MUTCD).</li> <li>• In cases where there are on-road sections of bicycle connecting nearby trails, where a bike lane ends or a paved shoulder is reduced at a bridge, a “Share the Road Sign” may be appropriate. The “Share the Road” sign should be used to indicate a relatively brief special condition.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i> <a href="http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html">http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html</a></li> <li>• <i>Manual on Uniform Traffic Control Devices, latest edition</i> (MUTCD), <a href="http://mutcd.fhwa.dot.gov/kno_2009r1r2.htm">http://mutcd.fhwa.dot.gov/kno_2009r1r2.htm</a></li> </ul>	<ul style="list-style-type: none"> <li>• Review guidelines provided in the latest edition of the MUTCD to make sure signs are compliant.</li> <li>• Work with the municipal planning office, road commissioner, administrator, or other municipal officials to gain their support for the creation of bicycle routes.</li> <li>• Follow the recommendations of the local official or employee as to the appropriate way to proceed, which could include: <ul style="list-style-type: none"> <li>- Presenting the idea to the municipal legislators;</li> <li>- Implementing existing recommendations in a bicycle plan for the community;</li> <li>- Undertaking the development of a bicycle plan for the community to make sure that the specific recommendations still work within the context of the entire municipality; and</li> <li>- Working with the regional planning commission.</li> </ul> </li> </ul>

Strategy	Advantages	Considerations	Resources	Actions
<p><b>Sidewalks</b></p> <p>Sidewalks are paths separated from other roadway users along the sides of the roadway reserved for pedestrians.</p>	<ul style="list-style-type: none"> <li>• Sidewalks provide a relatively safe location for pedestrians along the sides of a roadway.</li> <li>• They help to separate other roadway users and pedestrians within the same right-of-way.</li> </ul>	<ul style="list-style-type: none"> <li>• The availability of sufficient right-of-way to install sidewalks, including the travel way for vehicles and standards for sidewalk width, must be assessed.</li> <li>• Sidewalks are most effective when they include a buffer from the paved surface of the road that is at least five feet wide.</li> <li>• When sufficient right-of-way is not available for a buffer, a curb can provide some degree of separation between the roadway and the sidewalk.</li> <li>• Other considerations include drainage, grading, existing signs, structures, and utilities.</li> <li>• Sidewalks can be constructed of various materials including concrete, asphalt, or stone dust.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i> <a href="http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html">http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html</a></li> <li>• <i>Designing Walkable Urban Thoroughfares: A Context Sensitive Approach</i> (Institute of Transportation Engineers - Publication #RP 036A) <a href="http://www.ite.org/modules/scriptcontent/orders/ProductDetail.cfm?pc=RP-036A-E">http://www.ite.org/modules/scriptcontent/orders/ProductDetail.cfm?pc=RP-036A-E</a></li> </ul>	<ul style="list-style-type: none"> <li>• Review the State's <i>Pedestrian and Bicycle Facility Planning and Design Manual</i> to determine the appropriate dimensions based on roadway classification.</li> <li>• Work with the municipal planning office, road commissioner, administrator, or other municipal officials to gain their support for the proposed sidewalk.</li> <li>• Work with municipal partners to determine the appropriate sidewalk location based on available right-of-way.</li> <li>• Review the sidewalk location to determine if any additional issues will need to be addressed, the types of permits that will be needed, and the potential cost for developing the proposed sidewalk. This review, done with community input, will help the community decide if they want to proceed further with the project.</li> <li>• If the community wishes to continue work on the proposed sidewalk, work with the municipal partners to understand potential funding sources and the various requirements involved in obtaining them.</li> </ul>

Strategy	Advantages	Considerations	Resources	Actions
<p><b>School Zones</b></p> <p>A school zone is an identified location on the roadway abutting a school which extends several hundred feet in each direction. It is identified with signs and pavements markings and sometimes includes a reduced speed zone.</p>	<ul style="list-style-type: none"> <li>School zones increase motorists' awareness to look for students on or near the road and to drive with more caution.</li> </ul>	<ul style="list-style-type: none"> <li>The creation of a school zone typically needs the approval of the municipality, either from the Selectboard, Board of Trustees, or City Council, unless they have passed on this approval to the road commissioner.</li> <li>School zones created on state roads need VTrans approval.</li> <li>Sight distances and other roadway conditions should inform the location of signs and pavement markings noting the limits of the school zone, within MUTCD guidelines.</li> <li>With few exceptions, school zones are located on the roadway adjacent to the school's main entrance.</li> <li>Must comply with State sign laws and laws for setting speed limits.</li> </ul>	<ul style="list-style-type: none"> <li><i>Manual on Uniform Traffic Control Devices, latest edition (MUTCD)</i>, <a href="http://mutcd.fhwa.dot.gov/kno_2009r1r2.htm">http://mutcd.fhwa.dot.gov/kno_2009r1r2.htm</a></li> <li>Refer to <i>Vermont Statute 23, Section 1007</i> for guidance on assigning local speed limits <a href="http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=23&amp;Chapter=013&amp;Section=01007">http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=23&amp;Chapter=013&amp;Section=01007</a></li> </ul>	<ul style="list-style-type: none"> <li>Work with the municipal planning office, road commissioner, administrator, or other municipal officials to gain their support for the proposed school zone.</li> <li>Discuss the creation of a school zone with local Selectboard, Board of Trustees, or City Council to gain their support.</li> <li>For a school zone on a state road, work with municipal officials and/or the regional planning commission to contact VTrans to propose a school zone.</li> <li>Work with the municipal planning office, road commissioner, administrator, or other municipal officials to determine the specific limits of the school zone and the methods to be used to notify motorists of its presence, including signage, warning lights during arrival and dismissal times, pavement markings, or other methods.</li> <li>Work with municipal partners to determine the most appropriate way to provide funding for the notifications as appropriate and work with them to secure funding.</li> </ul>

Strategy	Advantages	Considerations	Resources	Actions
<p><b>Road Signs</b></p> <p>Road signs provide information on road conditions, direction, advisories, or mandatory actions. Road signs may be regulatory, warning, or guide signs.</p>	<ul style="list-style-type: none"> <li>• Signs notify road users about road conditions, other users, regulations, or conditions that may not be immediately apparent.</li> <li>• Many signs are not typically an expensive installation and can be approved and installed quickly.</li> </ul>	<ul style="list-style-type: none"> <li>• The number and type of existing signs can influence the effectiveness of new signs. Sign “clutter” can diminish the impact of new signs.</li> <li>• Permanent signs can become part of the background and their perception by regular road users can diminish over time.</li> <li>• Changing conditions, such as temporary flashing lights or periodic flags, can help to continually draw attention to a sign.</li> <li>• Adding new signs to a local road typically needs the approval of the municipality, either from the Selectboard, Board of Trustees, or City Council, unless they have passed on this approval to the road commissioner.</li> <li>• Signs added to state roads need VTrans approval.</li> <li>• Any proposed signage must meet the guidelines provided in the <i>Manual on Uniform Traffic Control Devices</i> (MUTCD).</li> <li>• Temporary devices such as in-street “Yield to Pedestrian” signs, require designated personnel to provide continuous maintenance. Such signs must be installed and removed EACH DAY of intended use and should not remain on the roadside when not in use.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i> <a href="http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html">http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html</a></li> <li>• <i>Manual on Uniform Traffic Control Devices, latest edition (MUTCD)</i>, <a href="http://mutcd.fhwa.dot.gov/kno_2009r1r2.htm">http://mutcd.fhwa.dot.gov/kno_2009r1r2.htm</a></li> <li>• <i>Classification of Vermont Roads</i> <a href="http://maps.vermont.gov/imf/sites/ANR_NATR/ESViewer/jsp/">http://maps.vermont.gov/imf/sites/ANR_NATR/ESViewer/jsp/</a></li> </ul>	<ul style="list-style-type: none"> <li>• Work with the municipal planning office, road commissioner, administrator, or other municipal officials to gain their support for the placement of new signs.</li> <li>• Discuss the placement of new signs with local Selectboard, Board of Trustee or City Council to gain their support.</li> <li>• Work with the municipal planning office, road commissioner, administrator, or other municipal officials to determine the appropriate place for the signs while meeting guidelines provided in the MUTCD.</li> <li>• If proposed on a state road, work with the municipal officials and the regional planning commission to contact VTrans to gain their approval and any necessary permitting for the proposed sign s.</li> </ul>



APPENDIX I

MEMS SRTS PROGRAM ENROLLMENT FORM

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Displaying 37 of 38 respondents

**Response Type:**  
Normal Response

**Collector:**  
VT SRTS Enrollment Form  
(Web Link)

**Custom Value:**  
empty

**IP Address:**  
75.147.60.195

**Response Started:**  
Monday, February 4, 2013 10:17:04 AM

**Response Modified:**  
Monday, February 4, 2013 10:37:36 AM

**1. Please provide your contact information below:**

Name: - Carol Baringer

Title: - School Nurse

School: - Manchester Elementary/Middle School

Address: - PO Box 1526

City/Town: - Manchester Ctr.

ZIP: - 05d255

Email Address: - cbaringer@brsu.org

Phone Number: - 362-1597 ext 1127

**2. Does your school have an existing Safe Routes to School Program?**

No

**3. If yes, please check the SRTS Elements of your school's current program:**

No Response

**4. A School Travel Plan is a written document that outlines a school community's intentions of making walking and biking to and from school more sustainable and safe. The plan is completed through a team-based process and will be the school community's guiding document for putting a successful Safe Routes to School program in action. Would you like your school to be considered for hands-on Travel Plan assistance offered by the Resource Center?**

Yes

**5. How many students attend this school? Please list total student population by grade.**

K - 41

1 - 37

2 - 29

3 - 48

4 - 45

5 - 38

6 - 41

7 - 56

8 - 57

Total - 392

**6. Approximately what percentage of students live within:**

1 mile of school - 50%

2 miles of school - 50%

---

**7. Approximately how many students currently:**

Walk to school - 12

Bike to school - 10

---

**8. How many crossing guards are assigned to this school? If none, please provide details if school staff, volunteers, student safety patrols, etc help to cross students.**

one

---

**9. Please mark the stakeholders that will participate in the SRTS program:**

Principal

Parents

School Staff

Community Organization

---

**10. I have received the support from my school's principal to pursue a Safe Routes to School program**

Yes

---

Sarah Merrill 362-1597 ext. 1130 smerrill@brsu.org

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APPENDIX J

WALK TO SCHOOL DAY PERMISSION SLIP

## WALK TO SCHOOL DAY PERMISSION SLIP

Dear Parent or Guardian,

There are plenty of good reasons to walk to school. One of the best reasons is that children and parents will be healthier. With obesity rates skyrocketing, and only 25% of Americans getting the Surgeon General's recommended daily dose of exercise (30 minutes), it's an ideal time to encourage students to walk to school. Studies show that children who walk to school are more alert and ready to learn improving school performance. The state of Vermont has joined with the *Safe Routes to School (SRTS) Program* and is sponsoring a state wide **Walk to School Day** on Wednesday, May 1, 2013. MEMS has teamed up with SRTS to participate in this event to help bring awareness of how easy it can be to include physical activity in your child's and your family's life. Join us on May 1 for what we hope will become a regular weekly event!

More information will be coming in the weeks ahead. There will be designated meeting places for families that live too far away from the school. The walk will begin from these designated meeting areas with adult supervision, and incentives will be given to participating students. **Please take a few minutes to fill out the survey about walking and riding to school on our website at [www.manchesterchoools.org](http://www.manchesterchoools.org).**

### **Walk to School Day Information:**

\*Date: Wednesday, May 1, 2013

\*Designated Meeting Locations: To Be Announced

\*Purpose: To encourage daily physical activity, to teach pedestrian safety, and to reduce traffic in AM and PM drop off times.

\*Remember, there is no such thing as bad weather, only bad clothing! Dress for the weather and enjoy outdoor activity all year round!

*Save this part of the form for future reference.*

Cut here-----

*Sign this part of the form and return it to your child's teacher.*

\_\_\_\_\_ has permission to participate in the **Walk to School Day**

with Manchester Elementary Middle School on Wednesday, **May 1, 2013**.

( ) I will be walking with my child to school on this day

( ) A family member will be walking with my child to school on this day

( ) I will not be walking with my child to school on this day, but will bring him/her to the designated meeting location.

Print Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Parent/Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_

APPENDIX K

MEMS ANTI-BULLYING POLICY

## PLANNING FOR SUCCESS (PFS) ROOM

A Plan For Success Room is a space within the school that offers a safe, calm, fair and constructive environment for students to solve problems. It is located across from the Multipurpose Room. The PFS Room is supervised from 8:00 a.m. to 3:30 p.m. Contracted service employees need to seek assistance from the PFS Room for support with behavioral issues.

### WHAT WILL HAPPEN THERE?

The students will identify problems and implement solutions. Social skills will be modeled and there will be training and proactive interventions. Other pro-active interventions will focus on academic support, organizational skills, time management, making good choices and accountability

### WHY DO WE NEED A PLANNING ROOM?

The Planning For Success room provides a place for the students to obtain academic support, learn more appropriate behaviors and strategies while insuring the instructional time and safety of the other students in an adult supervised environment.

### SCHOOLWIDE DEFINITIONS (complete sentences and definitions)

Friendly Reminder – A notification statement to students to remind them to follow the classroom rules and social contract.

Social Contract – A list of rules and/or promises developed and ratified by students.

Take a Break – A designated space in a student’s classroom where students can go to gather their thoughts (non-punitive).

Buddy Room – A supervised space within proximity of a student’s classroom where students report when they are not able to gather themselves within the classroom setting (non-punitive).

Social Conference – A quick conference with an adult to discuss the student’s plan to fix their behavior.

Fix-it Plan – A written plan by the student to discuss how they will alter their behavior to meet the classroom and school rules and/or social contract (non-punitive).

Behavior Contract – A contract developed by a team with the students to outline behavior expectations and consequences.

### WHEN IS A STUDENT REFERRED TO THE PLAN FOR SUCCESS ROOM?

**\*\*Teachers must notify the PFS room when they are sending students for a social conference.**

### **IMMEDIATE REFERRALS**

1. Verbal or physical aggression directed toward students/staff.
2. Severe property destruction.
3. Substantiated bullying and harassment. All reports are investigated.  
Bullying: words, gestures or physical actions that hurt someone’s feelings or body.  
Bullying is unwanted and repeated.
4. Administrative / Guidance referral

### **OTHER REFERRALS**

1. Student request.
2. Unsuccessful at solving the problem within the learning community.
3. Academic support.
4. Social support.

For all **NON-IMMEDIATE REFERRALS** to the PFS Room, the following steps will have occurred:

- STEP 1:** Use in-classroom redirection techniques until no longer effective  
**\*friendly reminders with connections to the classroom rules and social contract**
- STEP 2:** “Take a Break”; occurs in the classroom
- STEP 3:** “Buddy Room”; grades 5-8 will write a “fix-it” plan in their designated buddy room.  
PFS room will serve as buddy room for Unified Arts teachers, and lunch/recess staff.  
**\*Upon returning to the classroom, students must be accompanied back by the teacher or wait at the door to be welcomed back by the teacher.**
- STEP 4:** If students continue behavior after steps 1-3 have been implemented, students report to the PFS room where a social conference is held with the PFS staff (a behavior contract may be developed) and a contact is made home to parents (by teacher “closest” to the offense)

## Communication

Teachers must notify advisors of the situation and the PFS coordinator must notify advisors/teachers of the situation.

**Repeat Offenders:** Teachers, PFS Coordinator and Administration will meet to discuss next steps.

## INVESTIGATIVE PROCEDURES

- STEP 1:** When a student accesses the PFS Room, the staff will interview the student to identify the issue.
- STEP 2:** All staff and students involved in the incident will be interviewed, as necessary.
- STEP 3:** Based on the facts gathered, students may:
- \*be involved in a social conference
  - \*write a fix-it plan
  - \*develop a behavior contract OR
  - \*receive alternative consequences based on offense
- STEP 4:** Consequences for repeated behavior problems may include, but not be limited to, teacher detention (TD), restricted activity (RA), in-school suspension (ISS), out-of-school suspension (OSS), change of placement, other consequences as outlined in the Chart of Consequences or determined by Administration.

## CONSEQUENCES

The Chart of Consequences provides an overview of the hierarchy of offenses, procedures, and possible consequences in response to inappropriate conduct. Definitions of some of the consequences follow.

### ***Restricted Activity***

Students may be put on restricted activity which includes, but is not limited to restricted participation in activities, restricted passage within the school building during school hours, restrictions to certain designated areas; restrictions in their daily schedule and restrictions from going to certain parts of the building without direct supervision or monitoring.

### ***Teacher Detention***

The following guidelines govern the management of a detention period:

- a. The detention period will not last beyond 4:10 p.m. unless an exception is made with parental approval.
- b. Students are expected to report on time with sufficient materials and work.
- c. Talking is not permitted.
- d. Students will be allowed to leave the detention area only in emergency situations.

### ***In School Suspension***

Students assigned to ISS may not participate in any instructional class, school activity, lunch, or recess. They are confined to a supervised area within the PFS room or school setting. They are accountable for their assignments and are required to complete them during their ISS time. Students who are on ISS may not participate in after school events or school activities, including athletics. ISS may also jeopardize their continued and future participation on a team or group performances, as per the guidelines for conduct of the team or group.

### ***Out of School Suspension***

Students on OSS may not attend school for the designated number of days. They may not come to the school grounds, attend school events, or activities, including athletics. OSS may also jeopardize their continued/future participation on a team or group performances, as per the guidelines for conduct of the team or group.