

VERMONT
Safe Routes to
SCHOOL



Folsom School

Safe Routes to School Travel Plan

July 2012



*Prepared with assistance from the VT SRTS Resource Center
SafeRoutesVT.org*

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INTRODUCTION

This Travel Plan represents the work of the Folsom School Safe Route to School Team. Our school is a Silver Level partner with the Vermont Safe Routes to School Resource Center with the desire to reach higher partnership levels. We believe this is a good way to ensure an on-going Safe Routes to School program at our school. The Folsom School administration assembled a diverse Safe Routes to School (SRTS) team, consisting of parents, teachers, town officials and other community members, which has provided input, guidance, and oversight in writing our plan.

Members of the Folsom School Travel Plan Team	
Diane Lemieux Principal Folsom School	Dave Hobbs Family Physician Town Recreation
Kacie Aubin Support Staff Folsom School	Dorey Myers Public Health Nurse Vermont Department of Health
John Beaulac Road Foreman Town of South Hero	Alicia Poquette Health Assistant Folsom School
Janine Bellinghiri Parent Folsom School	John Roy Road Commissioner Town of South Hero
Katelin Brewer-Colie Planner Northwest Regional Planning Commission	Sharon Roy Town Clerk Town of South Hero
Nancy Frantz Town of South Hero Recreation Committee	Paul Rude Student Folsom School
Blake Allen Grand Isle Sherriff Department	Stephen Berard Folsom School Maintenance

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

The ideas and recommendations developed during this process will guide us in creating a well-balanced approach to building our SRTS program at Folsom School. 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 (VTTrans), 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 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 South Hero.

TEAM VISION

The SRTS program at Folsom School aligns with South Hero's efforts towards promoting better mobility for pedestrians and bicyclists. 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 to school fit our school and town's values. Our vision for Folsom School and South Hero is to have:

- Safe traffic patterns for all modes of transportation;
- Students and families that feel safe walking and biking to school together;
- Parents that are comfortable allowing their children to walk or bike to school or in the community;
- Good walking and biking connectivity and access to community hubs such as Folsom School;
- Road users educated on how to be a safe driver, biker, and/or pedestrian; and,
- A comprehensive, year-round community network that is comfortable to use by all transportation modes.

This SRTS Travel Plan outlines our school's intentions for making walking to and from school more sustainable and safer for students and the community. Through our SRTS program and efforts, we hope to reach a rate of 12% of our students walking or biking to school at least two days a week during the fall and spring seasons of the 2012/2013 school year. We believe this goal is attainable, as slightly more than 21% of our students live within one mile of school.

ABOUT THIS PLAN

Our SRTS team met three times with the Vermont SRTS Resource Center to develop this SRTS Travel Plan and once more on our own to adopt the plan. Each meeting provided education on the benefits of SRTS and highlighted successful program components and strategies. The “engineering meeting” included a discussion about the areas around our school. We also discussed education, encouragement, enforcement, and evaluation strategies, which helped us to identify needed additions and complimentary programs to support our existing efforts as well as our proposed engineering strategies.

Meeting Date	Content and Outcomes
September 2011	Kick-off Meeting: How the Vermont SRTS Travel Plan Works <ul style="list-style-type: none"> - Award of the planning assistance grant - Overview of the planning process
November 2011	Engineering Meeting <ul style="list-style-type: none"> - Observed arrival - Team visioning - Opportunity and barrier discussions - Conducted walk and bike audit - Observed dismissal
December 2011	Plan Review <ul style="list-style-type: none"> - Observed arrival - Reviewed the draft plan - Identified roles and immediate steps for non-engineering recommendations
January 2012	Plan Adoption <ul style="list-style-type: none"> - Adopted plan - Began implementation of non-infrastructure recommendations

TRAVEL PLAN CONTEXT

FOLSOM SCHOOL AND SOUTH HERO OVERVIEW

Folsom School is located in South Hero, a small community on South Hero Island in northwest Vermont. The town has experienced steady growth since the 1980's.

The School is located on South Street. South Hero has classified South Street as a Class 2 Town Road and has posted the speed limit as 35 mph. It is paved and is approximately 22 feet wide with two nine-foot travel lanes and a paved shoulder on each side varying from one to two feet wide.



Folsom School Context

South Street intersects on its northern end with US Route 2 (Route 2), South Hero's heavily traveled, primary linkage with the neighboring towns. There is a short sidewalk on the west side of South Street just south of the intersection. A crosswalk links Hill Road on the north side of Route 2 with the sidewalk on South Street. Sidewalks also line both sides of Route 2 west of the intersection with South Road into South Hero village.

South of Folsom School, South Street intersects with Landon Road and continues beyond the intersection for roughly two miles south to the southern end of the Town. It intersects West

Shore Road and Whipple Road about $\frac{3}{4}$ of a mile south of Landon Road. There are no smaller, subdivision roads intersecting South Street, Route 2, or Landon, Whipple, or West Shore Roads within one and one half miles of the school.



Front entrance of Folsom School on South Street



South Street north of Folsom School



South Street south of Folsom School

A two-way entry drive circles in front of the main entrance to the school building. School buses and parents in cars use the entry drive to drop children off at the school in the morning. The access drive connects to South Street on its south end and to a parking area access drive on the north side. The parking access continues along the north side of the school building with faculty and visitor parking on the north side, facing away from the building. Additional faculty parking is located along the east side of South Street to the south of the access to the entry drive. A town parking lot lies to the north of the school and is used for school activities and parking.

There is now a sidewalk along the front of the school at the edge of the access drive. A crosswalk links this sidewalk with another asphalt path leading to the town parking area.

The areas surrounding the school include low-density housing along South Street to the north and rural apple orchards to the south between the school and Landon Road. About $\frac{3}{4}$ of a mile further south on South Street is a small residential neighborhood centered on the intersection of South Street with Whipple and West Shore Roads.

There are no off-road trails or paths in the vicinity of the school or in these neighborhoods.

The town library is in the same structure as Folsom School, with a separate entrance at the south end of the building.

In 2006, the Town voted to provide matching funds for a grant to widen South Street to create paved shoulders for walking or bicycling. The vote was subsequently reversed and there are currently no plans to increase the width of the shoulders on South Street or any other town road.

CURRENT SCHOOL DEMOGRAPHICS

Our school has a total of 115 students enrolled for the 2011-2012 school year. Our school serves kindergarten through eighth grade.

Demographic	Count	Percentage of student body
Students with Disabilities	0 full time	0
Limited English proficient students	0	0
Distance From School		
Students living within 1/4 mile of school	1	1%
Students living within 1/2 mile of school	3	2.5%
Students living within 1 mile of school	20	17%
Students living within 2 miles of school	69	60%
Students in grades K-3	51	44%
Students in grades 4-8	59	51%

CURRENT STUDENT TRAVEL MODES

Travel Mode	Walk	Bike	School Bus	Family Vehicle	Carpool	Public Transit	Other
Percentage of Student Body in the AM	3%	2%	42%	50%	3%	0%	0%
Percentage of Student Body in the PM	3%	4%	38%	44%	10%	0%	0%

Data based on SRTS Student Tallies administered in October 2011

Folsom School offers busing to all students, no matter how close to the school they may live.

SCHOOL ARRIVAL AND DISMISSAL PROCEDURES

Folsom School relies on policies, practices, and support activities to ensure a safe and orderly process for students to arrive at school, regardless of how they travel to school. Parents are reminded of these procedures in the student handbook and school newsletters that are sent home with students.

The two school buses serving the school, and many parents, use the front entrance drive to Folsom School to drop off and pick up students in the morning. The buses arrive at approximately 7:50 am. A teacher escorts the children coming by bus into the school when they leave the bus. Some parents drop their children off in the parking access drive on the north side of the school, while others park in the town parking lot and walk their children to the front school entrance.



The path and crosswalk linking the town parking lot with the school's front sidewalk; the bike rack is visible on the right.

Students walking or biking to school typically walk across the town parking lot to the sidewalk and crosswalk on the north side of the school access drive if coming from the north, and along the side of the road if coming from the south. School policies do not allow students to walk to parked cars themselves, but students who have received parental permission to walk or bike to and from school are

released at the same time as school bus riders at 2:35 pm.

In the afternoon, the two buses line up along the entry drive. At 2:35 pm, a teacher escorts the students who ride the bus out to the entry drive to board the buses. Parents who pick up their children typically park in the town parking lot and walk to the front of the school where they meet and escort their children back to their cars.

Arrival		
Travel Mode	Procedure	Time
Walk	Arrive staggered. Enter through the front door.	7:45-7:55 am
Bike	Puts bike in rack and enters through the front door.	7:45-7:50 am
School Bus	Arrive first. Unload through the front door.	7:50 am
Family Vehicle	Arrive staggered. Unload on different side of school than buses.	7:40-7:55 am
Dismissal		
Travel Mode	Procedure	Time
Walk	Leave through the front entrance	2:35 pm
Bike	Leave through the front entrance and head to bike rack.	2:35 pm
School Bus	Bus Riders dismissed at front door close to buses.	2:35 pm
Family Vehicle	Parents park in town lot and wait for students at the front door.	2:25 - 2:45 pm



Folsom School Entry Drive

The entry drive to Folsom School is tight for school buses. When coming from the north on South Street, bus drivers need to do a three-point turn to enter the drop off area. When heading out, they need to circle through the adjacent town parking lot to head south on South Street.

The Grand Isle Supervisory Union is considering changes to the area around the school. The current concept is to develop a covered walkway between a rear school entry and the north side parking access drive. Buses would then drop students at this entrance rather than the front entrance, reserving the front access drive for private vehicles. A new sidewalk would be constructed along the north side of the building for the school bus drop offs.



The north parking lot and town lot from the rear of the school property

EXISTING TRAVEL HABITS

Students travel from north and south on South Street to reach the school by walking, bicycling, or riding in cars. They reach South Street by using Route 2, Langdon Road, Whipple Road, or West Shore Road or crossing Route 2 from the north at the Hill Street/South Street intersection. With the exception of Route 2 and the very northern end of South Street, students must use the sides of the road for walking or biking to or from the school. The only crosswalk available within 1.5 miles of the school is on Route 2 at the northern end of South Street.

On the day of our analysis, fourteen parents arrived on foot from the north to pick up their children after school and six came from the south. A significant number of students live within reasonable walking distance of the school. For example, about one out of every five students (21%) lives within one mile of school. The few students that now walk to school live especially close to the school on South Street to the north or south.

On the day of our safety audit, we observed only one student bicycling to school.

Parents of students living between one half mile and one mile from school and who drive their children to school listed the following reasons for doing so:

- The volume and speed of vehicular traffic on the roadways;
- The lack of adults to walk with the students; and
- The lack of sidewalk or pathways.

Appendix C contains a copy of the parent survey and result tally.

We kept these concerns in mind when picking the strategies that we want to accomplish this during the remainder of the school year, and into the coming 2012-2013 year.

KEY ISSUES

The team identified the following barriers to walking or bicycling during the bicycling and walking audit and from the parent's survey.

Barrier: Difficult crossing of Route 2 at the South Street intersection.



Many of the motorists on Route 2 do not respect the existing crosswalk at the South Street intersection on the east end of the village. While the crosswalk itself is visible, students standing at the edges waiting to cross tend to stand back from the road and are not as visible. The 2010 Average Annual Daily Traffic volume on Route 2 in the vicinity of South Street is 8,800 vehicles per day. The vehicles on Route 2 are also typically traveling

at speeds higher than the posted speed limit of 35 mph based on local observations.

Barrier: Minimal width of shoulders on South Street.



The South Hero to Allen Point Access Linkage Feasibility and Alignment Study, completed in 2004 noted that the shoulder widths on South Street are minimal for comfortable use by pedestrians or bicyclists. The report recommended a slight widening of three feet on either side of the roadway and a decrease in the width of the travel lane to provide more acceptable paved shoulder widths. The Town striped the road with

narrower lanes in 2008, but did not proceed with the widening. Consequently, pedestrians and bicyclists must still walk close to the vehicular traffic. The school uses the shoulders of South Street as route for its walking school bus on International Walk to School Day but they are escorted by a police car. The presence of the police car allays parents' and teachers' concerns about the narrow shoulders. On the day of our observation, the team noted that most motorists on South Street respected pedestrians and pulled well into the opposite lane to pass them with a wide margin.

Barrier: Motorists on South Street appear to travel fast near the school combined with a lack of pedestrian crosswalks or warning signs near the school.

There is a school zone with a reduced speed limit of 25 mph near Folsom School. The most recent traffic counts for South Street showed approximately 1,150 vehicles traveled South Street on average every day. The study also showed that approximately 80 percent of the vehicles a short distance north of the school zone were traveling above the posted 35 mph speed limit. There is currently no speed data for vehicles within the reduced speed zone. In addition to concerns about the volume and speed of traffic, the lack of a crosswalk in front of the school to allow children to access the correct side of the road for walking increases parents' concerns about walking near the school.

Barrier: During the winter months, snow banks decrease sight distance along the roadways which decreases the overall visibility of pedestrians to motorists.

South Hero often experiences long periods of continuous snow on the ground. Snow plowing of the roads creates snow banks along the sides of the road and obscures motorists' long distance views when there is even the slightest curve in the road and at intersections. The current snow plowing practices by the South Hero road crews is to plow the gravel shoulders of

the road along with the roadway, where possible, which helps to create visible spaces for pedestrians at the edges of the road.

Barrier: Lack of a clear path for pedestrians and bicyclists to access the school's front door (or other designated entry points) from South Street.



There is no clear sidewalk or bicycle travel path between South Street and the front of the school. Pedestrians from the north currently walk across the town parking lot to a narrow crosswalk that links it via a parking space, to the walk in the front of the school. Pedestrians from the south walk, either on the grass in front of the parked faculty vehicles, or behind the vehicles along the side of South Street until they reach the sidewalk in front of the school.

Bicyclists enter the school grounds by the access drive and proceed to the rusting bicycle rack situated on the grass between the northern access drive and the town parking lot. The bicycle parking location is not adjacent to a sidewalk or school entrance. Bicyclists must either walk diagonally across the entry drive or across the grass to reach the sidewalk along the front of the school and continue to the school entrance. There is no way to avoid crossing the entry drive at a time when it is busy with buses or parents dropping off other students.

Opportunities: Planned trail along power line to the east from South Street to the Town dump property could provide off-road pedestrian and possible mountain bike access to the school.

The Recreation Committee has a grant to construct a trail that will begin to link the school with some of the residential clusters on the east side of the Town.

Parent Survey: On the recent survey conducted in November 2011, school parents noted that the speed and amount of vehicular traffic along roadways on the routes that their children would need to walk or ride to school is the biggest issue affecting their decision not to allow the students to do so. This was also a concern for those parents that actually do allow their children to walk or bike to school. Parents also noted that the lack of adults with which to walk or bike to school as well as a lack of sidewalks or pathways as other reasons for not allowing students to walk or bike to school. The lack of sidewalks or pathways was also a concern for those parents whose children currently walk or bike to school. **Appendix C** contains a copy of the complete results from the parent survey.

Opportunities: New Bus Stop Location. The school and school district have been considering modifications to the current bus stop location at the school. Instead of the front location, they are now considering a drop off on the north side of the building, separating it from parents' automobiles, which would remain in the front of the school. As part of the change, the school would add a new sidewalk on the north side of the school and a vehicular connection to the town parking area to the north. There is also a suggestion to have the students using the bus to enter and exit the school using the rear entrance, separating them from students entering the school who do not use the bus. The school is considering the construction of a covered walkway over the existing sidewalk to the rear entrance as an additional part of the change.

There is definitely merit to separating the bus stop from the parent stop. The addition of the north sidewalk and the link to the town parking lot will be useful towards accomplishing this change. There may be other ways to consider how to accomplish the separation that may require less new construction and fewer staff members to monitor. Several options are discussed later in the policy discussion in this plan.

TRAVEL PLAN RECOMMENDATIONS

OVERVIEW

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

Non-Engineering Plan

This Travel Plan identifies best practice education, encouragement, enforcement and evaluation activities and programs suitable for our school. **Appendices D** and **F** include information on the advantages and considerations for each strategy, the specific terms that are appropriate to use for these strategies, and resources to help us implement them.

12-Month SRTS Activity Calendar

Our team will pursue a smaller subset of items in the non-engineering plan during the next 12 months. We will review our work periodically, adding additional activities that will continue the SRTS program momentum.

Engineering Recommendations

With assistance from the Vermont SRTS Resource Center, we have identified short and long-term engineering treatments to make walking and bicycling to school safer for our students.

NON-ENGINEERING TRAVEL PLAN

We identified a number of activities and programs to expand our existing program of promoting safe walking and biking to school. These activities and programs, while grouped primarily 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	Long
Encouragement, Education, Enforcement, Evaluation, Policies	What we plan to do this school year	What we plan to do next school year and beyond

We have identified the activities and programs we expect to work on during the next 12 months in the following section. Long-term strategies are described in subsequent sections. **Appendix A** includes a calendar for our strategies. **Appendix F** includes additional tips that can help us begin implementing some of the strategies.

SHORT-TERM EDUCATION STRATEGIES

The education strategies included in our 12-month activity calendar are aimed at providing all students with pedestrian walking skills. Specifically, we will:

- Provide walking educational materials through our physical education classes for students to share with their parents;
- Continue to invite the sheriff's department to conduct a safe bicycling and walking education session at the school;
- Use incentives such as raffles and door prizes to increase parent participation at the bicycle safety fair or PTA educational sessions;
- Maintain the use of *Walk Smart/Bike Smart Vermont!* curriculum elements in physical education classes;
- Provide tips and tools on the on the SRTS Partner Resource CD and in the VT SRTS monthly newsletters to students and the community via the school's website, the school newsletter, the *Islander* Newspaper (possible with profiles of current students that walk or bike to school), direct mailings, the school's Facebook page and the South Hero Front Porch Forum; and,
- Continue to share the bicycling and walking safety checklist with parents to bring awareness and encourage families to determine the safety of their routes to school.

SHORT-TERM ENCOURAGEMENT STRATEGIES

Encouragement strategies included in our 12-month activity calendar will help students and their parents feel more comfortable and confident about walking and bicycling to school.

The school has formalized its walking school buses but only on a very limited basis and with a police escort. Our encouragement activity will:

- Provide support for at least three Walk and Roll to School days per school year (one per each trimester) with walking school buses starting at the Community Church parking lot approximately ¼ mile north of the school (alternatively consider starting at the Town Offices or the post office parking lot);
- Develop a "Bike Train" that leads children to school at least once a month during the school year;
- Provide incentives such as stars, punch cards, or SRTS Resource Center provided items to those that walk or bike to school;
- Continue to obtain free or reduced cost bicycle helmets through Safe Kids Vermont or other similar program and potentially add lights, tall bike flags, or other safety gear for distribution to student bicyclists and pedestrians; and

- Provide better bicycle parking or storage facilities for year round use close to the entrance to the school.

SHORT-TERM ENFORCEMENT STRATEGIES

Our SRTS enforcement strategies are aimed at both changing the behavior of drivers and making the neighborhood safer and more secure for students walking or biking to and from school. Our partner for traffic safety is the Grand Isle County Sherriff. They participate in Walk to School Day events by stationing vehicles along student walking routes and enforcing speed limits. Our enforcement activities this year will:

- Engage parents and the community to help enforce proper walking, driving and bicycling behavior and make it the norm (such as wearing helmet, wearing reflective visible clothing, walking facing traffic if no sidewalk, no running, and no random crossing of roads) by having parents sign a “Safety First” pledge;
- Add responsible pedestrian and bicycle behavior among the students and families at Folsom to the school’s Positive Behavior Program;
- Use a temporary speed feedback trailer at least once a year on South Street and Route 2 to encourage slower vehicular speeds, and
- Encourage the State Police to watch for speeding traffic periodically on South Street and Route 2 near the South Street intersection.

SHORT-TERM EVALUATION STRATEGIES

Evaluation is an important component of our SRTS program. We plan to complete in-classroom student tallies and evaluation tools regularly, such as the student tally and parent survey forms provided by National Center for Safe Routes to School (NCSRTS). We first administered these in October and November of 2011, which provided baseline information on student travel behavior. Subsequent student tallies and parent surveys will help us measure the effectiveness of SRTS efforts over time. As part of our evaluation strategy, we plan to:

- Participate annually by submitting student tallies at the same time each year;
- Conduct annual walk audits to evaluate the existing walking and biking environment as well as monitor the progress of recommended projects; and
- Distribute parent surveys annually in November to gain a better understanding of the changing attitudes of parents towards allowing their children to walk or ride to school on a regular basis.

Evaluation Tool	Leader	Schedule
Parent Surveys	Diane Lemieux Principal	Annually in November
Student Tallies	Diane Lemieux Principal	Annually in November during Evaluation Week
Walk Audits	Grand Isle County Sherriff	Annually, two weeks before school opens in the fall

LONG-TERM NON-ENGINEERING STRATEGIES

Our long-term efforts are those that will take more than one year to review and implement. They include:

- Explore the possibility of starting a student patrol to encourage student leadership and the use of peer models to promote safe walking and bicycling behaviors (issues of liability need to be reviewed at a minimum);
- Explore the potential to add a crossing guard in front of the school and/or at the Route 2 crosswalk at the South Street intersection;
- Conduct at least one bicycle safety fair to teach students and parents safe bicycling skills;
- Organize a helmet drive to recycle student helmets that are still in good condition;
- Initiate a “Caught Being Good Program” for students that is executed by parents and officials in South Hero with the help of the Grand Isle County Sherriff and the Folsom School Parent Teacher Organization;
- Recruit parents who are home during the day and local retirees to keep an eye on the street in front of their residence during either school arrival or dismissal times (or both) to provide an extra layer of comfort for parents who encourage their children to walk or bike to school and to report to the Sherriff illegal traffic activities they witness that could harm pedestrians or bicyclists;
- Identify additional or expanded walking school bus routes and leaders to encourage regular and on-going walking activities; and,
- Create opportunities for families to learn about walking and bicycling together through special exhibits and educational sessions at the library.

LONG-TERM POLICY CHANGES

The school’s current policy for students is to have them all use the front door for entering and exiting the school. It has the buses drop off and pick up students in the front drive while also allowing parents to use the same front drive as a point to drop students at the beginning of the

day. In the future, it would be beneficial for the school to consider some modification to current policies while retaining others. In particular, the school policy could:

- Have all students enter and exit the school through the same door; given the relatively small size of the student body and the need to have a school staff member monitoring the door, using the same door for all students, without separating them based on their mode of travel, would also reduce the number of school staff members needed to monitor dismissal;
- Convert the front drive to a one-way drive heading north and limit the use to just buses and handicap access during the school day, which minimizes the number of vehicles that need to cross the new crosswalk linking the school to the street;
- Add handicap parking spaces in front on the school drive for use during the school day; and,
- Assign the town parking lot or the north driveway with new sidewalk as the drop-off and pick-up location for parents bringing children to or from school.

ENGINEERING TRAVEL PLAN

OVERVIEW

Our goal for engineering improvements is to improve the physical environment on school property and at critical locations on potential walking routes that students could easily use. Engineering improvements generally fall into three categories:

- Provide sidewalks and paths,
- Improve crossings, and
- Upgrade the safety and efficiency of school drop-off and pick-up locations.

We recognize that infrastructure improvements can take time to complete and are a collaborative effort between the Town of South Hero, the Grand Isle Supervisory Union and potentially the Vermont Agency of Transportation (VTrans) to implement the projects. The following short, medium and long timeframes as a guide for anticipated project completion, but actual timeframes may vary:

Short term	Within 2 years
Long term	Longer than 2 years

The team prioritized the infrastructure improvements according to this timeframe. The factors affecting this ranking include:

- Locations with specific safety concerns;
- Locations at the school that can assist in arrivals and departures for all students; and,
- Locations along potential student walking or bicycling routes, including the walking school bus route.

SHORT TERM INFRASTRUCTURE STRATEGIES

To assist in addressing the key issues, we are also recommending infrastructure changes around the school and in the surrounding area. The following list highlights the basic concept of each recommendation. **Appendix B** includes a table which provides a more complete description of each engineering recommendation along with the need for the change, other considerations and a map showing the locations of proposed recommendations. **Appendix E** includes examples of typical infrastructure recommendations and **Appendix F** provides additional information and possible implementation steps for typical infrastructure recommendations.

Site A - Route 2 at South Street Intersection

Our goal is to create a crossing location on Route 2 that is more comfortable for users of all ages, one that parents would consider acceptable for their children. Recommended changes include:

- Curb extensions,
- High visibility striping on the existing crosswalk, and
- An additional crosswalk on South Street at Hill Street.

Site B - South Street

Our goal is to make the walking and bicycling environment around the school as inviting and comfortable for students and parents as possible. To accomplish this, our recommended changes include:

- New pedestrian and bicycle “Share the Road” signs,
- An updated School Zone with road symbols and updated signs, and
- A crosswalk in front of the school to encourage students to walk on the correct side of the road when coming to or going from school.

Site C - School Property

Our goal in recommending modification on the school property is to make the area directly around the school as easy and safe for pedestrians and bicyclists to use as possible. Our recommendations include:

- A new pedestrian path between the front of the school and South Street including a crosswalk on the entry drive,
- Conversion of the front entry drive to a one-way loop heading north for buses only,
- Shifting parent drop-off of students to the town parking lot,
- A better link between the front of the school and the town parking lot, and
- A new bicycle rack.

Site D - Folsom School Vicinity

Our goal in recommending improvements in the vicinity of the school is to increase the potential opportunities for students and the community as a whole to walk and bicycle to the school or the library by some ways other than using South Street. Our recommendations include:

- A cross-country trail that meets required ADA standards heading east from the school near the existing power lines.

LONG TERM INFRASTRUCTURE RECOMMENDATIONS

The goals for the various sites identified in the short-term recommendations will remain the same over time, but we have identified several long-term recommendations that will help to continue the achievement of the goals:

Site A - Route 2 near South Street Intersection

- A permanent speed feedback sign, and
- A rapid flashing beacon for the crosswalk.

Site B- South Street

- Wider shoulders and
- A permanent speed feedback sign.

Site C - School Property

- A cover for the bicycle parking.

CONSIDERATIONS FOR DESIGN AND FUNDING

Design

- Infrastructure recommendations in this plan are considered “planning level” and will require further engineering analysis, design or public input before implementation.
- The school will need to examine drainage, existing utilities and ADA compliance for each recommendation 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.
- We did not evaluate right-of-way as a part of this project; our 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.
- Our infrastructure recommendations are meant to improve conditions around the school for students walking or bicycling to school; they may simultaneously improve the situation for bus or parent drop off areas or practices.
- 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’ 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, including Safe Routes to School. More information on the types of projects eligible for SRTS funding through VTrans and at <http://www.aot.state.vt.us/progdev/Sections/LTF/SRTS/VTSRTS.htm>.

APPENDICES

- A. Non-infrastructure Strategy Calendar
- B. Location-Specific Engineering Recommendation Details (Maps and Recommendations Table)
- C. November 2011 Student Travel Tally/Parent Survey Reports
- D. Typical Infrastructure Recommendations
- E. Non-Engineering Strategies Resource Guide
- F. Infrastructure Implementation Strategies Resource Guide
- G. Snow Removal Policy Toolkit

Appendix B: Location-Specific Engineering Recommendations

SRTS 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.

The following table provides a summary of the engineering strategies recommended for Folsom School. These recommendations were developed by Broadreach Planning & Design and Toole Design Group, LLC based on input from the Folsom SRTS Team. The table includes an estimate of the amount of time that is likely to be 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 Folsom School 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) 2009 Edition.

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.

Street Classifications and Descriptions

Street name	*Classification of Town Highways	Speed Limit	Curb/No curb
Hill Road	Class 3	25	No curb
Route 2	US Highway	40	Curb
South Street	Class 2	35	No curb
*Vermont Agency of Natural Resources			



Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
<p>A</p> <p>Intersection of Route 2 & South Street.</p> <p>This is a four-way intersection. Traffic on South Street and Hill Road are stop-controlled.</p>	<p>The intersection is comprised of two travel lanes on South Street, Hill Road and Route 2. There is an existing crosswalk on Route 2, allowing crossing to the south side of South Street. There is also an existing crosswalk on Hill Street.</p> <p>Vehicles on Route 2 were observed travelling at high rates of speed and often do not stop for pedestrians in the crosswalk.</p> <p>The recommendations are meant to make it easier for pedestrians of all ages to cross Route 2.</p>	A1: Install ADA-compliant curb extensions and accessible ramps on both ends of the existing crosswalk on Route 2.	Short term	<input checked="" type="checkbox"/> <i>Safety concerns.</i> <input checked="" type="checkbox"/> <i>Existing walking or bicycling routes.</i> <input checked="" type="checkbox"/> <i>Priorities for the school community.</i>	First Priority
		A2: Install one crosswalk in the ladder style with reflective, durable material crossing South Street. Restripe the existing crosswalks on Hill Road and Route 2 in the ladder style with reflective, durable material.	Short term		First Priority
		A-L2: Install rectangular rapid flashing beacons (RRFB) at the existing crosswalk on Route 2 at the Hill Road/ South Street intersection.	Long term		First Priority
		A-L3: Post a permanent or periodic speed feedback sign on Route 2 on the westbound side of the road prior to approaching the Hill Road/ South Street intersection.	Long term		Possible Now with no Additional Funding

Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
<p>B</p> <p>South Street</p> <p>South Street is a town road approximately 22-foot wide with nine-foot travel lanes and one-to-two-foot wide paved shoulders.</p> <p>The posted speed limit is 35 mph.</p>	<p>South Street is the only direct walking route for students coming from the north or the south and is also regularly used by motorists in the mornings and evenings.</p> <p>Currently, there are few facilities for pedestrians or bicyclists on the shared roadway of South Street and only minimal signage alerting motorists to the presence of pedestrians or bicyclists.</p> <p>Recorded average vehicular speeds from the latest traffic counts and speed study on South Street in 2008 show vehicle speeds typically exceed the posted speed limit by at least 5 mph.</p> <p>There are no crosswalk markings on South Street in front of the school that would allow students to cross the road safely in order to walk on the proper side of the road.</p> <p>The current width of paved shoulders on South Street does not meet recommended State Standards.</p>	B1: Install pedestrian and bicycle 'SHARE THE ROAD' plaques (MUTCD W11-15).	Short term	<input checked="" type="checkbox"/> <i>Safety concerns.</i> <input checked="" type="checkbox"/> <i>Existing walking or bicycling routes</i> <input checked="" type="checkbox"/> <i>Priorities for the school community.</i>	First Priority
		B2: Upgrade the existing school zone with speed limit reduction on South Street by installing 'SCHOOL ZONE' signs with yellow lights flashing during the hours of arrival and dismissal (7:30-8:00am and 2:30-3:00pm), painting 'SCHOOL' pavement markings on the road to the north and south of the school, and removing the "During School Hours When Children Are Present" sign under the 25 mph speed limit sign.	Short Term		First Priority
		B3: Install a crosswalk in the ladder style with reflective durable material in front of the school and linking to the new sidewalk recommended in Site C to encourage students to walk on the correct side of the road when coming to or going from school.	Short term		First Priority
		B-L1: Increase the width of the shoulders, both paved and unpaved.	Long Term		First Priority - Long Timeline
		B-L2: Obtain and periodically or permanently post a speed feedback sign on South Street	Long Term		First Priority

Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
<p>C</p> <p>School Property</p> <p>The school site is located on the east side of South Street about ¾ mile south of the intersection with Route 2.</p> <p>The school building is setback about 50 feet from South Street. A front access drive runs between the building and South Street. A driveway runs along the north side of the school with south-facing parking. A town parking lot lies about 15 feet north of this parking.</p>	<p>There are no direct pedestrian connections between the sidewalk in front of the school and South Street. Students walk on the school driveways, or on the grass to get to the street.</p>	<p>C1: Add a sidewalk between South Street and the northern portion of the entry drive in front of the school.</p>	<p>Short term</p>	<p><input checked="" type="checkbox"/> <i>Safety concerns.</i></p>	<p>Possible Now with no Additional Funding</p>
	<p>Both buses and parents driving their children use the front access drive to drop off students. Students walking or bicycling to school need to use or cross the access drive to reach the building. There is no crosswalk on this drive, so neither students nor motorists know specifically where crossings will happen.</p>	<p>C2: Install a crosswalk in the ladder style with reflective durable material across the northern end of the entry driveway. This would connect the existing sidewalk in front of the school building to the new sidewalk between the driveway and South Street recommended in C1.</p>	<p>Short Term</p>	<p><input checked="" type="checkbox"/> <i>Existing walking or bicycling routes</i></p> <p><input type="checkbox"/> <i>Priorities for the school community.</i></p>	<p>Possible Now with no Additional Funding</p>
	<p>A walkway between the school and the town parking lot does not meet ADA standards and uses a parking space as a portion of the walk. When the space is occupied, students must walk on the narrow pavement next to the vehicle or on the grass next to the parking space.</p>	<p>C3: Limit front-driveway access to buses only. Reroute parent and visitor traffic to the town parking lot. This will minimize the number of vehicles on the entry drive for students walking or biking to school.</p>	<p>Short Term</p>		<p>Possible Now with no Additional Funding</p>
	<p>There is no north-south sidewalk or bicycle path along South Street in front of the school. Pedestrians from the north currently walk across the town parking lot to reach the building. Pedestrians from the south must walk on the grass in front of faculty parking on South Street or behind these vehicles along the main drive.</p>	<p>C4: Relocate and reconstruct the existing path between the school and the town parking lot. Situate it to the west of the existing walkway to reduce the grade to ADA standards, and eliminate the need to cross through a parking space.</p>	<p>Short term</p>		<p>Possible Now with no Additional Funding</p>

Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
<p>C (Cont.)</p> <p>School Property</p> <p>The main entry and the north drive share the same curb cut on South Street.</p> <p>Athletic fields and play areas are on the east and south sides of the school building.</p>	<p>Bicyclists enter the school grounds by the access drive and proceed to the bicycle rack situated on the grass between the northern access drive and the town parking lot. The bicycle parking location is not adjacent to a sidewalk or school entrance. The bicycle rack itself is old and provides limited protection for bicycles and no protection for bicyclists as they park or retrieve their bicycles.</p> <p>Once leaving the bike rack, bicyclists must either walk diagonally across the entry drive or across the grass to reach the sidewalk in front of the school and continue to the school entrance. There is no way to avoid crossing the entry drive at a time when it is busy with buses or parents dropping off other students.</p>	<p>C5: Add a secure, high-capacity, year-round bicycle rack closer to the front of the school and in a location where bicyclists can walk directly to the entrance without crossing a driveway.</p>	Short term	<input checked="" type="checkbox"/> <i>Safety concerns.</i> <input checked="" type="checkbox"/> <i>Existing walking or bicycling routes</i>	Possible Now with no Additional Funding
		<p>CL-1: Add a roof to the bicycle parking area.</p>	Long Term	<input type="checkbox"/> <i>Priorities for the school community.</i>	Possible Now with no Additional Funding

Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
<p>D</p> <p>Folsom School vicinity</p> <p>The area around Folsom School is primarily agricultural to the east, south and west, with a few residences along South Street to the north.</p>	<p>South Street is the only means of access for pedestrians and bicyclists.</p> <p>A shared-use path running east-west has been proposed by the South Hero Recreation Committee on the east side of South Street just north of the school. Funding for this trail has already been obtained.</p>	<p>D1: Assist the South Hero Recreation Committee as much as possible to implement the off-road trail and provide a safe, ADA compliant alternative route to school for pedestrians and bicyclists.</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>Possible Now with no Additional Funding</p>

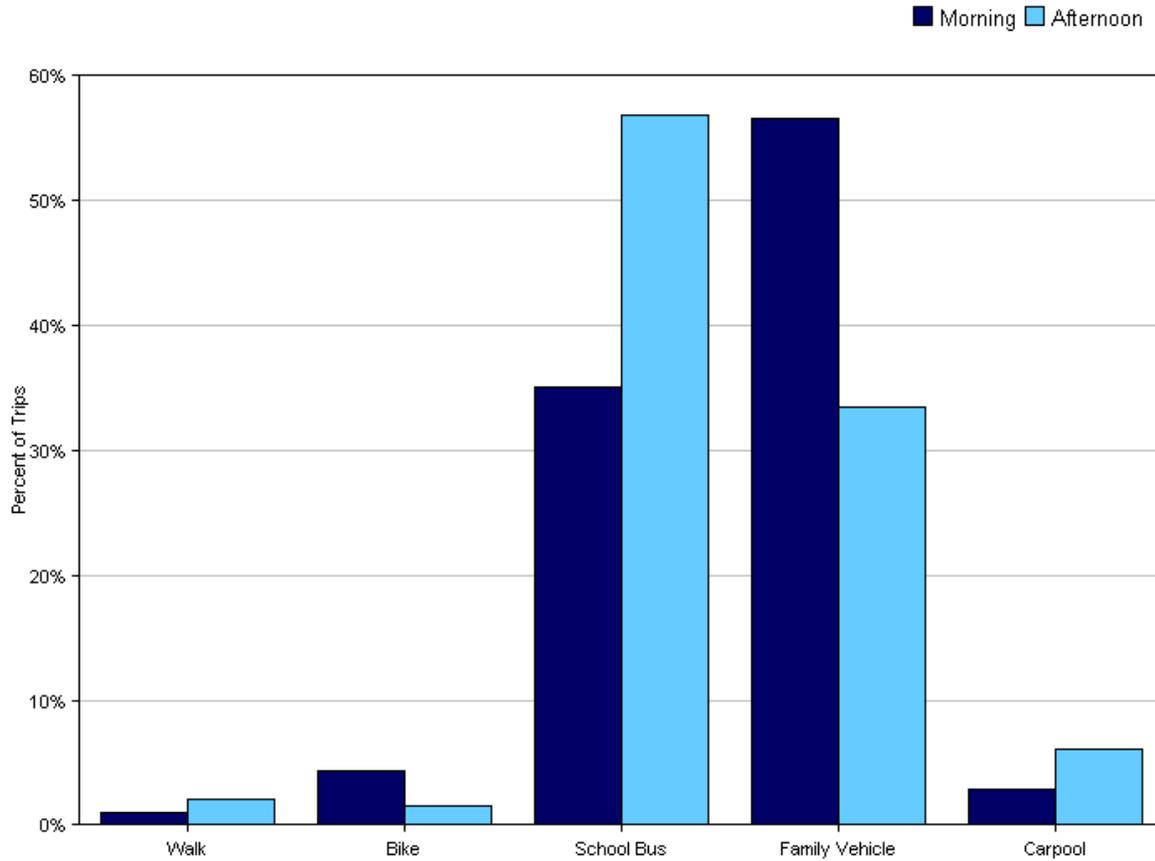
APPENDIX C: NOVEMBER 2011 STUDENT TRAVEL TALLY/PARENT SURVEY REPORTS

Tally Report Summary

Program Name:	Folsom Elementary	Month and Year Collected:	November 2011
School Name:	Folsom Elementary	Set ID:	8197
School Enrollment:	110	Date Report Generated:	01/12/2012
Enrollment within Grades Targeted by SRTS Program:	110	Number of Classrooms Included in Report:	7
Number of Classrooms in School:	9		

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

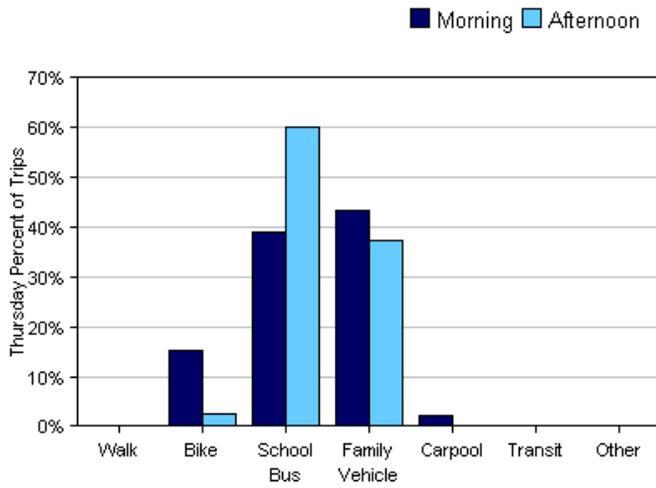
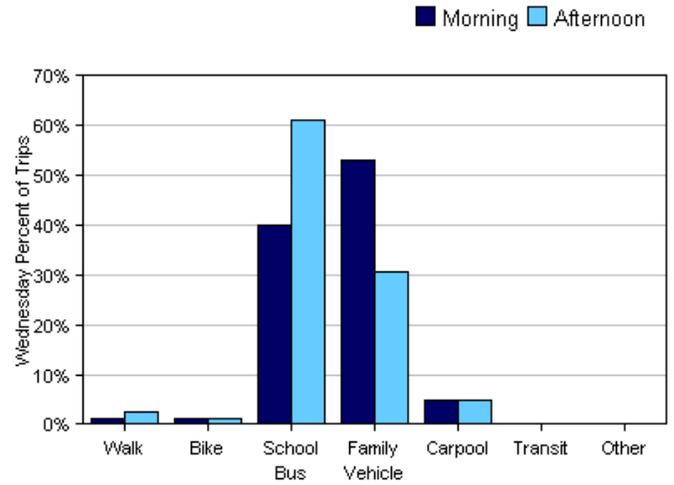
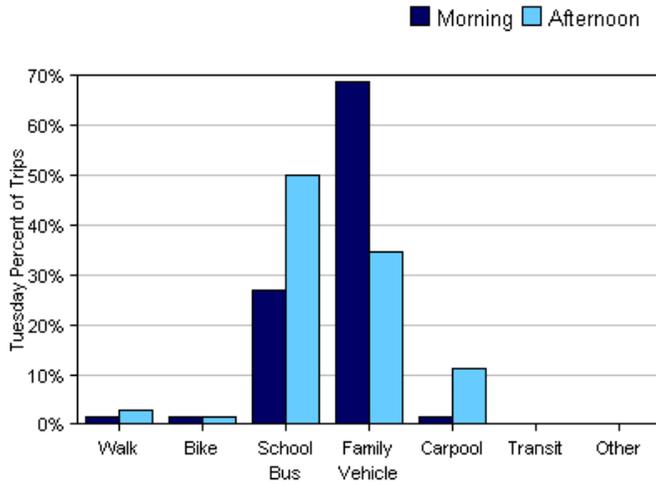


Morning and Afternoon Travel Mode Comparison

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	205	1.0%	4%	35%	57%	3%	0%	0%
Afternoon	197	2%	2%	57%	34%	6%	0%	0%

Percentages may not total 100% due to rounding.

Morning and Afternoon Travel Mode Comparison by Day

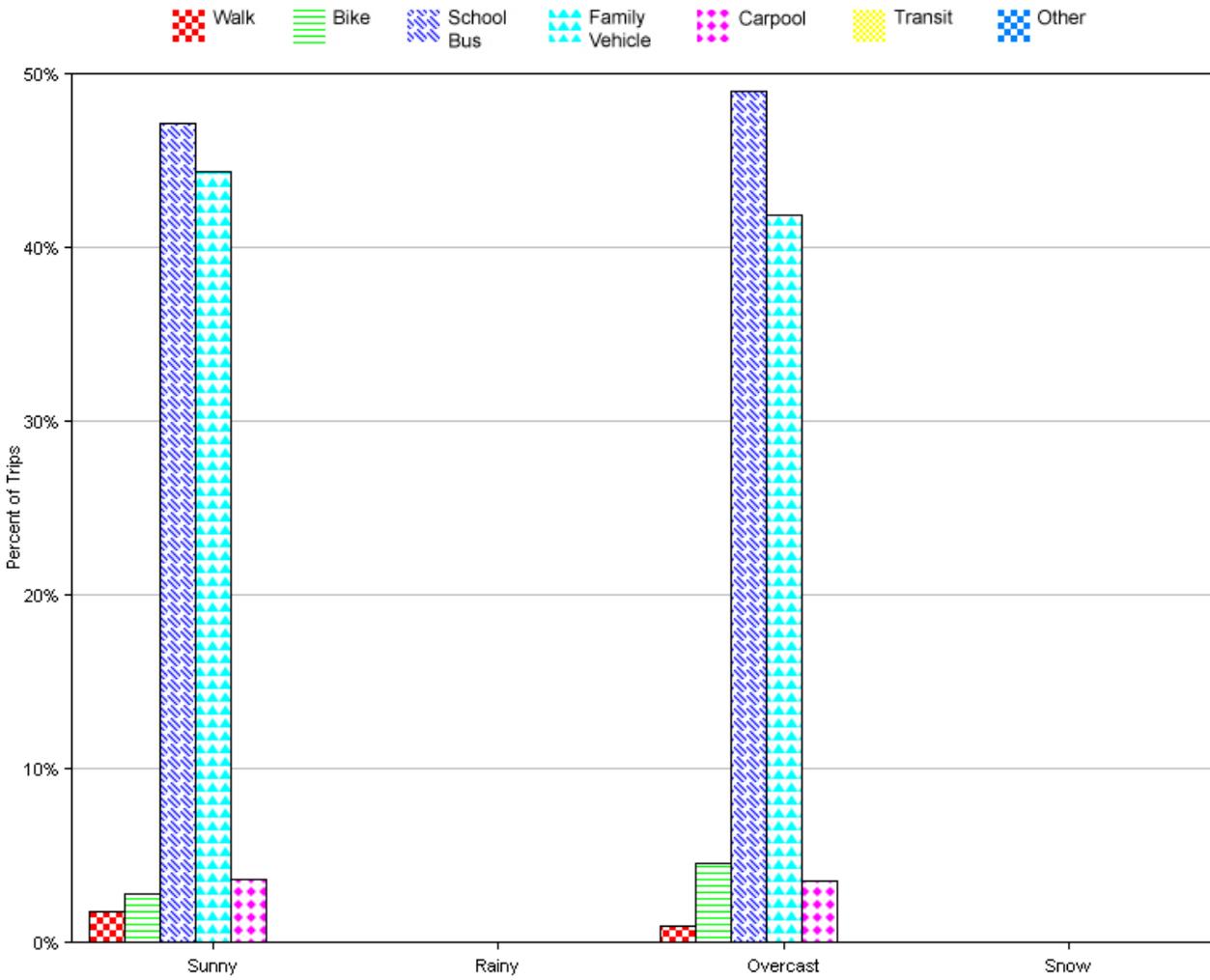


Morning and Afternoon Travel Mode Comparison by Day

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Tuesday AM	74	1%	1%	27%	69%	1%	0%	0%
Tuesday PM	72	3%	1%	50%	35%	11%	0%	0%
Wednesday AM	85	1%	1%	40%	53%	5%	0%	0%
Wednesday PM	85	2%	1%	61%	31%	5%	0%	0%
Thursday AM	46	0%	15%	39%	43%	2%	0%	0%
Thursday PM	40	0%	3%	60%	38%	0%	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	108	2%	3%	47%	44%	4%	0%	0%
Rainy	0	0%	0%	0%	0%	0%	0%	0%
Overcast	198	1%	5%	49%	42%	4%	0%	0%
Snow	0	0%	0%	0%	0%	0%	0%	0%

Percentages may not total 100% due to rounding.

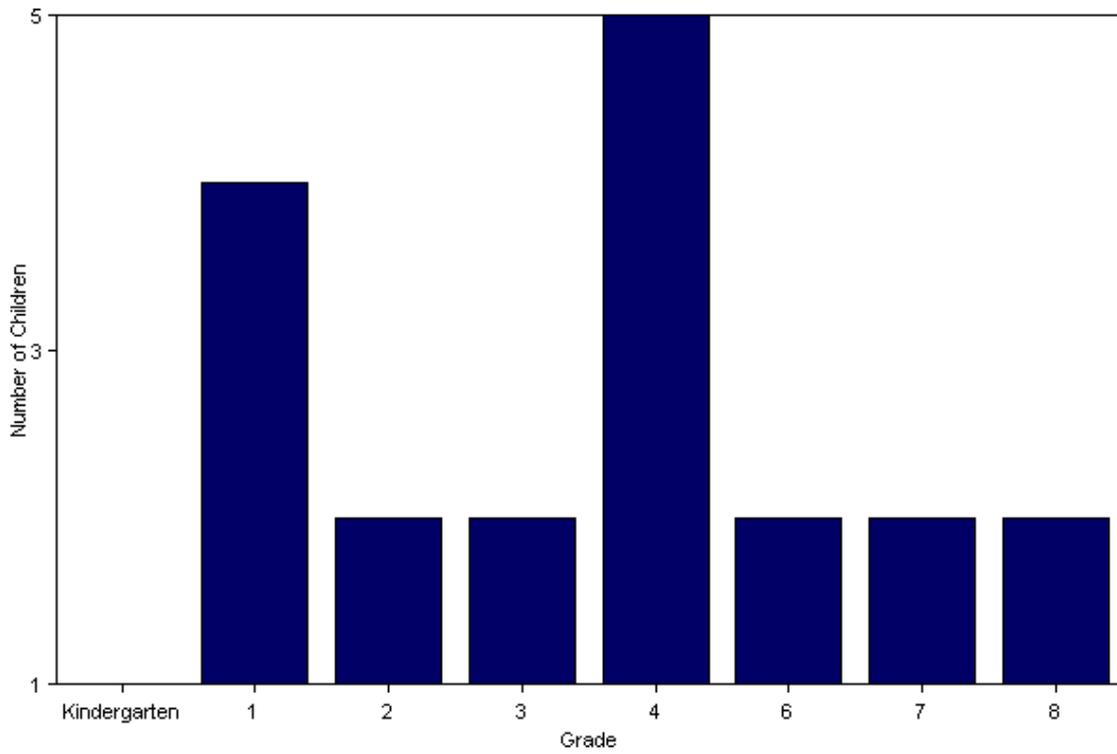
Parent Survey Summary

Program Name:	Folsom Elementary	Month and Year Collected:	November 2011
School Name:	Folsom Elementary	Set ID:	6905
School Enrollment:	110	Date Report Generated:	01/12/2012
Enrollment within Grades Targeted by SRTS Program:	110	Number of Questionnaires Analyzed for Report:	20
Number of Questionnaires Distributed:	110		

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



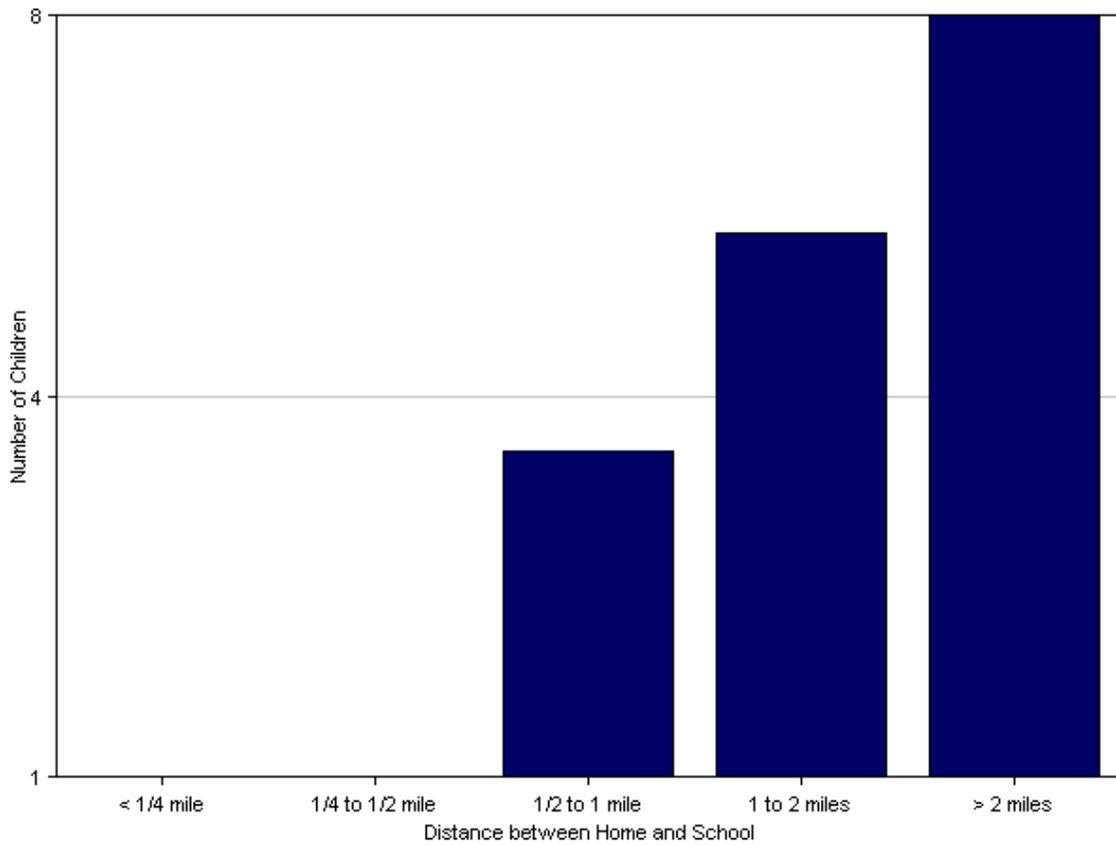
Grade levels of children represented in survey

Grade in School	Responses per grade
	Number
Kindergarten	1
1	4
2	2
3	2
4	5
6	2
7	2
8	2

No response: 0

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

Parent estimate of distance from child's home to school



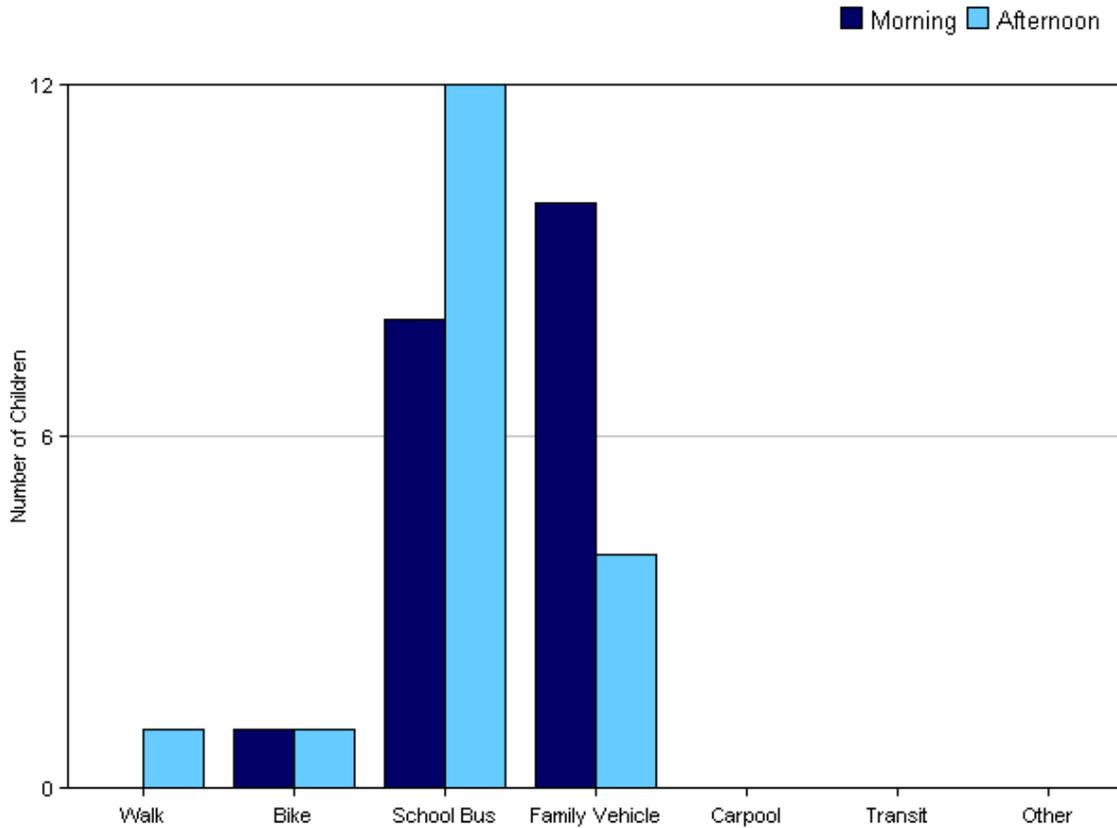
Parent estimate of distance from child's home to school

Distance between home and school	Number of children
Less than 1/4 mile	1
1/4 mile up to 1/2 mile	1
1/2 mile up to 1 mile	4
1 mile up to 2 miles	6
More than 2 miles	8

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

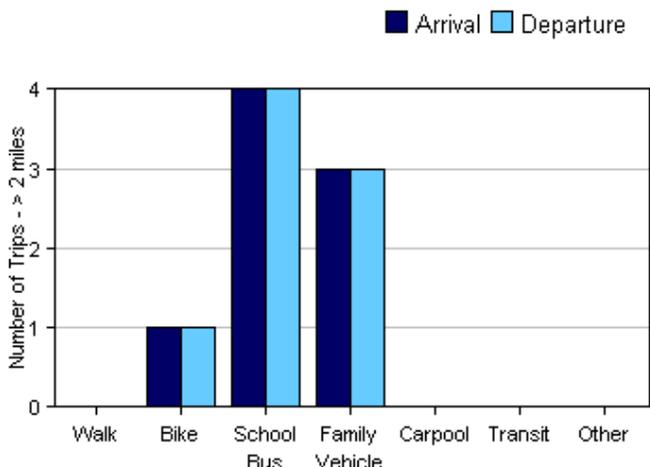
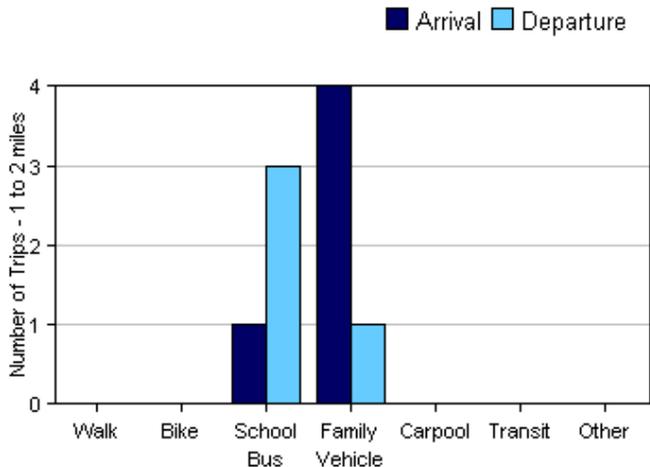
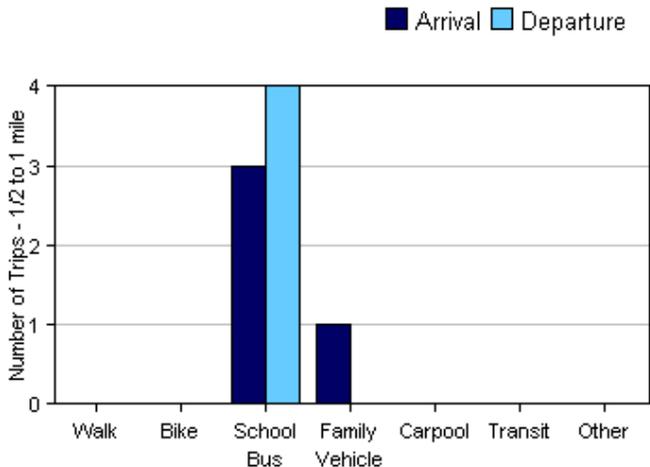
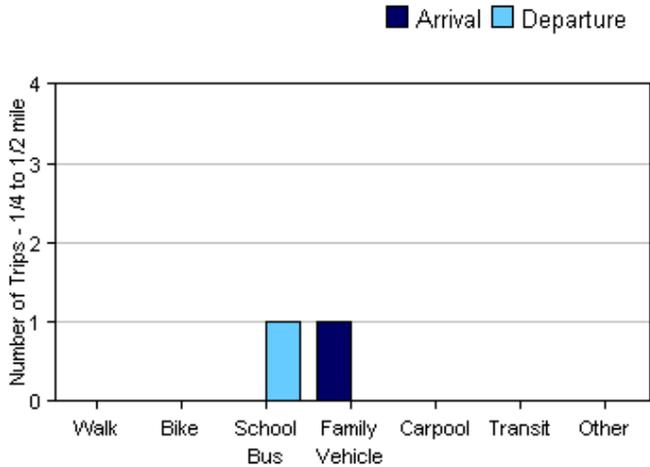
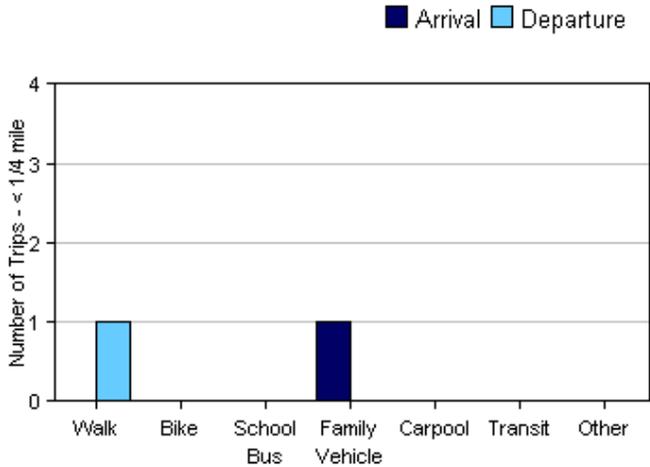
Time of Trip	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	19	0	1	8	10	0	0	0
Afternoon	18	1	1	12	4	0	0	0

No Response Morning: 1

No Response Afternoon: 2

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	1	0	0	0	1	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	4	0	0	3	1	0	0	0
1 mile up to 2 miles	5	0	0	1	4	0	0	0
More than 2 miles	8	0	1	4	3	0	0	0

Don't know or No response: 1

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	1	1	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	4	0	0	4	0	0	0	0
1 mile up to 2 miles	4	0	0	3	1	0	0	0
More than 2 miles	8	0	1	4	3	0	0	0

Don't know or No response: 2

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

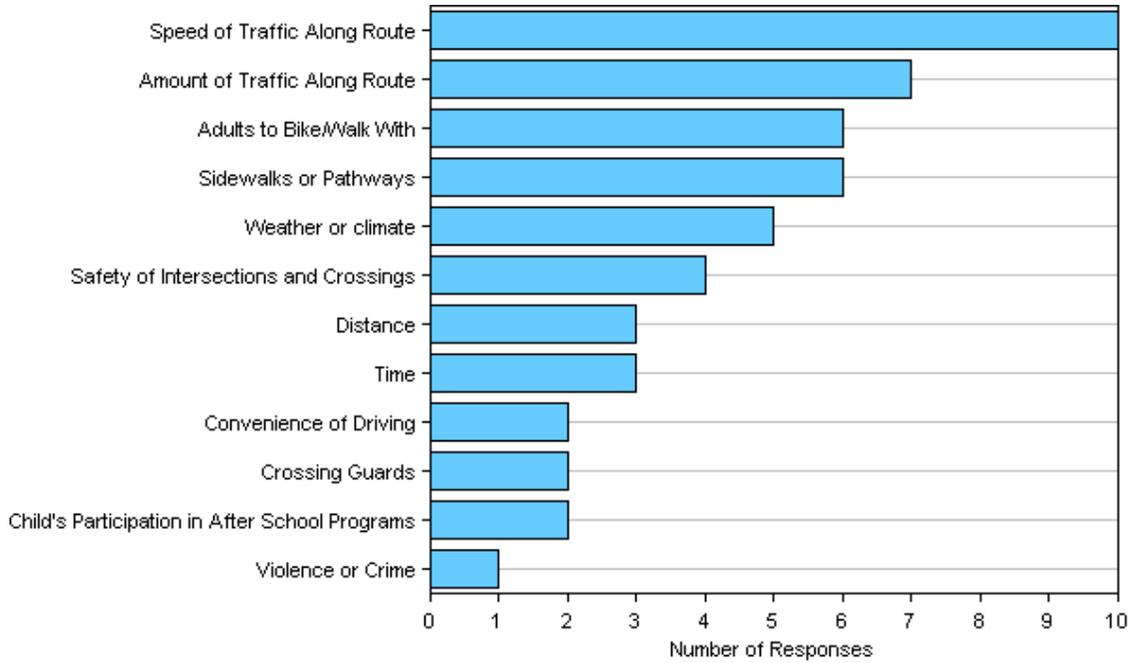
Number of children who have asked for permission to walk or bike to/from school by distance they live from school

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	14	1	1	4	4	4
No	6	0	0	0	2	4

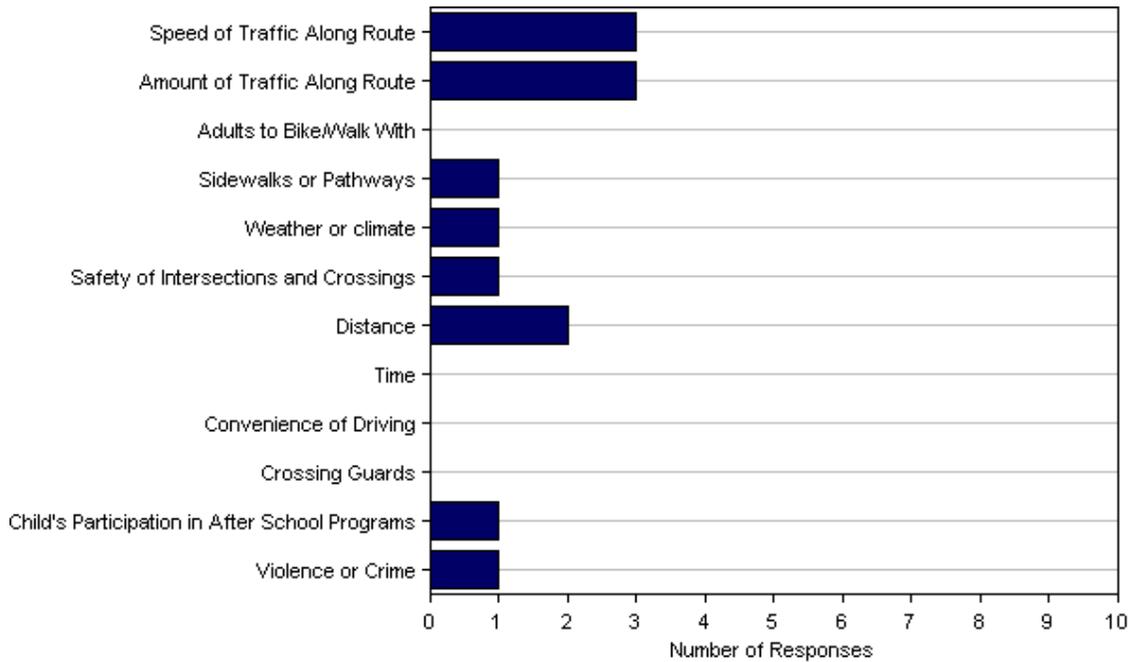
Don't know or No response: 0

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



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
Speed of Traffic Along Route	10	3
Amount of Traffic Along Route	7	3
Adults to Bike/Walk With	6	0
Sidewalks or Pathways	6	1
Weather or climate	5	1
Safety of Intersections and Crossings	4	1
Distance	3	2
Time	3	0
Convenience of Driving	2	0
Crossing Guards	2	0
Child's Participation in After School Programs	2	1
Violence or Crime	1	1
Number of Respondents per Category	11	3

No response: 6

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	2
Encourages	7
Neither	11
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	6
Fun	5
Neutral	8
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	10
Healthy	9
Neutral	0
Unhealthy	0
Very Unhealthy	0

Comments Section

SurveyID	Comment
759489	WALKING &/OR BIKING TO SCHOOL IS NOT VERY REALISTIC SAFE FOR MOST CHILDREN GIVEN THE CURRENT ROAD CONDITIONS - NO SHOULDERS ETC & SPEED OF TRAFFIC ON MOST OF OUR ROADS. IN THE WINTER - THERE IS NO SAFE PATH & IT IS IFFY MOST OF THE REST OF YEAR! QIESTOPM #10 - HUNTING SEASON QUESTION #12 - BUT IT IS NOT VERY REALISTIC.
759490	WALKING OR BIKING TO SCHOOL WOULD BE GREAT IF WE LIVED CLOSER NOT ON A MAIN ROUTE AND THEIR WERE SIDEWALKS OR BIKE WAYS (PATHS)
759488	WISH THERE WAS A BIKE PATH NEXT TO RT. 2 NOT ON RT. 2 (IDEALLY) QUESTION #9 - NO REAL SAFE ROUTE ON RT. 2.
759491	QUESTION #10 - WEATHER - WILLINGNESS OF CHILD
759499	I WOULD FEEL MORE COMFORTABLE WITH MY CHILD BIKING IF THERE WERE A DESIGNATED BIKE LANE (HOWEVER I DO ALLOW HIM TO BIKE).
759501	AS ONE WHO BOTH CAR AND BICYCLE COMMUTES. I FEEL THAT "SHARING THE ROAD" IS AN OPTION OF LAST RESORT. ONE MOMENT OF INATTENTIVENESS ON THE PART OF THE VEHICLE CAN CREATE LIFE SCARROMG TRAGEDY FOR ALL INVOLVED.
759484	*BACKPACKS - TRUMPETS (IE: BAND INSTRUMENTS) NETBOOKS - AND LUNCBOX (HEAVY & HUGE!) MAKE BIKING DIFFICULT SOME DAYS (IMPRACTICAL)
759498	OUR BIGGEST CONCERN IS THE LACK OF WALKWAY & SIDEWALK ETC. ON SOUTH STREET.
759500	DRIVE CHILD BECAUSE OTHERWISE WOULD BE ON BUS 30-45 MIN TO GO 2-3 MILES TO & FROM SCHOOL.

APPENDIX D 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.

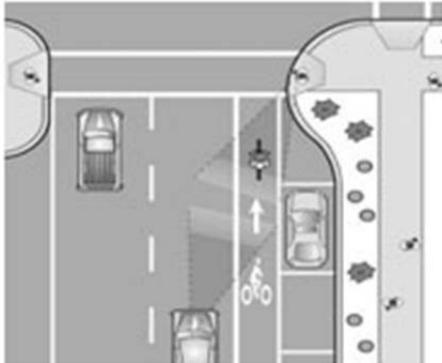


Rectangular Rapid Flashing Beacons:

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 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.

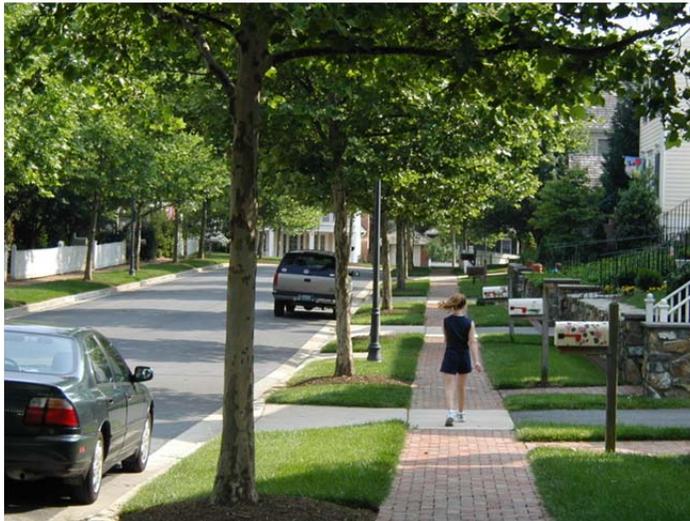
High Visibility Crosswalks:

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:

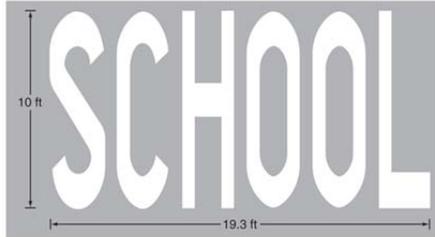
One of our long-term goals is to establish a well-connected sidewalk network throughout the neighborhoods so that families can walk for more of their daily trips, rather than drive. Sidewalks are the most effective when they include a buffer. This buffer increases pedestrian comfort and safety and can 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 E: NON-ENGINEERING STRATEGIES RESOURCE GUIDE

Strategy	E's	Advantages	Considerations	Resources
<p>Walking and Biking Safety Curriculum and/or Assembly</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"> • Assures all children learn bicycle and pedestrian safety skills • Establishes habits that benefit children throughout their lives, regardless of whether they currently walk or bike to school • Establishes consistent messages for young pedestrians and bicyclists • 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. • Events can make learning fun, and help strengthen community ties with event organizers and participants. 	<ul style="list-style-type: none"> • 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). • Requires able and willing instructors • Should be age-appropriate • Bicycle safety education may require an outside instructor, e.g. a police officer. 	<ul style="list-style-type: none"> • Walk Smart/Bike Smart Vermont! http://healthandlearning.org/documents/WalkSmartBikeSmartFINAL2008_001.pdf • National Highway Traffic Safety Administration Pedestrian Safety Lessons http://www.nhtsa.gov/ChildPedestrianSafetyCurriculum • WalktoSchool.org - Classroom activities that encourage walking and biking. www.walktoschool.org/eventideas/classroom.cfm • Willie Whistle - The National Highway Traffic Safety Association has created a video to help teach children pedestrian safety skills. http://www.nhtsa.gov/people/injury/willie/willie.zip • See Partner Resource CD for more materials

Strategy	E's	Advantages	Considerations	Resources
<p>Continue to Participate in Walk to School Day</p> <p>Walk to School Day is a one-day event that celebrates walking and biking to school.</p> <p>Generally this event is scheduled for the first full week in October. Why not use this strategy multiple times a year?</p>	<p>Education, Encouragement</p>	<ul style="list-style-type: none"> • Excellent kick-off event for Safe Routes to School program • Generates enthusiasm for walking and biking • Way to raise community awareness about safety issues • Can be as simple as a few kids and parents meeting to walk to school or very elaborate celebrations • Can be folded into studies of international cultures as it is an international event • Date is flexible- to be counted by the National Center for Safe Routes to school the event need only take place before Dec 1. 	<ul style="list-style-type: none"> • Preparations for elaborate celebrations must begin several months in advance to allow time to identify partners, plan activities, and promote the event • Should provide bicycle and pedestrian safety information to children and parents • 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). 	<ul style="list-style-type: none"> • U.S. Walk to School Day website (provides resources and event registration): www.walktoschool.org • International Walk to School Day website: www.iwalktoschool.org/ • Plan and promote your Walk to School Day event http://saferoutes.vermont.gov/sites/saferoutes/files/PDFs/How%20To%20-%20Special%20Events.pdf • Include students when it is too far or unsafe http://saferoutes.vermont.gov/sites/saferoutes/files/Including%20Students%20When%20It%27s%20Too%20Far%20or%20Unsafe%20VT.pdf • See Partner Resource CD for more materials
<p>Frequent Walker/Bicyclist Program or Walking Wednesdays</p> <p>Track and reward students who walk and bicycle to school. Can be an individual competition or a competition among classes.</p>	<p>Encouragement</p>	<ul style="list-style-type: none"> • Provides positive reinforcement for walking and bicycling. • Children respond to incentives. • Can include all students. • Can include walking and bicycling beyond the trip to school. 	<ul style="list-style-type: none"> • Necessary to identify a coordinator. • Establish a simple record-keeping system. • Establish age-appropriate goals. • Consider giving rewards to parents as well, since parents are often involved in the commute to school. 	<ul style="list-style-type: none"> • Frequent Walker Punch card template http://saferoutes.vermont.gov/sites/saferoutes/files/PDFs/VT_SRTS_Punchcard_v2_110825-1.png • Vermont Challenge: Walk Across America http://saferoutes.vermont.gov/sites/saferoutes/files/PDFs/The%20VT%20Challenge%20-%20Walk%20Across%20Vermont%21.pdf • Tips for creating a walking and bicycling route map http://saferoutes.vermont.gov/sites/saferoutes/files/PDFs/Tips%20for%20Creating%20Walking%20and%20Bicycling%20Route%20Maps.pdf • See Partner Resource CD for more materials

Strategy	E's	Advantages	Considerations	Resources
<p>Traffic Enforcement (Staff/Crossing Guards)</p> <p>This can be an ongoing program for school staff and crossing guards. This works well if the school has an existing reward point program.</p>	<p>Education, Enforcement, Encouragement</p>	<ul style="list-style-type: none"> • 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. • Staff and crossing guards can also reward students who are “caught being good” by issuing School Reward Points. 	<ul style="list-style-type: none"> • Requires some training and coordination with crossing guards 	<ul style="list-style-type: none"> • Adult School Crossing Guard Guidelines (NCSRTS) http://guide.saferoutesinfo.org/crossing_guard/pdf/crossing_guard_guidelines_web.pdf • Florida School Crossing Guard Training Guidelines http://saferoutesinfo.org/program-tools/florida-school-crossing-guard-training-guidelines • Lessons from Florida’s Crossing Guard Program http://saferoutesinfo.org/events-and-training/srts-webinars/lessons-floridas-crossing-guard-program • See Partner Resource CD for more materials

Strategy	E's	Advantages	Considerations	Resources
<p>Bicycle Safety Fair</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>	<p>Education, Encouragement</p>	<ul style="list-style-type: none"> • Events like bike safety fairs make learning fun and can help strengthen community ties with event organizers and participants. • 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. • One possible partner for this is the local police department. 	<ul style="list-style-type: none"> • Requires able and willing instructors • Should be age-appropriate • Bicycle safety education may require an outside instructor, e.g. a police officer. • These events require planning and materials to share with students 	<ul style="list-style-type: none"> • Teaching a Bicycle Safety Fair in Vermont http://www.vtbikeped.org/what/VT_Safety_Fair_Curriculum.pdf • Bicycling Life page on bicycle safety fairs: http://www.bicyclinglife.com/SafetySkills/BicycleRodeo.htm • An organizer’s guide to bicycle safety fairs http://www.bike.cornell.edu/pdfs/Bike_Rodeo_404.2.pdf • Easy steps to properly fit a bicycle helmet http://www.nhtsa.gov/people/injury/pedbimot/bike/EasyStepsWeb/
<p>Walk Audit/Parent Surveys / Student tallies</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>	<p>Evaluation</p>	<ul style="list-style-type: none"> • Establishes baseline information on student travel behavior and perceived barriers to walking and biking • Helps determine existing needs • Helps determine success of SRTS efforts and identify needed adjustments 	<ul style="list-style-type: none"> • Best to conduct initial surveys before SRTS measures have been implemented • Requires teacher buy-in and administrative organization • 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. 	<ul style="list-style-type: none"> • Student In-Class Travel Tally Form: http://www.saferoutesinfo.org/resources/evaluation_student-in-class-travel-talley.cfm • Parent Survey Form: http://www.saferoutesinfo.org/resources/evaluation_parent-survey.cfm • Instructions for Survey Administration: http://www.saferoutesinfo.org/resources/evaluation_instructions.cfm • Instructions for Data Entry: http://www.saferoutesinfo.org/resources/evaluation_cover-sheets.cfm

Strategy	E's	Advantages	Considerations	Resources
<p>Walking School Buses/ Bicycle Trains</p> <p>Walking school buses and bicycle trains are adult supervised groups of students walking and/or bicycling to school.</p>	<p>Education, Encouragement</p>	<ul style="list-style-type: none"> • Adult supervision on the walk to school • Can be loosely structured or highly organized • Can include a meeting point in a parking lot so children and parents who must drive can participate. • Adults can rotate who will lead each time. 	<ul style="list-style-type: none"> • Need to identify routes where conditions support walking and there is sufficient demand for supervised walking • Requires parents willing to walk with children and learn about how Walking school buses are organized and conducted. • More organized structure requires considerable planning 	<ul style="list-style-type: none"> • How to start a walking school bus or bike train http://guide.saferoutesinfo.org/walking_school_bus/pdf/wsb_guide.pdf
<p>Drive Safe Campaigns</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>Education</p>	<ul style="list-style-type: none"> • Has the ability to positively effect change in and community around the school • Improves the safety of the walking environment • Good drivers can help to set the example for good behavior. This is especially true for helping to control speeds. 	<ul style="list-style-type: none"> • This requires a person to organize and administer the campaign. • May not be effective at schools where parent/teacher organizations are weak • 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. • 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. • 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. 	<ul style="list-style-type: none"> • Driving Around Schools: Keeping Children Safe http://apps.saferoutesinfo.org/lawenforcement/resources/driving_tips.cfm • Parents, Avoid Becoming a Traffic Hazard http://www.aaamidatlantic.com/FetchFile.ashx?id=e55bfa26-a70d-4e17-afde-073b86cc9975

Strategy	E's	Advantages	Considerations	Resources
<p>Crossing Guard Appreciation Day</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>Encouragement</p>	<ul style="list-style-type: none"> • Maintains a positive relationship between the crossing guards and the school/community. • Can inspire crossing guards to continue to be reliable, safety figures. • Creates an opportunity to remind students why it is important to practice safe walking skills. 	<ul style="list-style-type: none"> • Requires coordination between the crossing guards, school administrators and school instructors. • May require materials to create the thank-you cards. • Is most effective with newsletter and in-school announcements. • Relatively inexpensive strategy 	<ul style="list-style-type: none"> • Active Transportation Alliance webpage for Crossing Guard Appreciation Day http://www.activetrans.org/crossingguard

APPENDIX F: INFRASTRUCTURE STRATEGIES RESOURCE GUIDE

Strategy	Advantages	Considerations	Resources	Actions
<p>Wide Paved Shoulders</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"> • Provide room for pedestrians when there is no sidewalk or other facility. • Provide a clear space for bicyclists that is separated from the motor vehicle travel way. • Research has shown that by narrowing travel lanes, motor vehicle speeds might also be reduced. 	<ul style="list-style-type: none"> • 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. • 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. • 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. • Other considerations include right-of-way, drainage, grading, existing signs and structures, and utilities. 	<ul style="list-style-type: none"> • Vermont State Standards http://www.aot.state.vt.us/progdev/standards/statabta.htm 	<ul style="list-style-type: none"> • 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. • Review shoulder widening proposals with municipal officials. If sufficient pavement exists, suggest conducting an experiment with temporary striping to provide wider shoulders. • Follow up the experiment with feedback and request for comments from municipal officials and community.

Strategy	Advantages	Considerations	Resources	Actions
<p>Speed Feedback Signs</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"> Speed feedback signs tend to slow motorists and remind motorists of the posted speed limits. 	<ul style="list-style-type: none"> 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. Permanent signs may be appropriate at school zones; elsewhere temporary signs, set up for short periods at various locations, can be more effective. 	<ul style="list-style-type: none"> <i>Guidelines for the Use of Radar Speed Feedback Signs on the State Highway System</i> http://www.aot.state.vt.us/documents/3014_Guidelines_on_the_Use_of_Radar_Speed_Feedback_Signs.pdf <i>Classification of Vermont Roads</i> http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/ 	<ul style="list-style-type: none"> Review the State’s speed feedback sign guidelines to be sure the proposed location is acceptable. 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. 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. 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. Permanent feedback signs are an eligible use for SRTS funds. Check with the regional planning commission about this and other potential funding sources.

Strategy	Advantages	Considerations	Resources	Actions
<p>High-visibility Crosswalks</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. High-visibility crosswalks must be installed with reflective durable material.</p>	<ul style="list-style-type: none"> • Crosswalks provide notification to both pedestrians and motorists to where pedestrians may be crossing the roadway. • 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. 	<ul style="list-style-type: none"> • Pedestrians should assume that a motorist may not see them or stop. • Crosswalks should have a receiving facility, such as a path, sidewalk, or adequate shoulder for use by pedestrians on either end. • 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. • Crosswalks are not appropriate for every location as they may give the pedestrian a perceived sense of safety that may not exist. 	<ul style="list-style-type: none"> • <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i> http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html • <i>Vermont's Guidelines for the Installation of Crosswalk Markings and Pedestrian Signing at Marked and Unmarked Crossings</i> http://www.aot.state.vt.us/progdev/sections/highway%20info/DocumentsRoadwayPages/TrafficOpsCrosswalk%20Guidelines%202004.pdf <i>Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations</i> http://www.fhwa.dot.gov/publications/research/safety/04100/04100.pdf • <i>Classification of Vermont Roads</i> http://maps.vermont.gov/imf/sites/ANR_NATR/ESViewer/jsp/ 	<ul style="list-style-type: none"> • For all classifications of roadways, state and local, consult with the regional planning commission about the appropriateness of the proposed location for a crosswalk. • Follow-up with the municipal road commissioner, planner, or engineer to seek their guidance and support. • 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. • For state roads, work with the regional planning commission to get a formal study to determine if a crosswalk is warranted and safe.

	Advantages	Considerations	Resources	Actions
<p>Shared-use Paths</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"> • Provides a safe place for non-motorized users that are typically separated from motor vehicles. • Shared-use paths appeal to users of all different skill levels, particularly those with basic or beginner skills. 	<ul style="list-style-type: none"> • Shared-use paths should typically be a minimum of ten feet wide and paved with asphalt. • Guidelines for the construction of shared-use paths can be found in the <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i>. • Further considerations are needed at intersections of the shared-use path and roadways to ensure safety for all users. 	<ul style="list-style-type: none"> • <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i> http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html 	<ul style="list-style-type: none"> • Work with the municipal planning office, road commissioner, administrator, or other municipal officials to gain their support for the proposed shared-use path. • 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. • 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.

Strategy	Advantages	Considerations	Resources	Actions
<p>Bicycle Routes/ Bicycle Pedestrian Warning Signs</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"> • Bicycle route signs assist bicyclists in determining the best route for their travel. • Warning signs raise safety conditions for bicyclists due to greater awareness by motorists of bicyclists on the road. 	<ul style="list-style-type: none"> • 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. • Bicycle route signs and warning signs must meet the guidelines provided in the <i>Manual on Uniform Traffic Control Devices</i> (MUTCD). • 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. 	<ul style="list-style-type: none"> • <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i> http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html • <i>Manual on Uniform Traffic Control Devices, latest edition (MUTCD)</i>, http://mutcd.fhwa.dot.gov/kno_2009r1r2.htm 	<ul style="list-style-type: none"> • Review guidelines provided in the latest edition of the MUTCD to make sure signs are compliant. • Work with the municipal planning office, road commissioner, administrator, or other municipal officials to gain their support for the creation of bicycle routes. • 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"> - Presenting the idea to the municipal legislators; - Implementing existing recommendations in a bicycle plan for the community; - 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 - Working with the regional planning commission.

Strategy	Advantages	Considerations	Resources	Actions
<p>Sidewalks</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"> • Sidewalks provide a relatively safe location for pedestrians along the sides of a roadway. • They help to separate other roadway users and pedestrians within the same right-of-way. 	<ul style="list-style-type: none"> • The availability of sufficient right-of-way to install sidewalks, including the travel way for vehicles and standards for sidewalk width, must be assessed. • Sidewalks are most effective when they include a buffer from the paved surface of the road that is at least five feet wide. • 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. • Other considerations include drainage, grading, existing signs, structures, and utilities. • Sidewalks can be constructed of various materials including concrete, asphalt, or stone dust. 	<ul style="list-style-type: none"> • <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i> http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html • <i>Designing Walkable Urban Thoroughfares: A Context Sensitive Approach</i> (Institute of Transportation Engineers - Publication #RP 036A) http://www.ite.org/modules/scriptcontent/olders/ProductDetail.cfm?pc=RP-036A-E 	<ul style="list-style-type: none"> • Review the State's <i>Pedestrian and Bicycle Facility Planning and Design Manual</i> to determine the appropriate dimensions based on roadway classification. • Work with the municipal planning office, road commissioner, administrator, or other municipal officials to gain their support for the proposed sidewalk. • Work with municipal partners to determine the appropriate sidewalk location based on available right-of-way. • 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. • 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.

Strategy	Advantages	Considerations	Resources	Actions
<p>School Zones</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"> School zones increase motorists' awareness to look for students on or near the road and to drive with more caution. 	<ul style="list-style-type: none"> 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. School zones created on state roads need VTrans approval. 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. With few exceptions, school zones are located on the roadway adjacent to the school's main entrance. Must comply with State sign laws and laws for setting speed limits. 	<ul style="list-style-type: none"> <i>Manual on Uniform Traffic Control Devices, latest edition (MUTCD)</i>, http://mutcd.fhwa.dot.gov/kno_2009r1r2.htm Refer to <i>Vermont Statute 23, Section 1007</i> for guidance on assigning local speed limits http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=23&Chapter=013&Section=01007 	<ul style="list-style-type: none"> Work with the municipal planning office, road commissioner, administrator, or other municipal officials to gain their support for the proposed school zone. Discuss the creation of a school zone with local Selectboard, Board of Trustees, or City Council to gain their support. 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. 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. 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.

Strategy	Advantages	Considerations	Resources	Actions
<p>Road Signs</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"> • Signs notify road users about road conditions, other users, regulations, or conditions that may not be immediately apparent. • Many signs are not typically an expensive installation and can be approved and installed quickly. 	<ul style="list-style-type: none"> • The number and type of existing signs can influence the effectiveness of new signs. Sign “clutter” can diminish the impact of new signs. • Permanent signs can become part of the background and their perception by regular road users can diminish over time. • Changing conditions, such as temporary flashing lights or periodic flags, can help to continually draw attention to a sign. • 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. • Signs added to state roads need VTrans approval. • Any proposed signage must meet the guidelines provided in the <i>Manual on Uniform Traffic Control Devices</i> (MUTCD). 	<ul style="list-style-type: none"> • <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i> http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html • <i>Manual on Uniform Traffic Control Devices, latest edition (MUTCD)</i>, http://mutcd.fhwa.dot.gov/kno_2009r1r2.htm • <i>Classification of Vermont Roads</i> http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/ 	<ul style="list-style-type: none"> • Work with the municipal planning office, road commissioner, administrator, or other municipal officials to gain their support for the placement of new signs. • Discuss the placement of new signs with local Selectboard, Board of Trustee or City Council to gain their support. • 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. • 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 signs.

APPENDIX ; 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.