

VERMONT
Safe Routes to
SCHOOL



Swanton Elementary School

**Safe Routes to School
Travel plan**
December 2014

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

Thanks to all the Swanton Elementary School Safe Routes to School team members who helped to develop this Travel plan.

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INTRODUCTION

This Travel Plan represents the work of the Swanton Elementary School Safe Routes to School team. Our school is striving for a Silver-level Partnership in the 2014/2015 school year and a Gold-level Partnership in the 2015/2016 school year with the Vermont Safe Routes to School Resource Center. We believe this travel plan is a good way to ensure an ongoing Safe Routes to School program at our school.

The Swanton Elementary 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 Swanton Elementary School Travel Plan Team	
Dena St. Amour Co-principal	Brent Coon Co-principal
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Winton Goodrich Superintendent	Tanya Mitchinson Paraprofessional
Reg Beliveau Swanton Village Manager	Sgt. Eugene Rich, Swanton Village Police

The ideas and recommendations developed during this process will guide us in creating a well-balanced SRTS program at Swanton Elementary School. This document is a resource to plan our encouragement, education, enforcement and evaluation efforts with assistance from the VT SRTS Resource Center. In this way it will be a “living document” to be reviewed and updated each year. The plan also includes recommendations for engineering

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 ongoing 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

projects near Swanton Elementary School for walking and biking.

The Vermont Agency of Transportation (VTrans), through the VT SRTS Resource Center, has provided technical assistance in producing this plan. With the help of the Resource Center, we have identified improvements that will have a positive impact on walking and biking to school. These recommendations are planning level recommendations and may 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 Swanton and/or Franklin Central Supervisory Union. The plan includes several attachments with additional information to help implement the plan's recommendations.

TEAM VISION

The SRTS program at Swanton Elementary School aligns with the Town of Swanton's efforts to promote healthy transportation choices. The SRTS program goals of combining engineering, education, enforcement, evaluation and encouragement strategies (also known as the Five E's) align with our schools and town's values. **Our vision for Swanton Elementary School and the surrounding community is to have:**

- Safe facilities for walking and biking throughout the Village and Town;
- A community culture where students and families feel safe walking and biking to school, recreation areas and other destinations in town;
- Walking and biking as the easiest and preferred modes to travel to school;
- More students walking, biking, or riding the bus to school than arriving by car; and
- Road users who are educated on how to be safe drivers, bicyclists and/or pedestrians.

This SRTS Travel plan outlines our school's intentions for making walking to and from school more desirable and safer for students and the community. Through our SRTS program and efforts, we plan to reach a rate of **15%** (72 students) of our students walking or biking to school at least **1** day a week during the fall and spring seasons of the 2014/2015 school year and a rate of **25%** (121 students) during the following school year with further increases in the subsequent school years. At this rate, potentially all students living within a 1-mile walking distance from school (188 students) will walk or bicycle to school by the 2016/2017 school year.

There are several other specific goals that we hope to achieve over the next few years, including:

- Identify and promote safe and well-lit pedestrian and bicycle routes in the Town;
- Improve road crossings;
- Create walking groups;
- Add more crossing guards and check points along walking routes;
- Create staff-led park and walk events at nearby sites;
- Reduce traffic speeds around the school;
- Increase physical activity for students and faculty;
- Provide all students with education on safe walking and bicycling behavior;
- Provide all students with a safe walking or bicycling route to school; and
- Connect SRTS efforts to other bicycling and walking activities in the community.

ABOUT THIS PLAN

Our SRTS team met four times with the VT SRTS Resource Center to develop and adopt this SRTS travel plan. We discussed education, encouragement, enforcement, engineering and evaluation strategies, which helped us to identify needed additions and complimentary programs to support our existing efforts as well as our engineering strategies to improve walking and bicycling to school.

Meeting Date	Content and Outcomes
September 10 & October 8, 2014	Kick-off Meetings: How the Vermont SRTS Travel Plan Works <ul style="list-style-type: none"> - Award of the planning assistance grant - Overview of the planning process - Opportunity and barrier discussions - Four E's discussion
November 12, 2014	Travel Plan Review <ul style="list-style-type: none"> - Reviewed the draft plan - Identified roles and immediate steps for non-engineering recommendations
December 10, 2014	Plan Adoption <ul style="list-style-type: none"> - Adopted plan - Began implementation of non-infrastructure recommendations

TRAVEL PLAN CONTEXT

SWANTON ELEMENTARY SCHOOL CAMPUS AREA OVERVIEW

Swanton Elementary School is located in the Town of Swanton, off Route 7, a major rural collector. The school is comprised of two buildings, surrounded by three parking lots and four recreation areas. There are three main points of access, via driveways connecting to Bushy Street to the east, Grand Avenue to the south, and 4th Street to the west.

The Village of Swanton was designated a Growth Center by the State of Vermont in 2009. Village streets are arranged in a gridded network with sidewalks on the majority of the streets. Route 7 (Grand Avenue, part of Canada Street, and Spring Street) experience heavy truck traffic, likely associated with cross border freight, as Swanton is in close proximity to an entrance point on the Canadian border.

The Swanton Fit and Healthy Recreational Path, the first segment of the planned Lamoille Valley Trail, intersects with the 4th Street driveway to the school. Students used the path for International Walk to School Day in 2014. The school has noted that some students use this path informally throughout the year. The path is not plowed in the winter months. Snowmobiling is allowed on the trail, although school staff have not observed snowmobilers using the trail.

The majority of students live within a 2 mile radius of the school, many located within the central gridded network of Swanton Village. Streets internal to the grid are primarily low-speed, low-volume streets, with the exception of 1st Street and 4th Street which are Class 2 and Class 1 Town highways, respectively. The majority of streets within the network have sidewalks on at least one side of the street, although there are some gaps. There are several businesses and private lots which have parking lots with wide driveways or parking lots without any enclosure or buffer from the sidewalk.

High school students have been observed loitering on campus after hours, creating some concern about campus safety.

The Town of Swanton and VTrans will conduct a scoping study for a sidewalk linking the Missiquoi Valley Middle and High School to the Recreational Path and nearby sidewalk network. The MVU Middle and High School is accessed primarily through 1st Street (Route 78), which has no pedestrian facilities currently.

Figure 1. Context Map

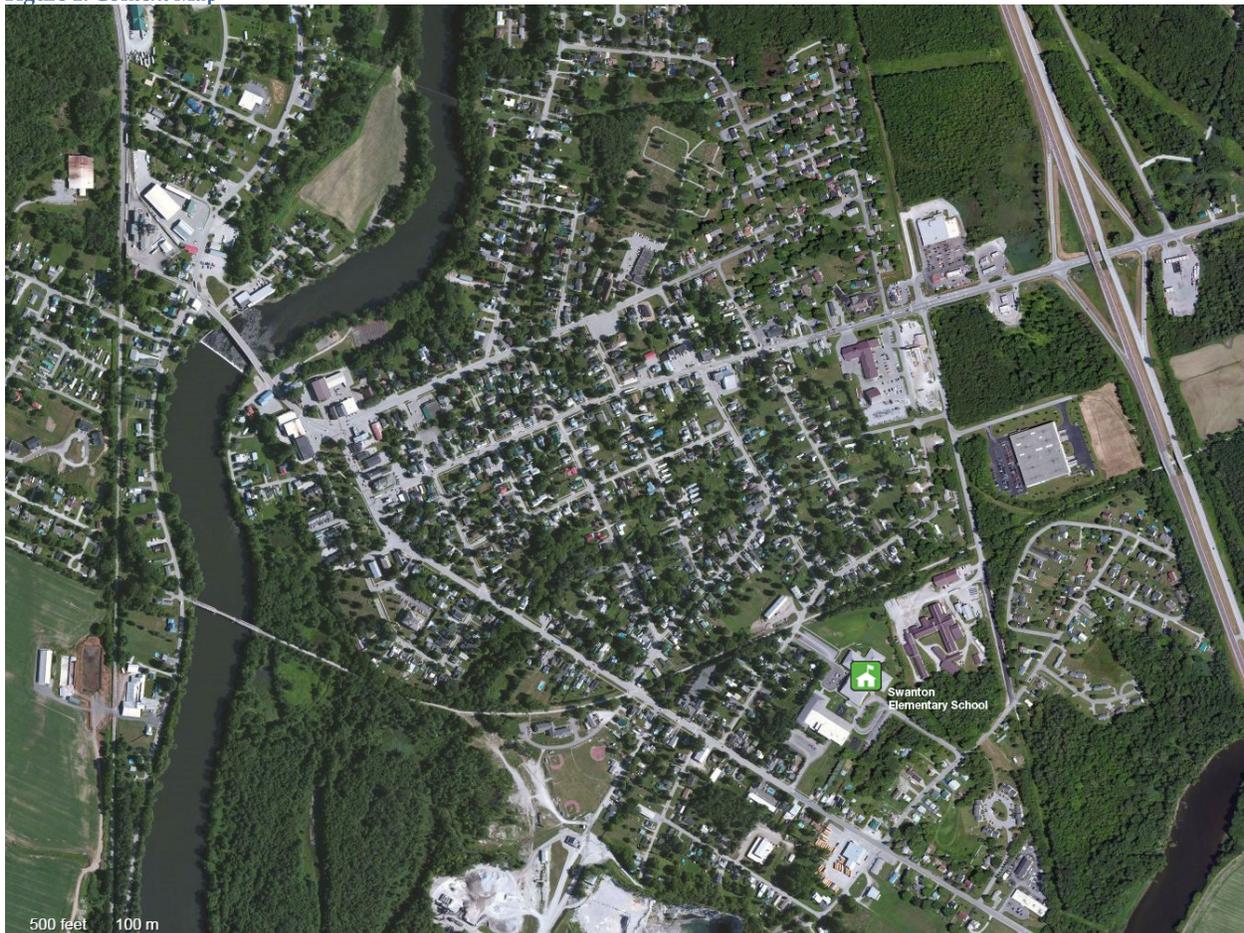
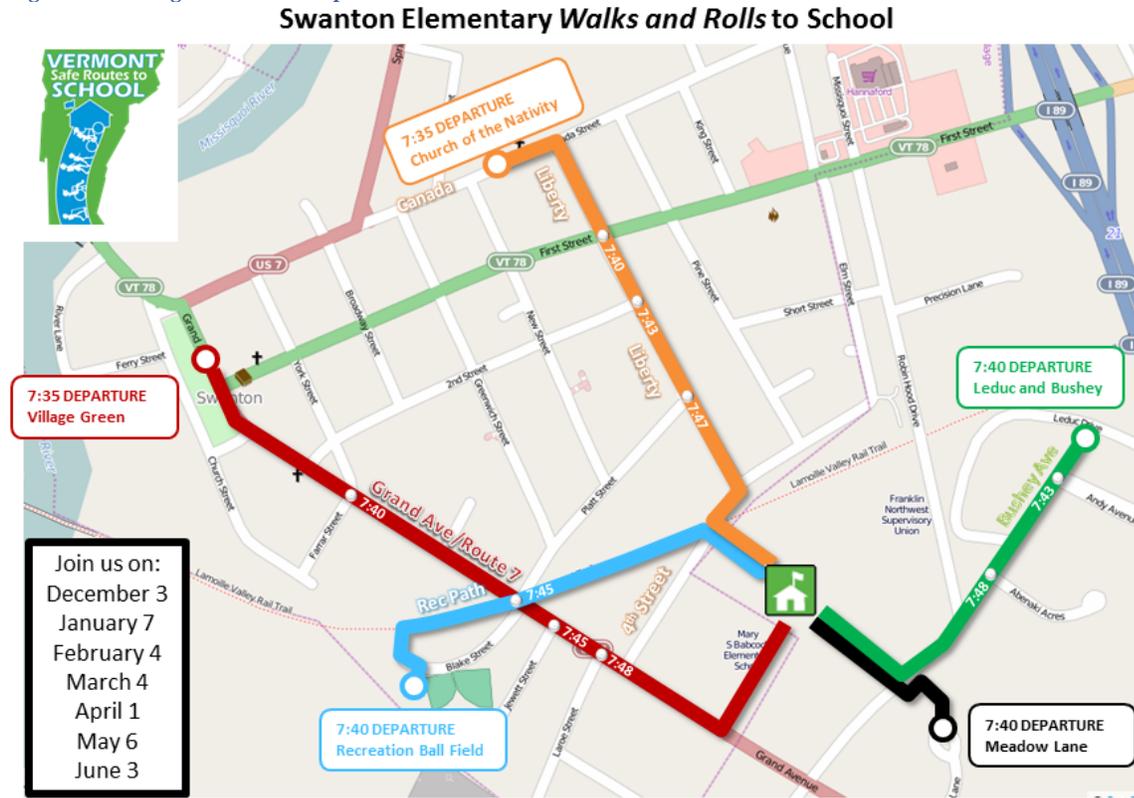


Table 1. Streets of Interest

Street Name	Class	Speed Limit (MPH)
Bushy St	Rural Local, Class 3 Town Highway	30
Grand Ave / Route 7	Rural Major Collector, Class 1 Town Highway	30
Spring St / Route 7	Rural Major Collector, Class 1 Town Highway	30
River St / Route 36	Rural Minor Collector, Class 2 Town Highway	30
4 th St	Rural Local, Class 2 Town Highway	30
1 st St	Rural Principal Arterial, Class 1 Town Highway	30

Figure 2. Walking School Bus Map



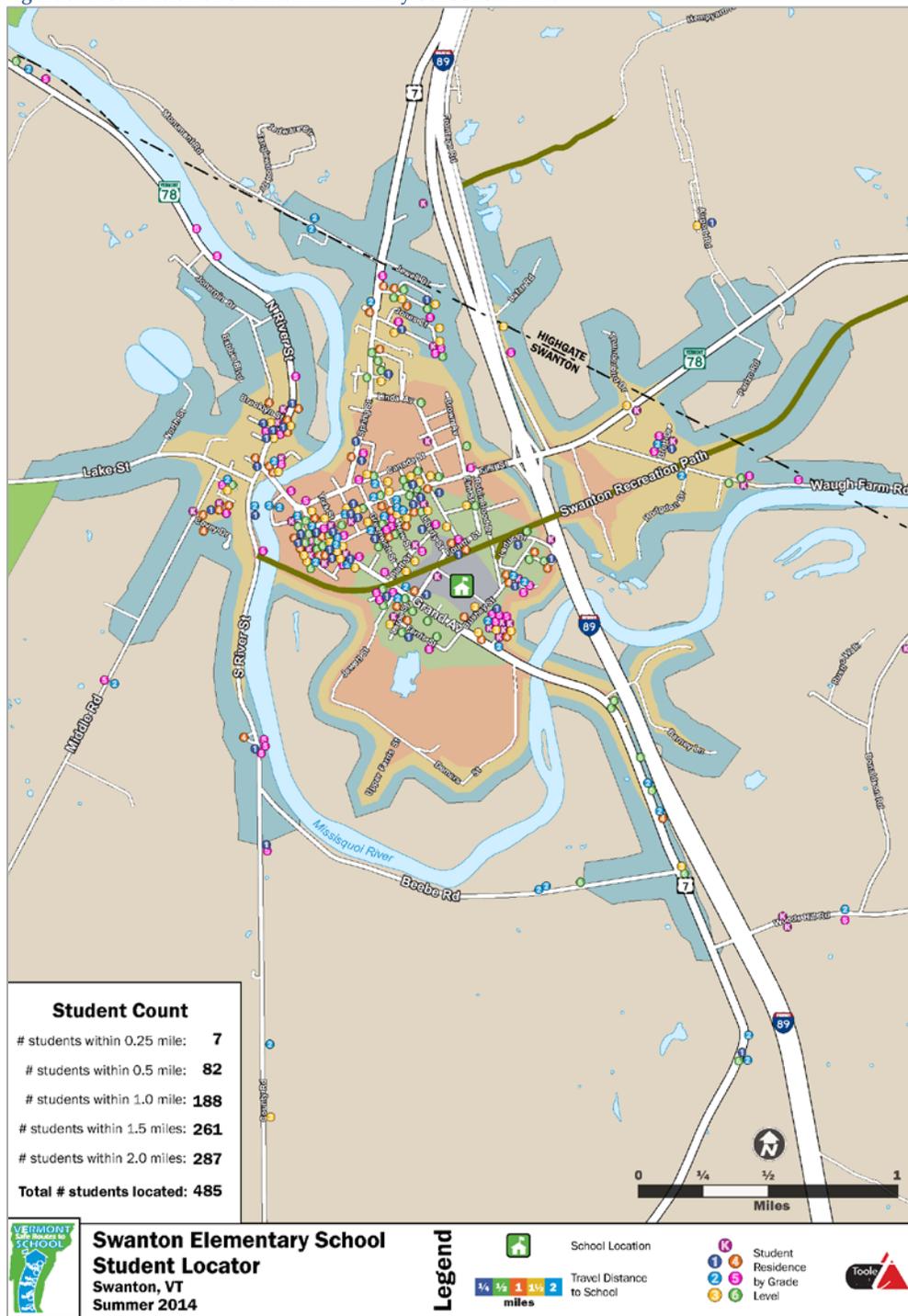
Join a “Walking School Bus” the first Wednesday of each month!

Swanton Elementary participated in International Walk to School Day in October of 2014. This event kicked off a monthly Walk to School Day. Students will choose between five walking school bus routes, shown above. Police and firefighters assist walking school buses on their routes and provided protection at the intersections of 1st Street and Canada Street, 1st and Liberty Streets, and Grand Avenue and the Recreation Path.

CURRENT SCHOOL DEMOGRAPHICS

Swanton Elementary School has a total of 485 students enrolled for the 2014-2015 school year. Our school serves pre-kindergarten through sixth grade. Students come from the Village and Town of Swanton. Figure 3 shows the distribution of the current students.

Figure 3. Distribution of Swanton Elementary School Students



Demographic	Count	Percentage of student body
Students with Physical Disabilities	0	0%
Limited English proficient students	0	0%
Students living within 1/4 mile of school	7	1.5%
Students living within 1/2 mile of school	82	17%
Students living within 1 mile of school	188	39%
Students living within 2 miles of school	287	60%
Students in K-2	194	40%
Students in grades 3-6	291	60%

CURRENT STUDENT TRAVEL MODES

Travel Mode	Walk	Bike	School Bus	Family Vehicle	Carpool	Public Transit	Other
Percentage of Student Body (AM)	11%	0.5%	48%	39%	2%	NA	0.4%
Percentage of Student Body (PM)	14%	0.5%	54%	29%	1%	NA	0.4%

Data in the above table is based on SRTS Student Tallies administered in September 2014. Additional information found in **Appendix C**. Percentages may not total to 100% due to rounding.

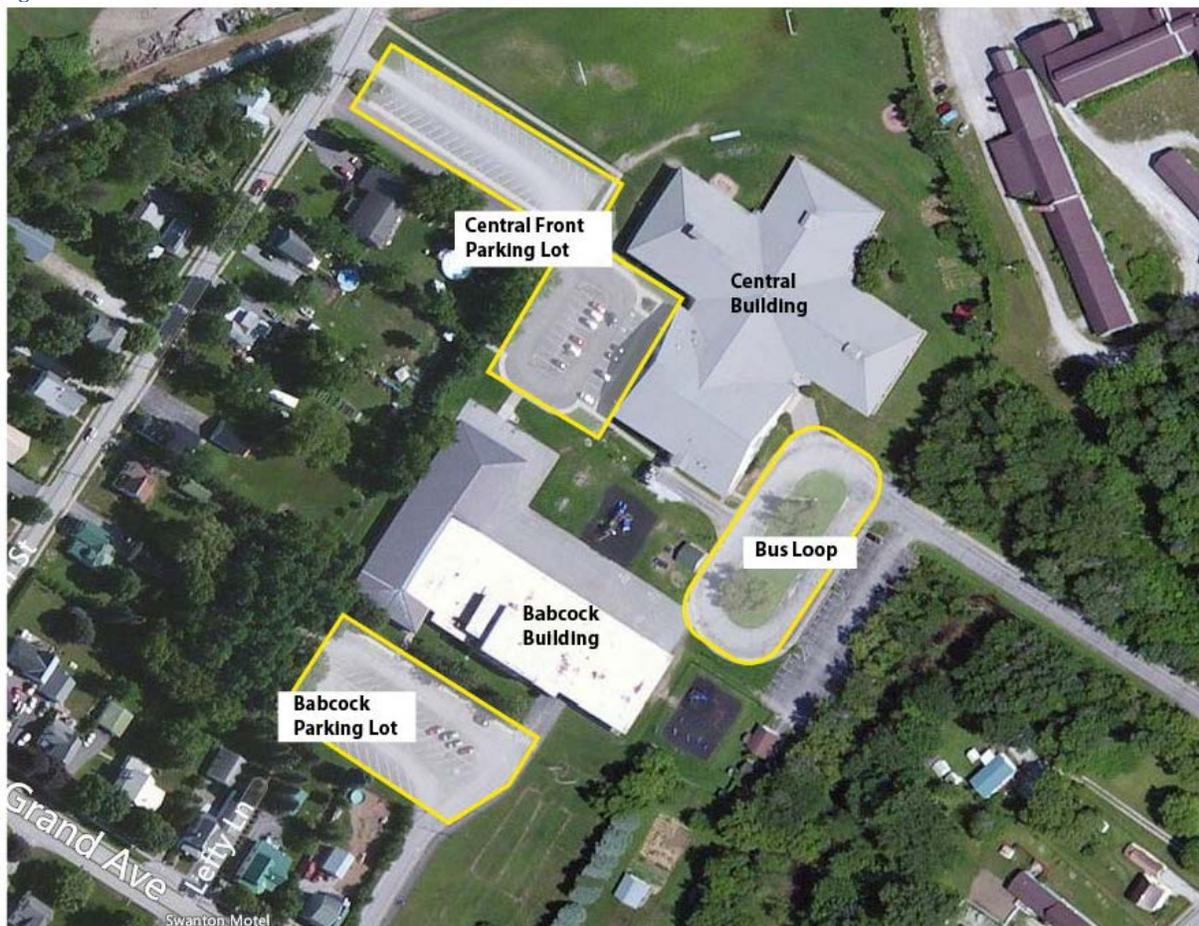
Swanton Elementary School offers busing to all students outside of the village. The school has identified 6 families with regular walkers. The travel team noted at least 25 students walking home during the school dismissal observation. There are three crossing guards posted to assist walkers crossing 4th Street and Bushey Street.

SCHOOL ARRIVAL AND DISMISSAL PROCEDURES

Swanton Elementary 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. Parents are reminded of these procedures in the student handbook and the school newsletters that are sent home with students.

There are three access points to the school as shown in the figure below below, the buses access the loop while the parking lots are used for parental drop-off.

Figure 4: School Access Points



Students arrive to school by 7:55 AM. There are 11 buses that line up in the rear entrance of the Central Building and release students at the back door.

Parents driving their children drive into the parking lots at the front of the Central Building and the Babcock building to drop off students.

Dismissal

The school dismisses “walkers” at 3:10 and “bussers” at 3:15. “Walkers” includes all non-bussed students. The school plans to revise its procedures to dismiss students who will walk home at 3:05, followed by students who are picked up in a vehicle at 3:10, and students riding the bus at 3:15.

Central Front Parking Lot

Parents queue in the pick up/ drop off lane about 30 minutes prior to dismissal. Other parents park in the parking lot in front of the school and in the area along the recreational path. At dismissal parents walk to the entrance to pick up students or drive up to the building. There was one incident of a double parked car where the student being picked up walked through cars in the pick up lane.

Students and parents stayed on the sidewalks. There are two sidewalks along the parking area close to the recreational path. There is no buffer on the sidewalk adjacent to the driveway and cars were observed parked partially on this sidewalk. There is a fenced grassy pathway on the opposite side of the driveway which some students and parents use to access the sidewalk leading to the Babcock school. There were no observations of students or parents crossing the driveway - they would use either the sidewalk or the grassy path to access 4th Street.

Some high school students are dropped off at Swanton via school bus. Some of the students walk to the Central Parking lot to pick up younger siblings and either walk home or get picked up by a car.

Students walking home typically crossed 4th Street at the crosswalk staffed by a crossing guard. Students were respectful and orderly crossing the street.



Figure 5: Walking students enter the Central Front entrance of the school via a sidewalk adjacent to the recreational path and ball field, or an unpaved, grassy fenced walkway, which connects to the sidewalk around the parking lot.

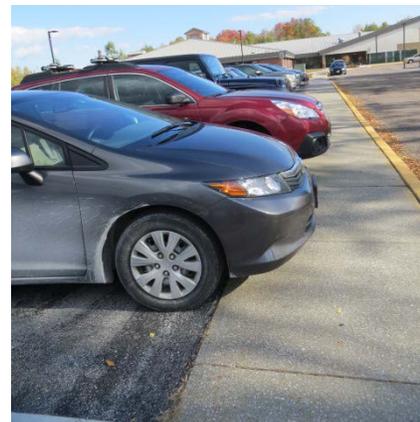


Figure 6: Vehicles encroach on the sidewalk in the Central Parking lot

There is a bicycle rack in the front parking lot. There was only one bicycle parked during the observation. The school noted that students may not feel safe parking their bicycles at this rack, which does not have locks.

There are sidewalks on either side of the parking lot near the recreational path and around the perimeter of the drop off area. There were a few cars parked in the center of the parking lot closest to the school. While many students were dismissed from this entrance, there were few instances of students walking through vehicle lanes in the parking lots due to the location of the sidewalks.

Bus Loop Parking Lot

The Bus Loop entrance is used primarily by students taking a bus home. There are 11 buses, which queue around the bus loop. At the far end of the bus loop, buses park along the sidewalk and also adjacent to the interior island. Students who board the buses parked adjacent to the interior island have to walk into the bus loop to board the buses. At dismissal, school staff accompany students along the back sidewalk to the buses. The process appeared to be orderly and efficient. The travel plan team observed three students walking to private cars parked in the small parking lot behind the bus loop. School staff noted that some students walk to school via this entrance and the travel team observed some high school students walking home from their buses during the observation period.



Figure 7. Buses queue on either side of the loop, requiring students to walk into the vehicle lane to board buses parked along the interior island.

11 of the buses pick up high school students prior to arriving at Swanton Elementary. Some of these students remain on the buses to continue their journey home while some students disembark from these buses and walk to the Central Front or Babcock parking lot either to pick up younger siblings and ride home with their parents or walk home.

Babcock Parking Lot

Parents waiting to pick-up children in the primary school parking lot queued along the south side of the driveway or parked in the parking lot. Students walked alone or with parents through the parking lot to their cars. There are opportunities for pedestrian/vehicle collisions in this parking lot during dismissal due to the large number of students walking through the parking lot amid vehicular traffic.

Students and families were observed crossing Grand Avenue and the school driveway on the way home from school, which does not have a crossing guard on duty. Many of the students observed walking lived in very close proximity to the school. Grand Avenue was fairly busy during this time of day, and parents would queue as they tried to leave campus.



Figure 8. Students walk towards their buses in the bus loop , guided by school staff.

Arrival

Students typically arrive between 7:30 and 7:55. Students are allowed in the building at 7:55. Students arriving early engage in an informal pre-school recess period on the school's three playgrounds.

Central Front

Parents drop off students using the drop off / pick up lane or by parking in the parking lot and walking the students to the front of the school. Students who walk to school use the sidewalk along the driveway to access the school.

Bus Loop

Buses drop off students using the drop off / pick up lane along the sidewalk. Busses stack up along the sidewalk in the afternoon. School staff walks students to and from the busses. Students who walk to school use the sidewalk along the driveway to access the school.

Babcock

Parents drop off students using the drop off / pick up lane or by parking in the parking lot and walking the students to the front of the school. Students who walk to school use the sidewalk along the driveway to access the school. Pre-school parents are required to park their car and enter the school to sign-out their child.

Doors open at 7:55 am.

Travel Mode	Procedure	Time
Walk	Use sidewalks along all three driveways	7:30-7:55
Bike	Use the sidewalks along all three driveways	7:30-7:55
School Bus	Buses arrive staggered and drop-off students in the school bus loop	7:30-7:55
Family Vehicle	Parents drop off or park and walk students in from the Babcock and Front Central lots.	7:30-9:00*
*Although school starts at 8:00 AM, there is a consistent group of students who arrive between 8:00 and 9:00.		
Dismissal		
Travel Mode	Procedure	Time
Walk	Dismissed with car riders and depart on all three school driveways	3:10
Bike	Dismissed with car riders and depart on all three school driveways	3:10
School Bus	Exit both buildings and walk on the sidewalk to the bus loop escorted by staff	3:15
Family Vehicle	Exit the front entrance of both buildings and walk to meet parents in a car	3:10

EXISTING TRAVEL HABITS

According to the September 2014 parent survey, the parents who do not allow their children to walk or bike to school listed the following reasons for not allowing their children to walk or bike to school:

- Speed of Traffic Along Route 75%
- Amount of Traffic Along Route 70%
- Distance 66%
- Weather or climate - 48%

- Safety of Intersections and Crossings – 42%
- Violence or Crime – 40%
- Sidewalks or Pathways 33%
- Time – 25%
- Adults to Bike/Walk With – 19%
- Child's Participation in After School Programs – 15%
- Crossing Guards – 12%
- Convenience of Driving – 9%

Those parents that do allow their children to walk or bike to school were most concerned about:

- Distance – 50%
- Sidewalks or Pathways – 38%
- Time – 38%
- Crossing Guards – 38%

Appendix D contains a copy of the full parent survey results.

These parent concerns informed the selected strategies outlined for the remainder of this school and the coming school year, 2014-2015.

KEY ISSUES

The team identified the following pedestrian and bicycle issues when developing this Travel Plan:

Issue: Lack of crossing and sidewalks at Bushy Street and the Bus Loop entrance.

The rear entrance of the school would be an attractive entry point for students from neighborhoods south and east of the school, however, there is no formal crossing at Bushy Street to access the school campus. Additionally, there are gaps in the sidewalk along the school driveway, which is of particular concern as this entrance is used by buses.

Issue: Missing sidewalks on 4th street near the school entrance.

There is a faded crosswalk at the intersection of the entrance to the Central building, 4th Street, and the Recreation Path. This crosswalk does not connect to a sidewalk or appropriate receiving facility. There is a gap in the sidewalk between the entrance of the Town Garage and the



Figure 9. Lack of sidewalk opposite the crosswalk at 4th Street and the Central Entrance. Lack of connection from the Recreational Path (Grassy area can get muddy and encourage students to walk into the street)

crosswalk to access the school. There is no crosswalk at the corner of 4th Street and Liberty Street, although there is a Stop sign for vehicles. There is also a gap between the recreational path and the sidewalk entrance to the school.

Issue: The crossing for the Recreational Path at Grand Avenue is difficult to cross without traffic control.

Grand Avenue is a rural major collector with high truck volumes. Currently, bicyclists and pedestrians using the Recreational Path must use a long diagonal crosswalk to cross Grand Avenue. There is a pedestrian crossing sign but no traffic calming or stop control.



Figure 10. The crosswalk at Grand Avenue and the Recreational Path is excessively long and there is an unnecessary amount of asphalt on the eastern receiving end, which increases pedestrian exposure and can lead to an increase in traffic speeds.

Issue: There are no sidewalks on Spring Street / Route 7 north of Kane Street.

Spring Street / Route 7 is a rural major collector. There are sidewalks on the west side of the street between Canada Street and just north of Kane Street. There are shoulders which vary between 1 and 2 feet wide along the road.

Traffic speeds and volumes are too high for pedestrians to walk in these narrow shoulders. Approximately 35 students rely on this road as their primary route to access the school.

Issue: There are no sidewalks on River Street and no crosswalk at the Recreational Path.

Students who live west of the Missiquoi River cannot access the Recreational Path or Depot Street bridge due to a lack of sidewalks or shoulders on River Street (although the Depot Street bridge has sidewalks). There are sidewalks only on one block of River Street, between Depot Street and Lake Street. Additionally, there is no crosswalk to access the Recreational Path at River Street.

Issue: Some parents are concerned about students walking home alone.

According to the parent survey, many parents are concerned about their students walking home unaccompanied.

Opportunity: Encourage the use of the Recreational Trail for Walking School buses, at least in the fall / spring, when the trail is clear of snow.

Opportunity: Work with daycare centers to participate in walking school buses for students who use daycare services before and after school.

Opportunity: Investigate opportunity for older students to lead walking school buses at dismissal.

NON-ENGINEERING TRAVEL PLAN RECOMMENDATIONS

OVERVIEW

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

Non-Engineering Plan

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

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-term	Long-term
Encouragement, Education, Enforcement, Evaluation, Policies	What we plan to do this or next school year (next 18 months)	What we plan to do in two school years or more

We have identified the short-term activities and programs that we expect to work on during the next 18 months in the following section. Long Term strategies are described in subsequent sections. **Appendix A** includes a calendar for our strategies.

Engineering Recommendations

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

SHORT TERM EDUCATION STRATEGIES

The education strategies included in our 18-month activity calendar are aimed at providing students with pedestrian walking skills. Specifically, we will:

- Teach the WalkSmart curriculum to grades K-2 and the BikeSmart curriculum to grades 3-6 each PE class;

- Provide biking and walking tips and tools from the VT SRTS Partner Resource CD and the VT SRTS monthly newsletters to students, parents, and the community via the school's website, the school newsletter and the Town's website;
- Share information about the schools' SRTS efforts with the community through the *St. Albans Messenger* newspaper, the Franklin Chamber of Commerce, social media, Town Meeting Day, and the PTO;
- Conduct a bicycle rodeo in May as a part of School Safety Day utilizing the Bicycle Safety Fair Kits available from Safe Kids Vermont, empowering older and high school students to help run the course;

SHORT TERM ENCOURAGEMENT STRATEGIES

Encouragement strategies included in our 18-month activity calendar will help students and their parents feel more comfortable and confident about walking and bicycling to school. Our encouragement activities include time defined and ongoing activities:

Time-defined activities:

- Continue to participate in the International Walk to School Day in October and Vermont Intergenerational Walk and Roll to School Day and/or National Bike to School Day in May;
- Provide walking school bus maps showing individual student addresses at parent/teacher conferences to encourage parents to participate in Walk to School Days and identify the best walking school bus location;
- Inform day-care centers about Walk to School Days to encourage students to join walking school buses from these locations;
- Provide free or reduced-cost helmets to students before the spring bicycle rodeo by utilizing Safe Kids Vermont Discounted Helmet Program;
- Celebrate crossing guards with a Crossing Guard Appreciation Day;
- Create student video about walking to school to excite other students about walking.

Ongoing activities:

- Host Monthly Walk/Bike to School Days, using school staff to lead walking school buses for at least two locations (a walk-up location and a drop-off location);
- Reward ongoing walking and biking activity by tracking school-wide and individual or classroom participation and displaying progress in a prominent area;
- Adjust dismissal so that walkers and bicyclists are released first, followed by bus riders, and lastly by car riders;

REFER TO STUDENTS WHO ARE PICKED UP IN A FAMILY VEHICLE AS "CAR RIDERS" DURING DISMISSAL TO DIFFERENTIATE THEM FROM STUDENTS WHO WALK HOME. (CURRENTLY ALL NON-BUS RIDING STUDENTS ARE REFERRED TO AS "WALKERS"). SHORT TERM ENFORCEMENT STRATEGIES

Our SRTS enforcement strategies are aimed at both changing the behavior of drivers, instilling good bicycling and walking practices in our students and making the community safer and more secure for students walking or biking to and from school. Our partners for traffic safety are the Swanton Police Department. Our enforcement activities this year will:

- Locate speed trailers periodically in areas of concern near the school, especially on Grand Avenue;
- Request additional police presence around to the school to monitor unsafe behaviors;
- Share safety messages on the town website, in doctors' offices, in printed material sent home with the students and on the school website;
- Hand out safe driver pledges and flyers to parents dropping their children off at school;
- Empower Swanton Officers to implement a "Caught Being Good" program to reward children displaying safe walking and biking behavior with a small prize or coupon to a local store;
- Add a crossing guard to the intersection at 1st and Liberty Street;
- Have Police Officers and Firefighters present on special walking or bicycling event days.

SHORT TERM EVALUATION STRATEGIES

Evaluation is an important component of our SRTS program. As part of our evaluation strategy, we plan to:

- Collect tally data annually in September and May;
- Conduct annual walk audits to evaluate the changes to the existing walking and biking environment as well as monitor the progress of recommended projects;
- Work with the Northwest Regional Planning Commission, the Town of Swanton and VTrans to get updated information on traffic speeds on Grand Avenue; and
- Distribute parent surveys annually in September to gain a better understanding of the changing attitudes of parents towards allowing their children to walk or ride to school.

Evaluation Tool	Leader	Schedule
Parent Surveys	Dena St. Amour	Annually in November
Student Tallies	Dustin King	Annually in September and May
Walk Audits	Reg Beliveau	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 18 months to review and implement. They include:

- Establish weekly walk to school days
- Work with older students to pair up with younger students in their walking and biking activities;
- Help students take more responsibility for tracking their walking and bicycling achievements;

- Engage parents and the community to help exemplify proper walking, driving and bicycling behavior and normalize safe behavior such as wearing a helmet and reflective visible clothing, walking facing traffic if there is no sidewalk and eliminating crossing of roads at non-intersection locations;
- Help students, staff and community members choose healthy lifestyles and increase the amount of physical activity through walking and bicycling.

ENGINEERING TRAVEL PLAN RECOMMENDATIONS

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.

We recognize that infrastructure improvements can take time to complete and are a collaborative effort between the Town and City, the school district and potentially the Vermont Agency of Transportation (VTrans) to implement the projects. The following short-term and long-term timeframes serve 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 by low, medium, and high priorities and according to this time frame. The factors affecting this ranking include:

- Locations with specific safety concerns;
- Location 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.

The engineering recommendations will need additional study before they can be implemented. Those on state routes will also need coordination with, and approval from, VTrans. The recommendations should all be implemented in compliance with state and federal standards including the Manual of Uniform Traffic Control Devices (MUTCD).

SHORT-TERM INFRASTRUCTURE STRATEGIES

To assist in addressing the key issues, we recommend 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 F** provides images and additional descriptions of typical SRTS infrastructure improvements. **Appendix G** provides additional information on how to begin implementing the infrastructure recommendations.

Site A: School property

Our goal in recommending modifications on the school property is to make the approaches on the school grounds to the school entrance as easy and safe for pedestrians and bicyclists to use as possible. Our recommendations for short-term improvements include:

- Add school entrance signs at Bushy St and the Babcock driveway at Grand Ave.
- Install concrete bumpers in the parking area adjacent to the Recreational path to prevent cars from encroaching on the sidewalk.
- Queue the buses in a single file line. Buses can start the queue in the driveway in order to allow all students to access a bus from the sidewalk, rather than walking across the vehicle travel lane.
- Enforce no parental parking/drop-offs in Bus Loop parking lot with cones placed at the driveway entrance.
- Encourage parents who utilize the 4th Street entrance to park in the parking lot adjacent to the recreational path when picking up students, as opposed to the spaces in the front of the school, in order to avoid students walking around the parking lot. These spaces could be reserved for staff parking and people with disabilities.
- Reconfigure the Babcock parking lot to have two rows of front-in angled parking with a sidewalk or painted pedestrian zone around the perimeter. Install parking stops and a painted pedestrian zone between the front line of cars and the travel lane adjacent to the school. Paint a crosswalk from the school entrance to the parking stops and painted pedestrian zone.
- As a short term solution, or if it is not feasible to add a sidewalk and pedestrian zone, convert parking spaces in the Babcock parking lot to back-in parking, which can improve the visibility of students to drivers exiting the parking spaces.

Site B: Off-campus areas.

- Enhance current school zone signage with pavement markings on Grand Ave, Bushy St, and 4th Street.
- Upgrade the crosswalk at 4th Street and the Recreational Path with a wider, high visibility crosswalk (raised if possible) and Trail Crossing pavement markings.
- Upgrade the crosswalk at Grand Avenue and the Recreational Path with a wider, high visibility crosswalk (raised if possible), an in-street Pedestrian Crossing sign and Trail Crossing pavement markings. If possible, install a concrete bumpout on the east side of Grand Avenue at the crosswalk to shorten the crossing distance. A bumpout may be painted with a hatched zone if a physical bumpout is not financially feasible in the short term.

- Install a high visibility crosswalk at Spring Street and Kane Avenue.
- Install a high visibility crosswalk at River Street and Depot Street.
- Install a high visibility crosswalk at 1st Street and Liberty Street.

LONG-TERM INFRASTRUCTURE RECOMMENDATIONS

We have identified several long-term recommendations that will help to continue the achievement of the short-term infrastructure recommendations. These recommendations are detailed in Appendix B.

CONSIDERATIONS FOR DESIGN, FUNDING, AND IMPLEMENTATION

Design

- Infrastructure recommendations in this plan are considered “planning level” and will require further engineering analysis, design or public input before implementation.
- Recommended changes to existing traffic patterns (adding a signal, adding a stop sign, changing speed limits, lane patterns, etc.) will require a study to evaluate the potential impact that the recommendation could have on existing traffic conditions.
- Drainage, existing utilities and ADA compliance will need to be evaluated for the recommendations at the time of design. ADA guidelines recommend particular design features to accommodate persons with disabilities. ADA design considerations for curb ramps, sidewalks and paths, should include appropriate slopes, landing areas, surface conditions, and use of detectable warning materials for pedestrians with visual impairments, among other design features as required.
- Right-of-way was not evaluated as a part of this project. Recommendations assume that sufficient right-of-way exists or that a method to gain needed right-of-way will be identified as the project progresses.
- VTrans district office staff will need to be involved in the planning and design process for recommendations made on the state’s roadway system. VTrans Traffic Operations will also need to be involved in the installation of crosswalks and other recommendations that will influence the movement of motor vehicles.
- Infrastructure recommendations should comply with federal, state and local standards including, but not limited to, 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).

- Design work should be based on the Vermont Pedestrian and Bicycle Facility Planning and Design Manual, which includes details and guidelines on pedestrian and bicycle accommodations. Crosswalks in particular should be designed and installed in accordance to the rules in the MUTCD and the VTrans crosswalk guidelines.

Funding

A variety of funding sources may be used for the recommendations, including Safe Routes to School sources. For example, projects requiring right-of-way acquisition or existing utilities relocation will not be eligible with SRTS funds, but may be funded through other sources.

More information on the types of projects eligible for SRTS funding through the VTrans is located at http://saferoutes.vermont.gov/getting_started/funding.

Implementation

The Vermont SRTS Resource Center has organized information to assist schools in beginning work on the recommendations of their Travel Plans. **Appendices G and H** present this generalized information.

APPENDICES

- A. Non-infrastructure Strategy Calendar
- B. Location-Specific Engineering Recommendation Details (Maps and Recommendations Table)
- C. September 2014 Student Travel Tally Report
- D. September 2014 Parent Survey Report
- E. Swanton Elementary School Partner Enrollment Form
- F. Typical Infrastructure Recommendations
- G. Non-Engineering Strategies Resource Guide
- H. Infrastructure Implementation Strategies Resource Guide
- I. Glossary

A. Non-infrastructure Strategy Calendar

Appendix: Non-Infrastructure Strategies Calendar												
Activity	August	September	October	November	December	January	February	March	April	May	June	July
EDUCATION												
Teach the WalkSmart curriculum to grades K-2 and the BikeSmart curriculum to grades 3-6 in PE class												
Lead	Dustin King											
Plan	Yellow							Yellow				
Implement		Blue							Blue			
Provide biking and walking tips and tools to families and community members												
Lead	Dena S., Amy B., Mary E.											
Plan	Yellow											Yellow
Implement	Blue											
Share information about the schools' SRTS efforts with the community												
Lead	Amy B., Brianna H., Reg B.											
Plan	Yellow											Yellow
Implement	Blue											
Conduct a bicycle rodeo in May as a part of School Safety Day												
Lead	Mel B., Brianna H.											
Plan						Yellow	Yellow	Yellow				
Implement									Blue			
Activity	August	September	October	November	December	January	February	March	April	May	June	July
ENCOURAGEMENT												
International, Winter, and Vermont Walk and Roll to School Days												
Lead	Dustin K. and Mel B.											
Plan	Yellow	Yellow		Yellow	Yellow	Yellow		Yellow				
Implement			Blue				Blue			Blue		
Provide Walking School Bus maps at parent conference												
Lead	Brianna H. and Amy B.											
Plan	Yellow											Yellow
Implement	Blue											
Inform day-care centers about Walk to School Days												
Lead	Betsy F. and Brianna H.											
Plan	Yellow	Yellow										Yellow
Implement	Blue											
Provide reduced cost helmets through the Safe Kids program												
Lead	Dustin King											
Plan								Yellow				
Implement									Blue			
Celebrate Crossing Guard Appreciation Day												
Lead	Tanya Mitchinson											
Plan	Yellow	Yellow	Yellow									
Implement				Blue								
Create student promotion video about walking												
Lead	Hannah Scott											
Plan						Yellow	Yellow					
Implement								Blue	Blue			
Participate in Monthly Walk to School Days												
Lead	Dustin K. and Mel B.											

B. Location-Specific Engineering Recommendation Details
(Maps and Recommendations Table)

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 establishing safer and fully accessible crossings, walkways, trails and bikeways and reducing motor vehicle conflicts with pedestrians and bicyclists.
- The following table provides a summary of engineering strategies recommended for the Swanton School. These recommendations were developed by the Vermont Safe Routes to School Resource Center based on input from the Swanton 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).
- 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, and other recognized engineering standards and guidelines.
- 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 Highways	Speed Limit
Bushey St	Rural Local, Class 3 Town Highway	30
Grand Ave / Route 7	Rural Major Collector, Class 1 Town Highway	30
Spring St /Route 7	Rural Major Collector, Class 1 Town Highway	30
North River St / Route 78	Rural Principal Arterial, Class 1 Town Highway	40
South River St / Route 36	Rural Minor Collector, Class 2 Town Highway	30
4 th St	Rural Local, Class 2 Town Highway	30
1 st St	Rural Principal Arterial, Class 1 Town Highway	30

Site	Need	Recommendation	Time Frame	Team Priority
<p>A. Bushey St at the school driveway (between Grand Avenue and Robin Hood Drive)</p>	<p>At northeast corner of intersection with school driveway, sidewalk along driveway does not connect to sidewalk along Bushey Street.</p> <p>There is little to no indication that there is a school entrance here. The school area signs (S1-1) appear to be located in the wrong place. They should be on either side of the school driveway to indicate the school area.</p> <p>As Bushey Street is a town road, the school would coordinate with Swanton on any recommended improvements. The Town is going to rebuild the existing sidewalk on the north side of Bushey Street between Grand Avenue and Robin Hood Drive.</p>	<p>A1. Add a Swanton Elementary School sign at the entrance to create a gateway to the school.</p> <p>A2. Update and properly locate school area regulatory signs (S1-1) on either side of the school driveway. Install "SCHOOL" pavement markings on Bushey Street 200' in advance of either side of the school driveway (see MUTCD Section 7C.03 for additional detail).</p> <p>A3. When the Town reconstructs the sidewalk, it should connect to the school sidewalk along the east side of the school driveway. Also, the sidewalk material should continue across the driveway as described in Section 3.4.6 of the <i>VTrans Pedestrian and Bicycle Facility Planning and Design Manual</i>; for example, if the sidewalk is concrete and the driveway is asphalt, the concrete should be carried across the asphalt rather than ending on either side. Be sure to include ramps that are fully accessible per ADA.</p>	<p>Short Term</p> <p>Short Term</p> <p>Short Term</p>	<p>Medium</p> <p>High</p> <p>Medium</p>

Site	Need	Recommendation	Time Frame	Team Priority
B. 4 th Street	<p>The crosswalk does not align with the Rec Path; although it is the shortest distance across the street, more could be done to enhance the crossing and accommodate the desire line of path users.</p> <p>There is no crosswalk connecting the 4th Street sidewalk across Liberty Street.</p> <p>The sidewalks along 4th Street (both sides) do not connect to the Rec Path.</p> <p>Vehicles in the northeast school parking lot pull in too close to the sidewalk and obstruct the pedestrian's path.</p> <p>The sidewalk does not continue across the former Town Garage driveway.</p> <p>The regulatory signs indicating the school area are out of date according to the current edition of the MUTCD.</p>	<p>B1. Widen the crosswalk using a high-visibility, durable, block pattern. Add "TRAIL X-ING" pavement markings on the approaches to the crossing.</p> <p>B2. Install a high-visibility, durable, block-pattern crosswalk across Liberty Street at the intersection with 4th Street.</p> <p>B3. Extend the sidewalks on either side of 4th Street to connect to the Rec Path (approximately 50' total). The school should coordinate with VTrans and the railroad since this recommendation would take place within their right-of-way.</p> <p>B4. Update the S1-1 (School Zone) signs at the Rec Path crossing and include W16-7P (arrow pointing down to the crossing) and W16-9P ("AHEAD") plaques on both approaches to the crossing.</p>	<p>Short Term</p> <p>Short Term</p> <p>Medium Term</p> <p>Short Term</p>	<p>Medium</p> <p>Medium</p> <p>Medium</p> <p>Medium</p>

Site	Need	Recommendation	Time Frame	Team Priority
<p>C. Grand Ave/Route 7</p>	<p>Students and families were observed crossing Grand Avenue and the school driveway on the way home from school (no crossing guard).</p>	<p>C1. Improve the Rec Path crossing at Grand Avenue. The pavement markings have faded; repaint with a high-visibility, durable, block pattern. Add "TRAIL X-ING" pavement markings on the approaches to the crossing. Update signs to reflect that this is a school crossing; install both the School Advance Crossing Assembly and School Crossing Assembly shown in Figure 7B-1 of the 2009 MUTCD.</p>	<p>Short Term</p>	<p>High</p>
	<p>Speeds are perceived to be an issue on US 7/Grand Avenue, particularly approaching the Rec Path crossing.</p>	<p>C2. Relocate the existing (or add a new) "Welcome to Swanton" sign to near the Border Control Headquarters to create a gateway and signal to vehicles the contextual change from high speed rural. Coordinate with the Chamber of Commerce on this change.</p>	<p>Short Term</p>	<p>High</p>
	<p>Grand Avenue was fairly busy during this time of day, and parents would queue as they tried to leave campus.</p>	<p>C3. Conduct a speed study to determine whether the conditions for installing a speed feedback sign for northbound traffic between Bushey Street and the Babcock driveway (i.e., where the school zone sign is currently located) are met: VTrans Policy #3014 requires that the 85th percentile speed exceed the posted speed limit by at least 3 MPH during the 30 minutes before and after school arrival and dismissal.</p>	<p>Medium Term</p>	<p>Medium</p>
	<p>The edge of the roadway is not well-defined on the northeast side of Grand Avenue on either side of the Rec Path crossing (specifically, between Platt Avenue and the driveway to the southeast of the crossing); the greenstrip buffering the sidewalk from the roadway has been paved over.</p>	<p>C4. Rebuild the edge of roadway and greenstrip on the northeast side of Grand Avenue on either side of the Rec Path crossing (specifically, between Platt Avenue and the driveway to the southeast of the crossing).</p>	<p>Medium Term</p>	<p>Medium</p>

Site	Need	Recommendation	Time Frame	Team Priority
D. Spring St/ Route 7	<p>Staff noted that traffic speeds on US 7 were a concern. Spring Street is straight and wide, which may contribute to vehicle speeds.</p> <p>Any improvements to Route 7 that are outside of the Class 1 Town Highway portion of the roadway will need to be coordinated with and approved by VTrans.</p>	<p>D1. Investigate whether the state guidelines for the installation of a crosswalk are met across Canada Street at the intersection with Spring Street.</p> <p>D2. Relocate the existing (or add a new) “Welcome to Swanton” sign that is currently located near Stearns Court to a more visible location and trim the vegetation so that the sign is not obstructed. Coordinate with the Chamber of Commerce on this change.</p> <p>D3. Investigate opportunities to narrow the travel lanes and add bike lanes or traffic calming features between Canada Street and Wheeler Round. The roadway width is currently 28’, which meets the VT State Design Standard of 11’ lanes and 3’ shoulders for a Rural Major Collector with a 30 MPH speed limit and 2600 ADT (2012). However, exceptions might be considered by the Town Engineer or VTrans, depending on where along the segment the improvements take place.</p>	<p>Short Term</p> <p>Short Term</p> <p>Medium Term</p>	<p>High</p> <p>High</p> <p>Medium</p>

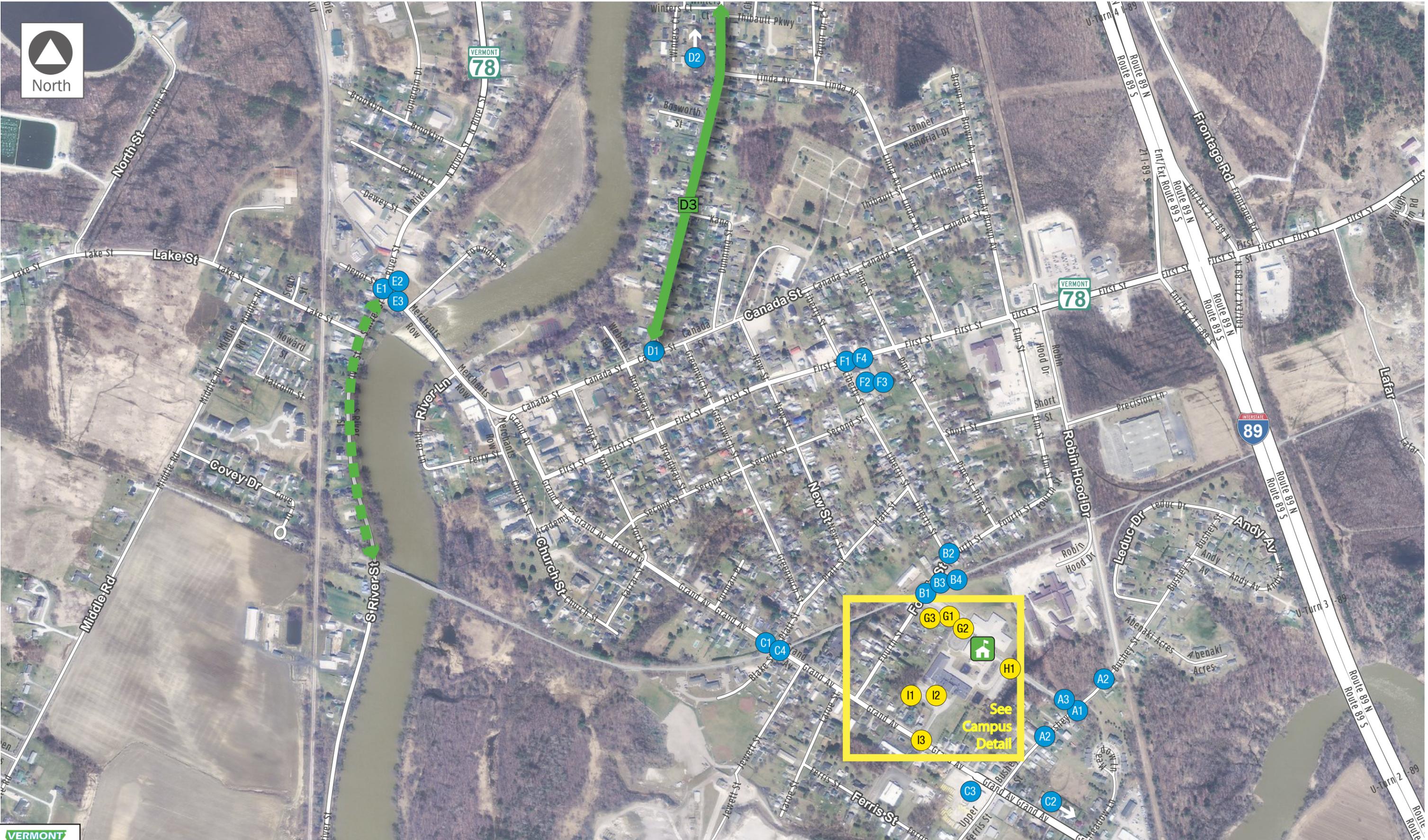
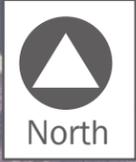
Site	Need	Recommendation	Time Frame	Team Priority
<p>E. North River St/Route 78 and South River St/Route 36</p>	<p>Speeds are perceived to be an issue on South River Street, which lacks pedestrian accommodations.</p> <p>The intersection with Depot Street is difficult for pedestrians to cross. It is a four-way stop. The major vehicle movements are southbound left and westbound right; as a result, the northeast corner radius is very large, allowing vehicles to turn at high speeds and increasing crossing distances for pedestrians.</p> <p>Swanton received a 2014 Bike/Ped Grant from VTrans to conduct a scoping study to investigate a sidewalk connection from the end of the Rec Path along South River Street. This would be a valuable connection for students in this area traveling to Swanton Elementary School.</p> <p>VTrans will be reconstructing VT 78 between Depot Street in Swanton north to the bridge between West Swanton and Alburg.</p>	<p>The following recommendations should be taken into consideration during the VTrans VT 78 project:</p> <p>E1. Install high-visibility, durable, block-pattern crosswalks at the North/South River Street intersection with Depot Street.</p> <p>E2. Reconfigure the northeast corner of the Depot Street intersection to reduce the curb radius and the pedestrian crossing distance.</p> <p>E3. Extend the sidewalk (~200') from the north side of the Depot Street Bridge to North River Street.</p> <p>E4. McDonalds to High School</p>	<p>Long Term</p> <p>Long Term</p> <p>Long Term</p>	<p>Medium</p> <p>Medium</p> <p>Medium</p>

Site	Need	Recommendation	Time Frame	Team Priority
F. 1 st Street	<p>Difficult for pedestrians to cross 1st Street at intersection with Liberty street.</p> <p>The building on the southwest corner of the Liberty Street intersection obstructs sight distance for vehicles on the northbound approach.</p> <p>The driveways for the NAPA on the southeast corner of the intersection with Liberty Street are very wide and not pedestrian friendly.</p>	<p>F1. Install a crosswalk across 1st Street at the intersection with Liberty Street on the east side (this recommendation has already been approved by VTrans and is going to be built under a separate project).</p> <p>F2. Continue the sidewalks across the 1st Street driveway of the NAPA as described in Section 3.4.6 of the <i>VTrans Pedestrian and Bicycle Facility Planning and Design Manual</i>; for example, if the sidewalk is concrete and the driveway is asphalt, the concrete should be carried across the asphalt rather than ending on either side.</p> <p>F3. Investigate opportunities for improving access management on the NAPA site (such as narrowing the curb cut). Re-establish the edge of roadway and greenstrip.</p> <p>F4. Update the four corners of the intersection with Liberty Street to meet accessibility guidelines, specifically for ramps and tactile warnings.</p>	<p>Short Term</p> <p>Medium Term</p> <p>Medium Term</p> <p>Medium Term</p>	<p>Medium</p> <p>Medium</p> <p>Medium</p> <p>Medium</p>

Site	Need	Recommendation	Time Frame	Team Priority
G. Central Front Parking Lot	<p>While the dismissal process in the Central Front Parking Lot is for the most part orderly, with students exhibiting safe behavior and a clear separation of vehicle and pedestrian/bicycle travel, there are a few areas of concern.</p> <p>Vehicles were observed encroaching on the sidewalk between the driveway and the parking lot, reducing the space for walking.</p> <p>Students walk across the entrance to the side parking area, which has no stop control or pedestrian facility. Adding a pedestrian facility, such as a sidewalk or crosswalk will improve the visibility of pedestrians at this point.</p>	<p>G1. Install concrete parking bumpers to keep drivers from encroaching on the sidewalk along the northeast side of the school driveway. Add crosswalk southeast of G1 to funny path</p> <p>G2. Continue the sidewalk across the driveway as described in Section 3.4.6 of the <i>VTrans Pedestrian and Bicycle Facility Planning and Design Manual</i>; for example, if the sidewalk is concrete and the driveway is asphalt, the concrete should be carried across the asphalt rather than ending on either side.</p> <p>G3. Consider constructing a sidewalk or crushed stone or asphalt path where the grassy area is, with a landscaped buffer. A short fence may be installed if desired.</p>	<p>Short</p> <p>Medium</p> <p>Medium</p>	<p>Medium</p> <p>Medium</p> <p>Low</p>

Site	Need	Recommendation	Time Frame	Team Priority
H. Bus Loop Parking Lot	Students were observed crossing the driveway to reach parents waiting in the parking lot, even though this is a staff only lot. There is an opportunity to reduce student exposure to vehicle travel lanes.	H1. Position traffic cones with signs that say "Buses Only" at the bus loop entrance (at Bushey St) and position cones with signs that say "Staff Only" at the parking lot entrance to discourage parents from picking up students there and increasing their exposure to moving vehicles and buses.	Short	Low

Site	Need	Recommendation	Time Frame	Team Priority
I. Babcock Parking Lot	Students depart the school building and walk through this parking lot to their family car. Students and families walk all over the parking lot, which can lead to congestion and create opportunities for vehicle / pedestrian conflicts. Vehicles exiting the lot onto Route 7 pull into the crosswalk to look for oncoming traffic.	<p>I1. Add a sidewalk or a painted 8' wide pedestrian zone around the perimeter of the parking lot, extending from the west end of the existing sidewalk around the western and southern edges of the lot so that pedestrians are safely out of the path of vehicles. This will require shifting the parking rows.</p> <p>I2. Paint a 6' wide pedestrian zone between the middle two rows of parking, including a crosswalk to connect to the sidewalk on the north side of the lot and parking bumpers to prevent cars from entering the pedestrian zone. This will require shifting the parking rows.</p> <p>I3. Install an in-street crosswalk sign at the crosswalk on the entrance to this parking lot from Route 7.</p>	<p>Short</p> <p>Short</p> <p>Short</p>	<p>Medium</p> <p>Medium</p> <p>Medium</p>



Swanton Elementary School Engineering Location Key

Swanton, VT
December 2014



School Location

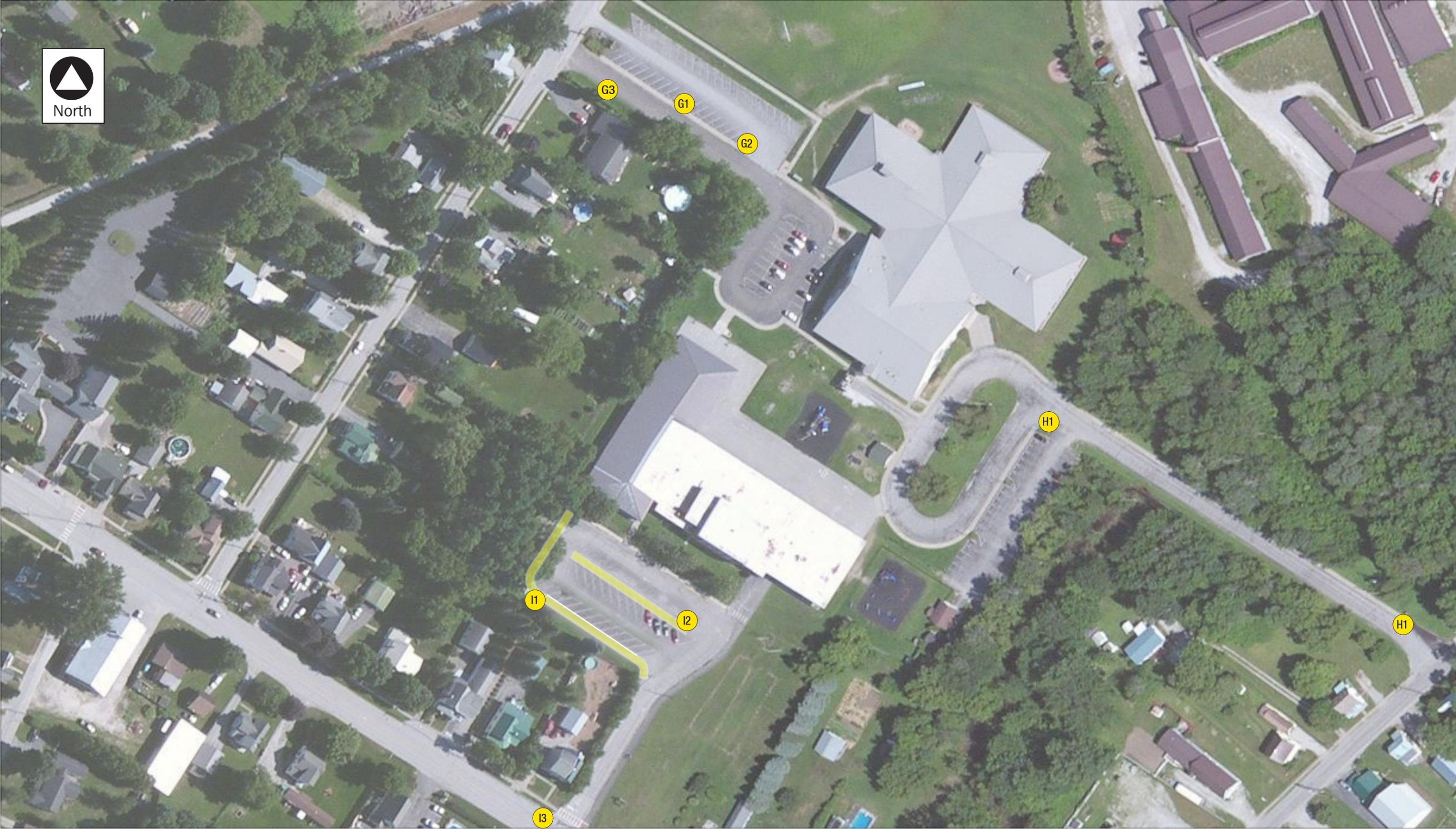
Segment Improvement

Proposed Study

Intersection/Spot Improvement

Spot Improvement: See Campus Detail





Swanton Elementary School Campus Detail

Swanton, VT
December 2014

● Spot Improvement



C. May 2014 Student Travel Tally

Student Travel Tally Report: One School in One Data Collection Period

School Name: Swanton Elementary School

Set ID: 15853

School Group: Swanton Elementary School

Month and Year Collected: September 2014

School Enrollment: 498

Date Report Generated: 10/27/2014

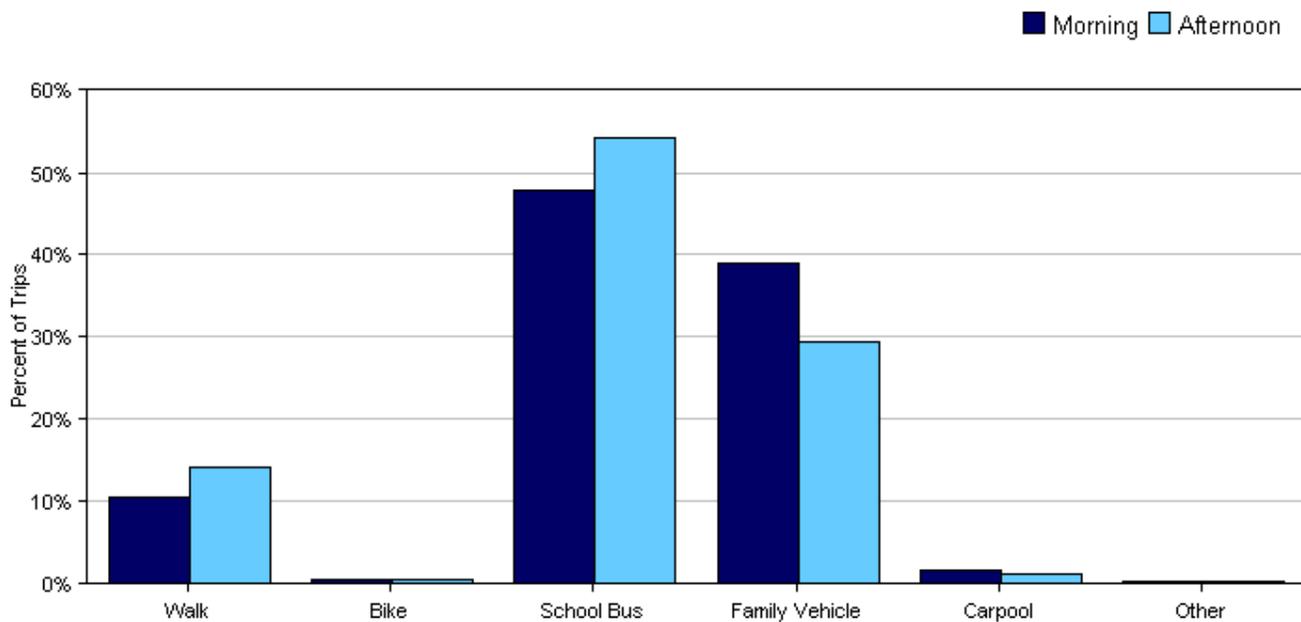
% of Students reached by SRTS activities: 76-100%

Tags:

**Number of Classrooms
Included in Report:** 26

This report contains information from your school's classrooms about students' 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

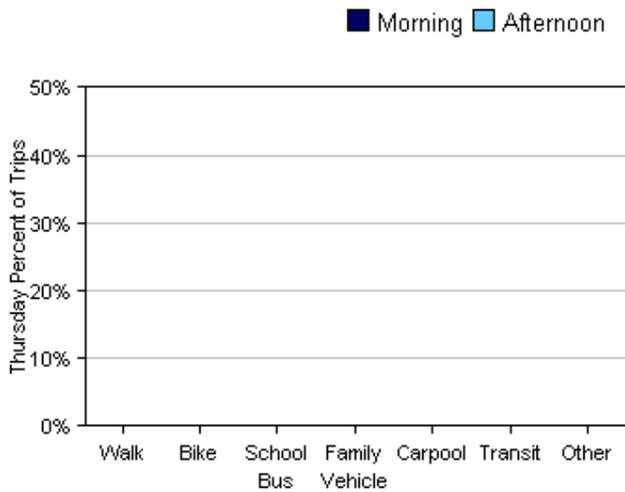
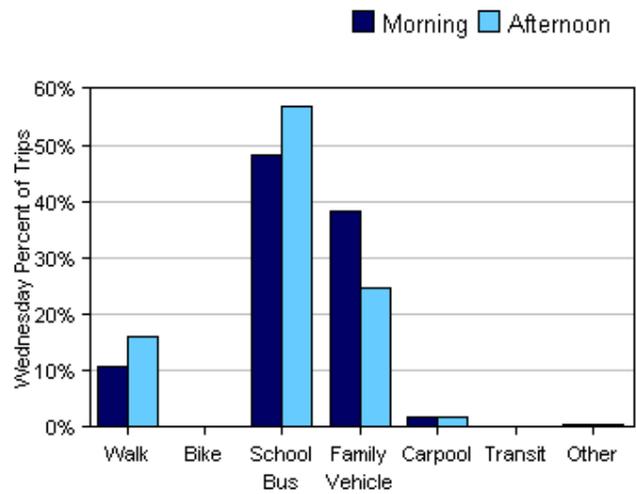
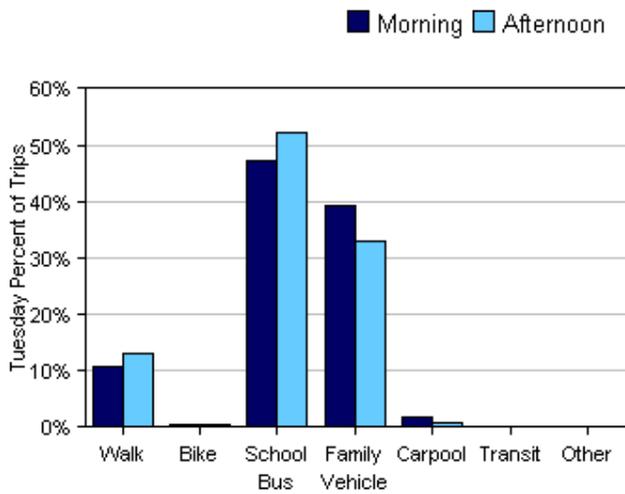


Morning and Afternoon Travel Mode Comparison

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	806	11%	0.5%	48%	39%	2%	0%	0.4%
Afternoon	798	14%	0.5%	54%	29%	1%	0%	0.4%

Percentages may not total 100% due to rounding.

Morning and Afternoon Travel Mode Comparison by Day

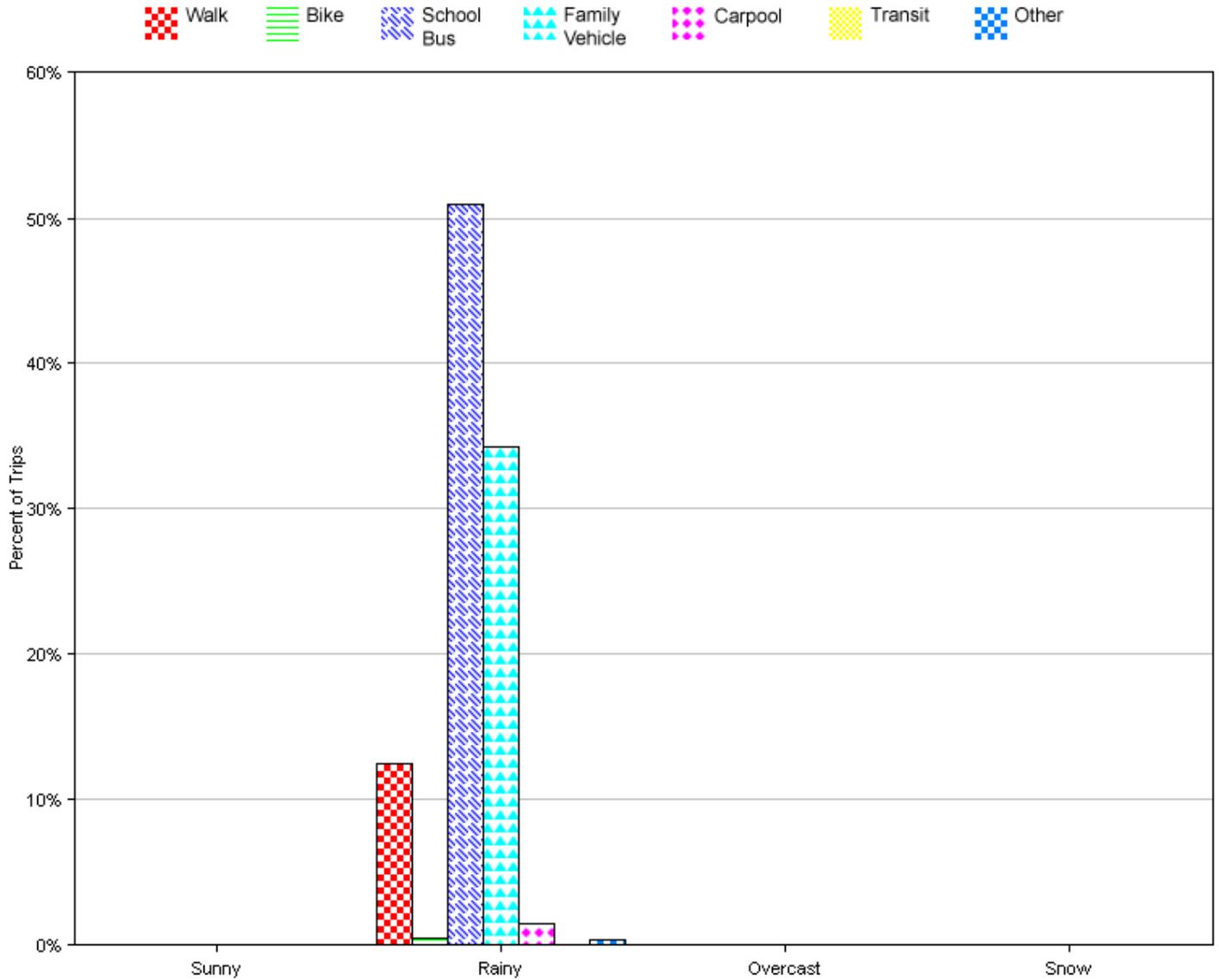


Morning and Afternoon Travel Mode Comparison by Day

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Tuesday AM	467	11%	0.6%	47%	39%	2%	0%	0.2%
Tuesday PM	454	13%	0.7%	52%	33%	0.9%	0%	0.2%
Wednesday AM	339	11%	0.3%	48%	38%	2%	0%	0.6%
Wednesday PM	344	16%	0.3%	57%	25%	2%	0%	0.6%
Thursday AM		0%	0%	0%	0%	0%	0%	0%
Thursday PM		0%	0%	0%	0%	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	0	0%	0%	0%	0%	0%	0%	0%
Rainy	1604	12%	0.5%	51%	34%	1%	0%	0.4%
Overcast	0	0%	0%	0%	0%	0%	0%	0%
Snow	0	0%	0%	0%	0%	0%	0%	0%

Percentages may not total 100% due to rounding.

D. Parent Survey Reports

Parent Survey Report: One School in One Data Collection Period

School Name: Swanton Elementary School

Set ID: 12115

School Group: Swanton Elementary School

Month and Year Collected: September 2014

School Enrollment: 498

Date Report Generated: 10/27/2014

% Range of Students Involved in SRTS: 76-100%

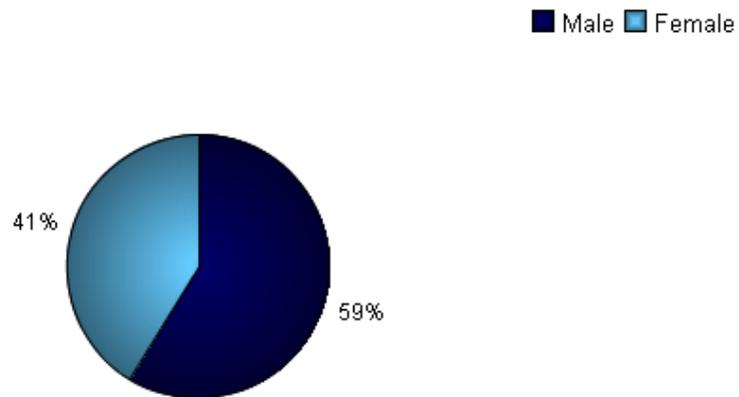
Tags:

Number of Questionnaires Distributed: 498

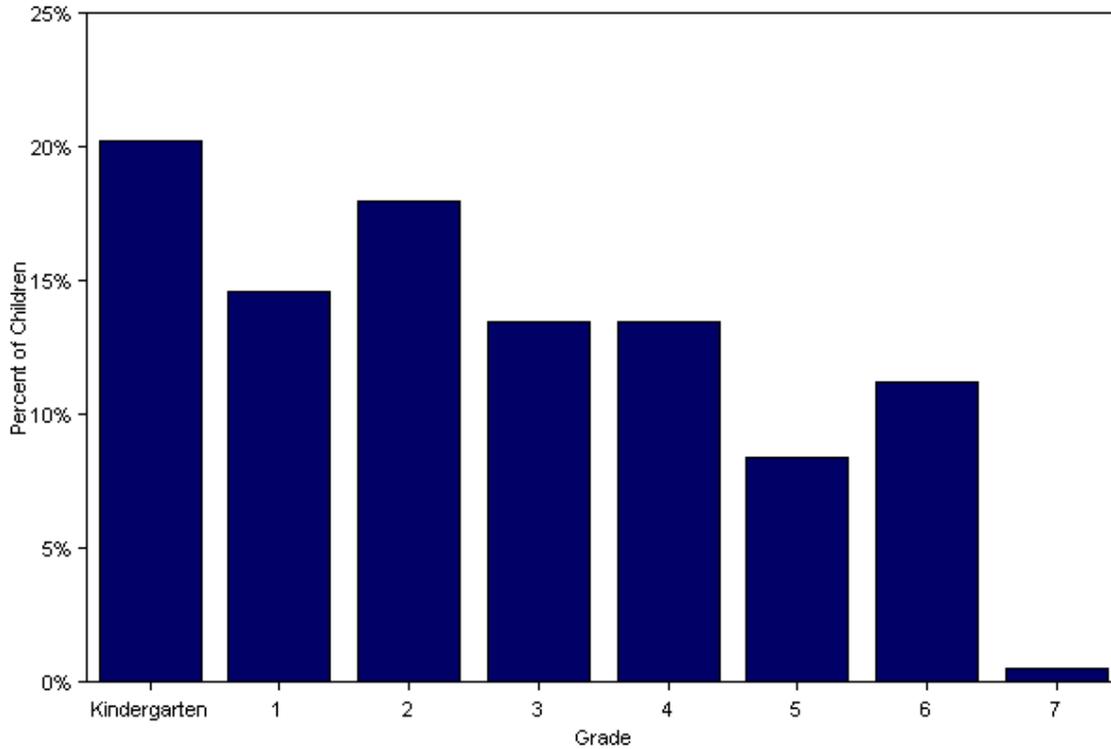
Number of Questionnaires Analyzed for Report: 182

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.

Sex of children for parents that provided information



Grade levels of children represented in survey



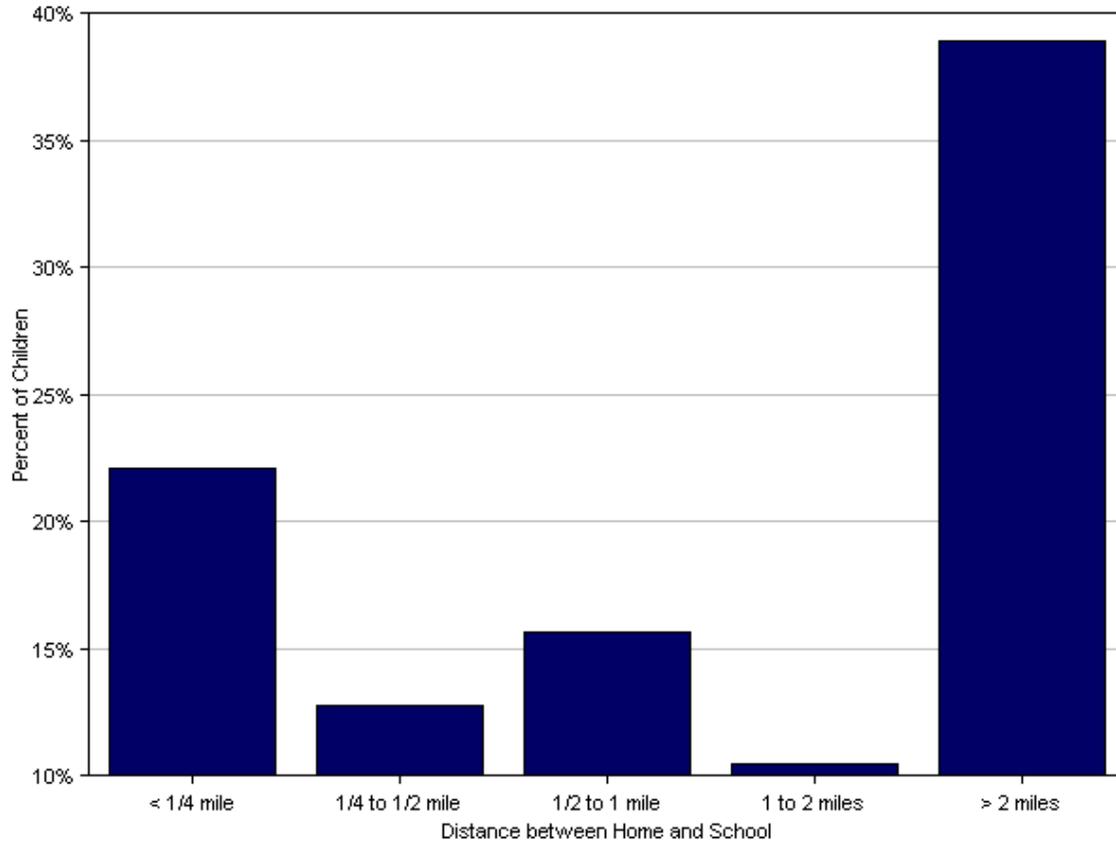
Grade levels of children represented in survey

Grade in School	Responses per grade	
	Number	Percent
Kindergarten	36	20%
1	26	15%
2	32	18%
3	24	13%
4	24	13%
5	15	8%
6	20	11%
7	1	1%

No response: 0

Percentages may not total 100% due to rounding.

Parent estimate of distance from child's home to school



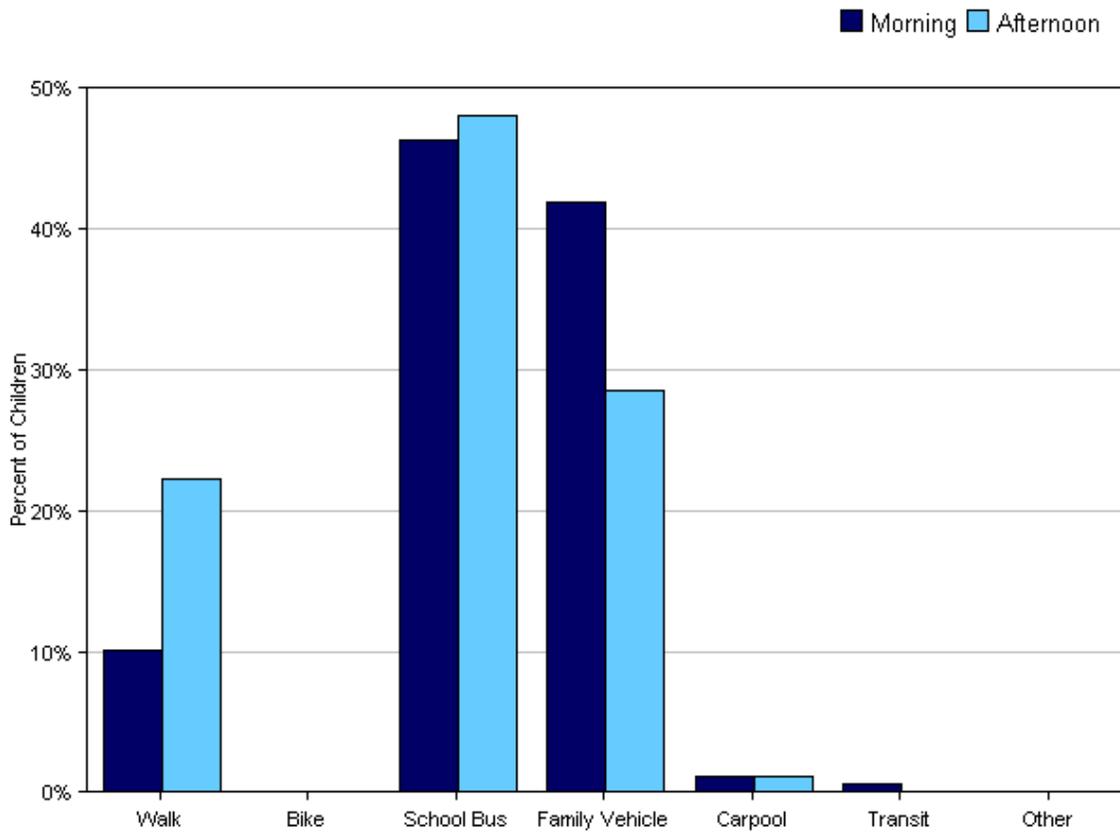
Parent estimate of distance from child's home to school

Distance between home and school	Number of children	Percent
Less than 1/4 mile	38	22%
1/4 mile up to 1/2 mile	22	13%
1/2 mile up to 1 mile	27	16%
1 mile up to 2 miles	18	10%
More than 2 miles	67	39%

Don't know or No response: 10

Percentages may not total 100% due to rounding.

Typical mode of arrival at and departure from school



Typical mode of arrival at and departure from school

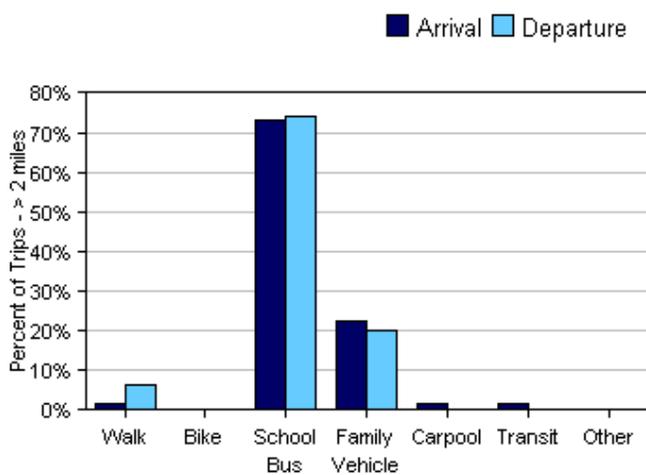
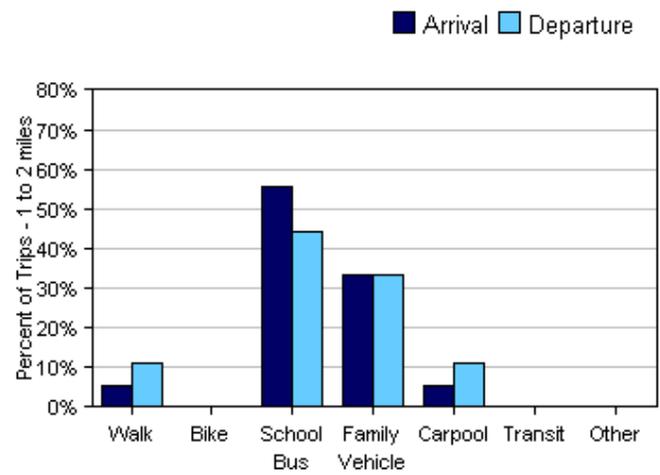
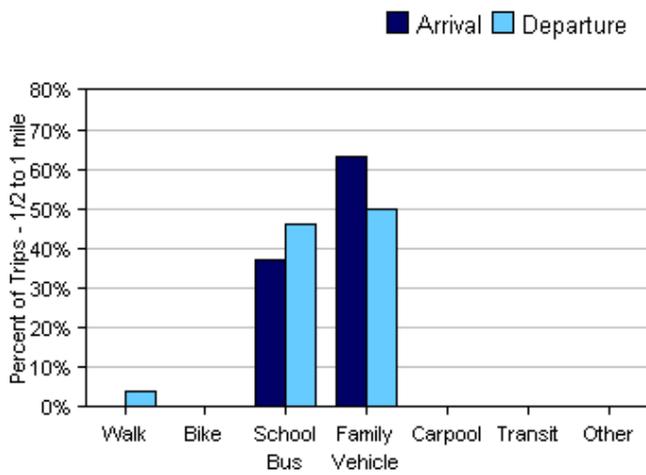
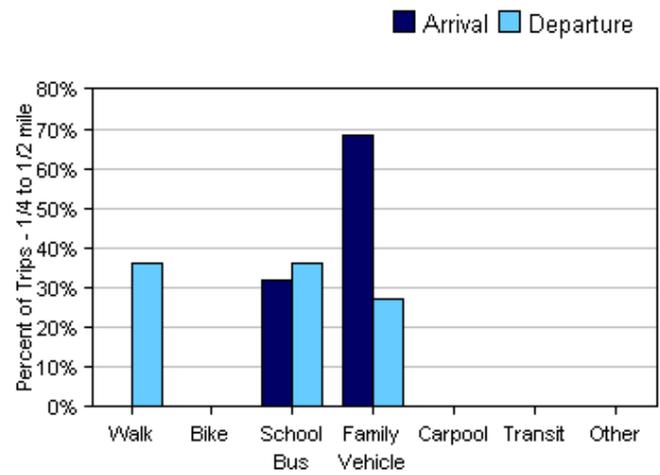
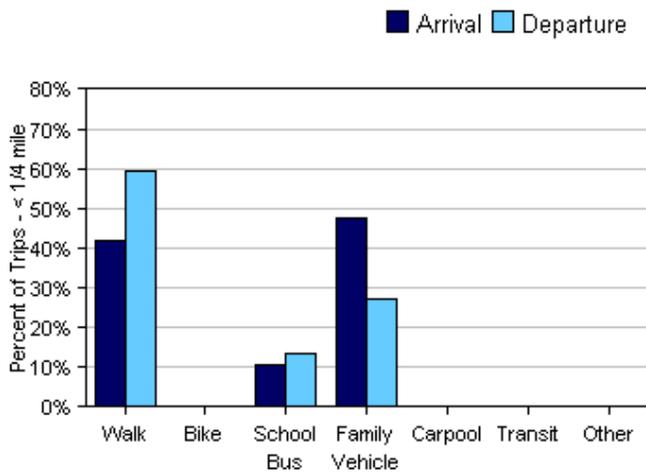
Time of Trip	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	179	10%	0%	46%	42%	1%	0.6%	0%
Afternoon	175	22%	0%	48%	29%	1%	0%	0%

No Response Morning: 3

No Response Afternoon: 7

Percentages may not total 100% due to rounding.

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	38	42%	0%	11%	47%	0%	0%	0%
1/4 mile up to 1/2 mile	22	0%	0%	32%	68%	0%	0%	0%
1/2 mile up to 1 mile	27	0%	0%	37%	63%	0%	0%	0%
1 mile up to 2 miles	18	6%	0%	56%	33%	6%	0%	0%
More than 2 miles	67	1%	0%	73%	22%	1%	1%	0%

Don't know or No response: 10

Percentages may not total 100% due to rounding.

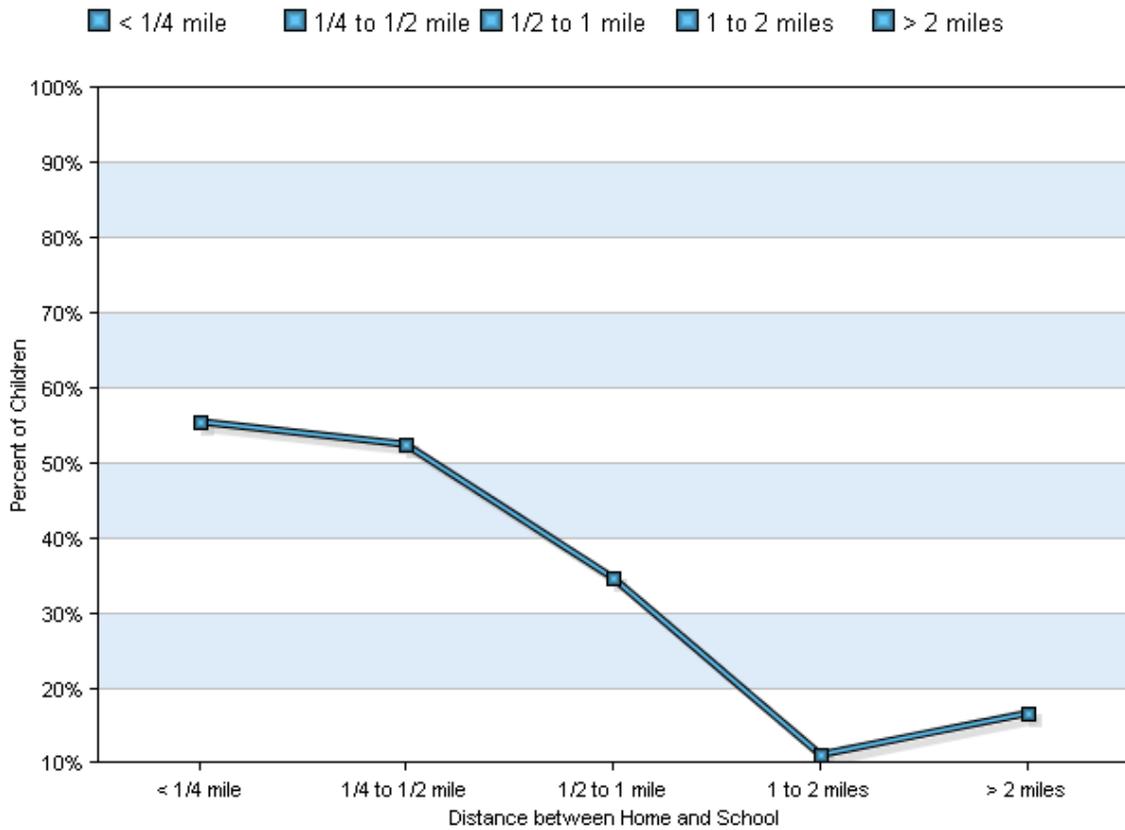
School Departure

Distance	Number within Distance	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Less than 1/4 mile	37	59%	0%	14%	27%	0%	0%	0%
1/4 mile up to 1/2 mile	22	36%	0%	36%	27%	0%	0%	0%
1/2 mile up to 1 mile	26	4%	0%	46%	50%	0%	0%	0%
1 mile up to 2 miles	18	11%	0%	44%	33%	11%	0%	0%
More than 2 miles	65	6%	0%	74%	20%	0%	0%	0%

Don't know or No response: 14

Percentages may not total 100% due to rounding.

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

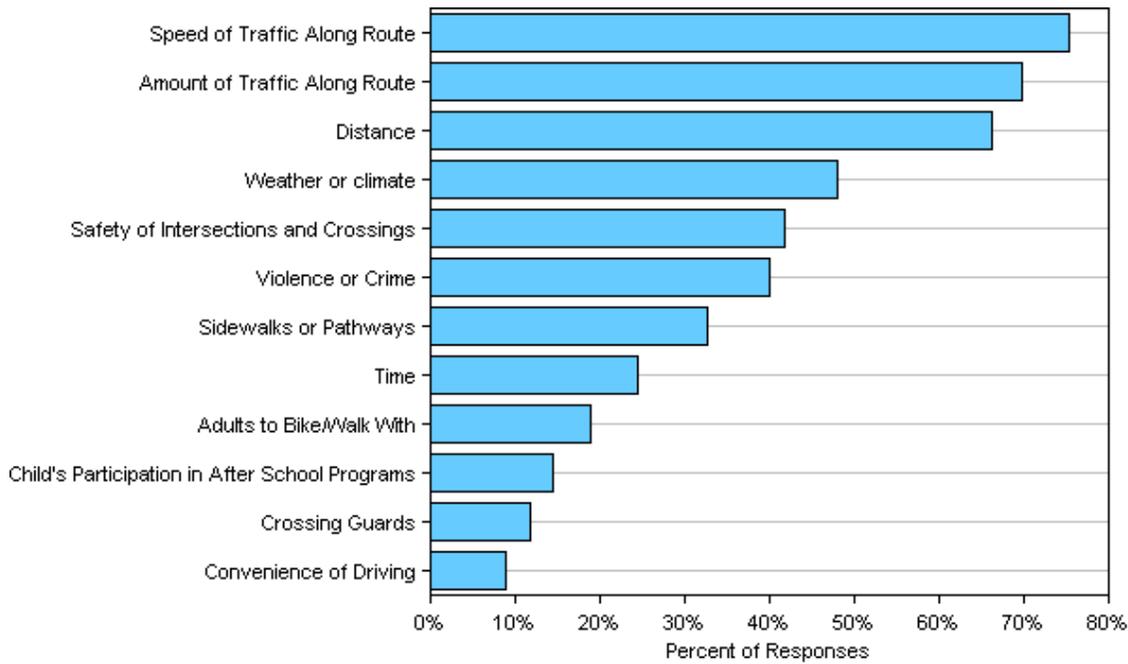


Percent of children who have asked for permission to walk or bike to/from school by distance they live from school

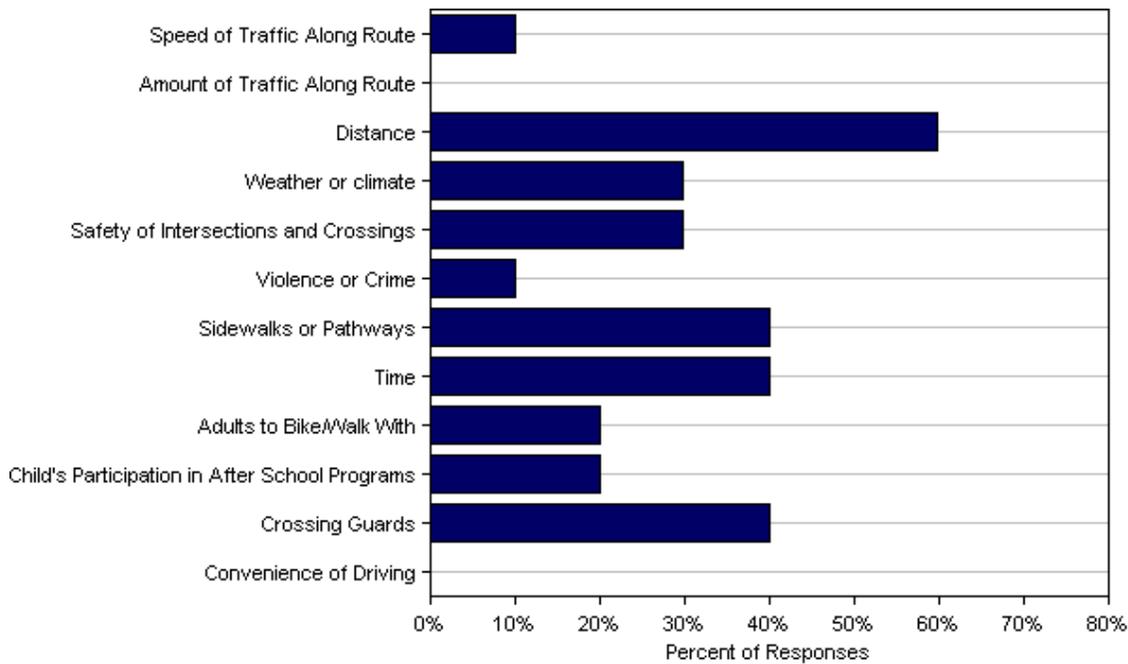
Asked Permission?	Number of Children	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles
Yes	53	56%	52%	35%	11%	17%
No	114	44%	48%	65%	89%	83%

Don't know or No response: 15
 Percentages may not total 100% due to rounding.

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

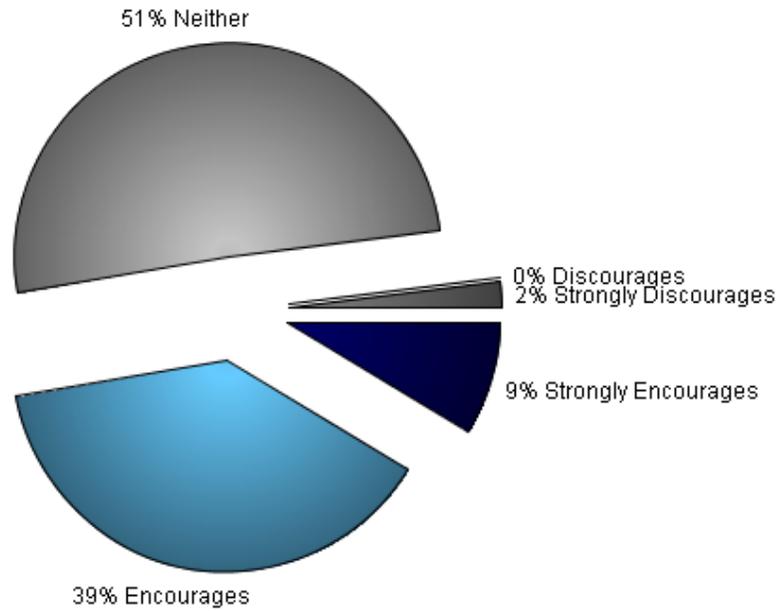
Issue	Child does not walk/bike to school	Child walks/bikes to school
Speed of Traffic Along Route	75%	10%
Amount of Traffic Along Route	70%	0%
Distance	66%	60%
Weather or climate	48%	30%
Safety of Intersections and Crossings	42%	30%
Violence or Crime	40%	10%
Sidewalks or Pathways	33%	40%
Time	25%	40%
Adults to Bike/Walk With	19%	20%
Child's Participation in After School Programs	15%	20%
Crossing Guards	12%	40%
Convenience of Driving	9%	0%
Number of Respondents per Category	110	10

No response: 62

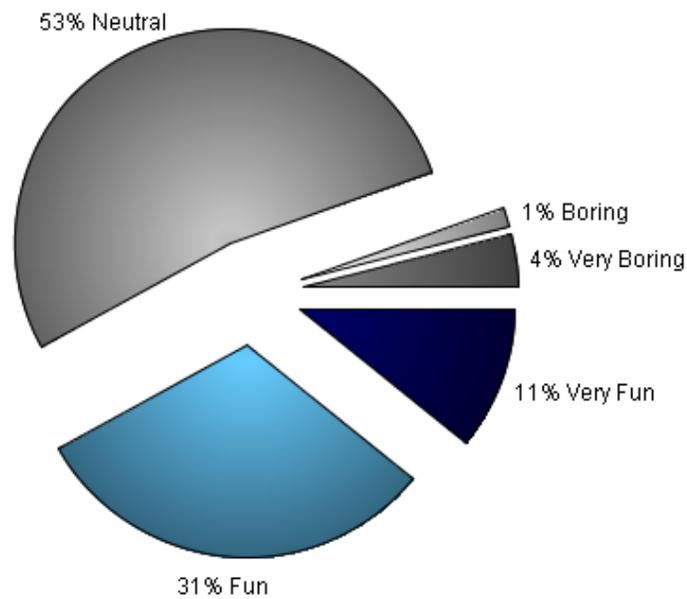
Note:

- Factors are listed from most to least influential for the 'Child does not walk/bike to school' group.
- Each column may sum to > 100% because respondent could select more than issue
- The calculation used to determine the percentage for each issue is based on the 'Number of Respondents per Category' within the respective columns (Child does not walk/bike to school and Child walks/bikes to school.) If comparing percentages between the two columns, please pay particular attention to each column's number of respondents because the two numbers can differ dramatically.

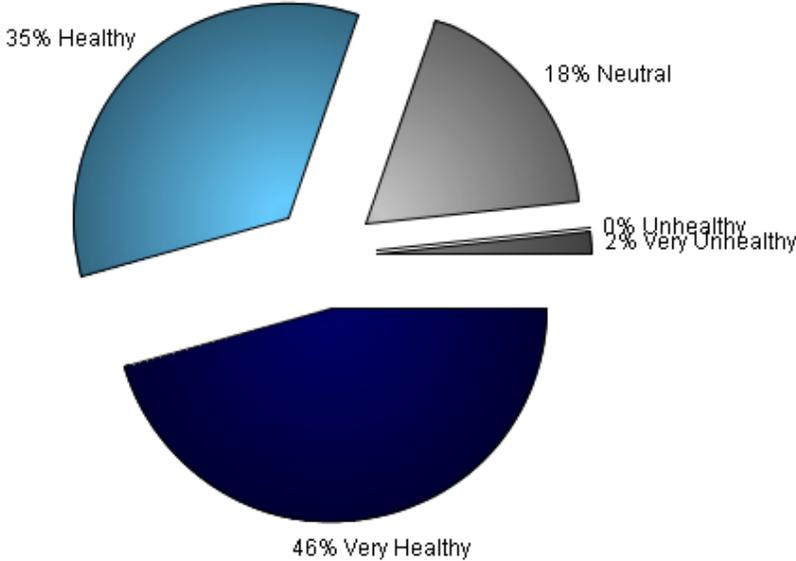
Parents' opinions about how much their child's school encourages or discourages walking and biking to/from school



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



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



Comments Section

SurveyID	Comment
1240867	The particular street we live on has high speed truck traffic and tenants in the apartment at the end of the street with violent tendencies. This makes allowing our daughter to walk to or from school next to impossible. She walks to daycare after school and enjoys that.
1240868	My children enjoy the bus in mornings and I walk them home after school
1240886	Would be happier if there could be a crossing guard. A lot of cars do not stop or yield (crosswalk nearest the bike shop/motel)
1240896	#6: Walk and Carpool were both marked for leaving school
1240949	#6 was answered with both school bus and family vehicle
1240950	We live approximately 10 miles from school so walking or biking to school is not realistic
1240983	We live approximately 10 miles from school
1242184	Would have participated in walk to school day this year but they scheduled school pictures that day
1242226	We do not live close enough to the school for walking. If we did I wouldn't allow my child to ever walk alone
1242231	My daughter has asked me several times to walk to and from school. If she was older and more mature and responsible I probably would let her. But she is a very friendly person and she thinks that nobody will hurt her. My fear is someone will be friendly to her and steal her. She needs to be with an adult until she is old enough and responsible to be on her own.
1240865	Also leaves school by Carpool with children from other families
1240875	My student does ride a bike on occasion
1240888	Answer for #6 was walk, bike, and other modes
1240889	Response for #6 marked Walk and Family Vehicle
1240895	My children take the bus to school and I walk them home
1240899	My child only walks home with high school siblings
1240901	Walks from School to Daycare. Wish we had bussing. Stressful to have a kindergartner walking even with older children. We need Adults to walk or bike with or have bussing for less than 1 mile radius, lots of daycares no bussing. Buses need to go to daycares that are 1 mile or less. Difficult finding trusting people to walk a daycare group. Its too bad
1240919	Walking is not an option due to distance and traffic
1240928	I don't think a child under 13 years of age should be walking to/from school
1241021	It is too far from our home to the school for my child to walk or bike even though he would like to
1241053	Fifteen years ago I used to walk/bike/rollerblade to and from school. I am not comfortable letting my children walk/bike or anything else without adult supervision. The world now is a lot different than it was 15 years ago, sadly
1241060	#6 Arrives at school by School Bus and Family Vehicle
1242240	It would be great to have a crossing guard at the intersection of Liberty and First, as it's the main road with a lot of traffic
1242255	We live too far away to bike or walk. We live off 78 West very dangerous road to walk or bike on.
1242256	#6 School Bus and Family Vehicle were marked for ways to arrive and leave from school
1252628	Mostly this day in age there is some sick people out there and it's not a good idea for children to be alone
1238533	I walk or bike to school with my child when the weather permits.

1240801	My comfort for allowing my children to walk home has less to do with age and grade and more to do with their comfort level in dealing with situations that may occur on their walk home.
1240887	We live 2 houses over from school on same street. Walking makes most sense. My daughters always walk together
1240907	Bussing is not offered to every student. School should provide walking bus drivers daily
1240924	#6 also marked Family Vehicle for a mode for Leaving school WE live on a main Road, it just isn't possible
1240997	live too far for my child to walk!
1241003	The roads to my house is a high traffic area with no sidewalks or crosswalks
1242259	Safety is the greatest concern due to traffic and abduction
1240893	His older brother walks with him to/from school
1240898	Bussing is not provided for all students, so I think the school should provide a walking school bus
1240991	#6 was answered School Bus and Family Vehicle for both ways #13: "we don't do any we drive"
1240996	#6 Arrives on bus, Leaves by school bus, family vehicle, or carools with cousins, aunts, uncles My child doesn't walk at all for the fact of where we live and the fact that he is too young
1241008	I believe that a 40 minute to 1 hour bus ride is too long for any child. They're gone 9 or more hours a day. That's just way too long
1241027	#5 "I live this close but daycare is a lot farther" My children ride the bus everyday because my husband and I both work 1st shift and my children go to daycare every morning before school and everyday after school. If we didn't have to work our children would walk as much as possible
1241039	WE use to live right in town and they rode bikes/walked to school regularly. Now we are down on North River and I don't allow it
1242197	My kids get a ride to school and home from me
1242218	He walks his younger brother to/from school
1242237	I don't want my child walking to and from school alone
1242268	Need to upgrade rail trail at least up to the Waugh Farm Road with pea stones and trimming trees, mowing. Rail Trail goes right to the school
1252618	#6 Student also rides bike to school
1252629	The speed zone sign to increase to 40mph, cars are driving 50mph plus, and there are no sidewalks
1240943	We live 7 miles away from school. This whole survey is completely made for in town folks and does not apply to us
1241011	#6 School bus and walk were both selected for leave from school
1241012	We live outside of Swanton Village where school is. Would not be a viable option
1241022	It is too dangerous for my child to walk or bike to/from school
1240792	My son bikes or walks to school only because a hour plus on the school bus is too much for him. I will not allow him to bike or walk alone until high school due to violence and crime in the area. There are too many predators out there.
1240959	It is too dangerous for my child to walk to/from school (or bike)
1241033	We live 7 miles away from town this survey doesn't apply to us
1242182	Child is too young to go alone
1242193	My son has Down's Syndrome and Autism so not comfortable for him to ride. He can't ride a bike yet and not sure I would let him walk this route even with an adult
1240917	If we lived within 2 miles of school we'd walk/ride. We live approximately 4 miles out of town off main route. Do sidewalks on busy road. My child would find walking/biking fun however not an option
1242200	#6, leaves from school from both school bus and family car

E. Typical Infrastructure Recommendations

APPENDIX B

TYPICAL INFRASTRUCTURE RECOMMENDATIONS

APPENDIX B TYPICAL INFRASTRUCTURE RECOMMENDATIONS

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

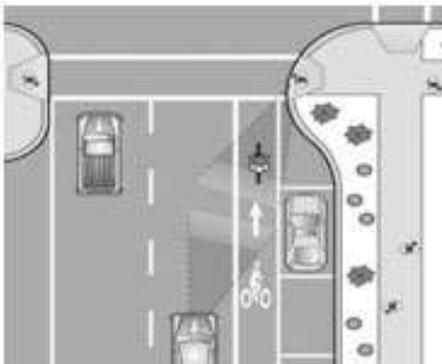


Rectangular Rapid Flashing Beacons:

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

Curb Extensions:

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



Curb Radius Reductions:

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

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

High Visibility Crosswalks:

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



Sidewalks and buffers:

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



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

School Zone Identification:

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



Speed Feedback Signs:

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



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

Pedestrian Refuge Island:

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



F. Non-Engineering Strategies Resource Guide

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 • Pedestrian Safer Journey: The National Highway Traffic Safety Association has created a video to help teach children pedestrian safety skills. http://www.pedbikeinfo.org/pedsaferjourney/ • 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 along with Vermont Walk and Roll to School Day in May. Why not use this strategy multiple times a year?</p>	Education, Encouragement	<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 • Walking when it is too far or unsafe guide 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>	Encouragement	<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)</p> <p>This can be an ongoing program for school staff. This could work well in conjunction with PBIS.</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 with school determined incentives in order to reinforce positive behavior. 	<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>	Education, Encouragement	<ul style="list-style-type: none"> • Events such as 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. 	<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>	Evaluation	<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 effect positive change in the community and 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

G. Infrastructure Implementation 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. • Speed feedback signs, including those installed through VTrans funded projects on state roads, require a maintenance and care agreement with the local municipality. 	<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/orders/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). • Temporary devices such as in-street “Yield to Pedestrian” signs, require designated personnel to provide continuous maintenance. Such signs must be installed and removed EACH DAY of intended use and should not remain on the roadside when not in use. 	<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_NATR/ESViewer/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 sign s.

APPENDIX I

SNOW REMOVAL TOOLKIT

SNOW REMOVAL TOOLKIT

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

Guidelines

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

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

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

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

Recommendations

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

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

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

Monitoring and Enforcement

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

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