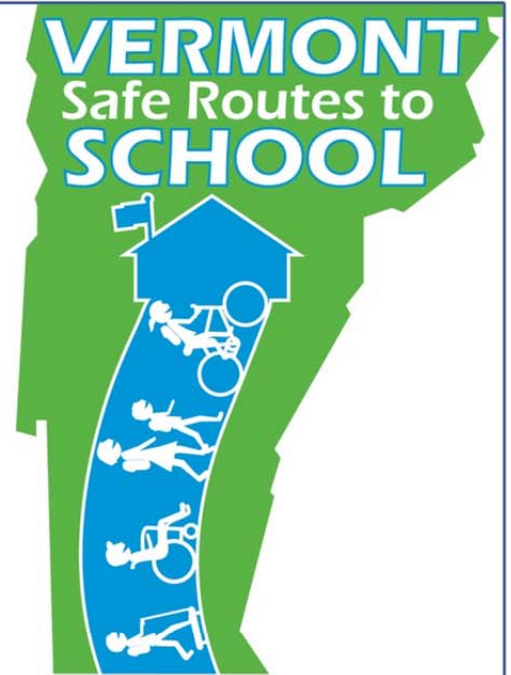


St. Albans Town Educational Center

Safe Routes to School Travel plan July 2014



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

Thanks to all the St. Albans Town Educational Center Safe Routes to School team members who helped to develop this Travel plan.

TABLE OF CONTENTS

INTRODUCTION	1
TEAM VISION	2
ABOUT THIS PLAN	3
TRAVEL PLAN CONTENT	3
ST. ALBANS TOWN EDUCATIONAL CENTER CAMPUS AREA OVERVIEW	3
CURRENT SCHOOL DEMOGRAPHICS	5
CURRENT STUDENT TRAVEL MODES	7
SCHOOL ARRIVAL AND DISMISSAL PROCEDURES	8
EXISTING TRAVEL HABITS	11
KEY ISSUES	11
NON-ENGINEERING TRAVEL PLAN RECOMMENDATIONS	15
OVERVIEW	15
SHORT TERM EDUCATION STRATEGIES	16
SHORT TERM ENCOURAGEMENT STRATEGIES	16
SHORT TERM ENFORCEMENT STRATEGIES	17
SHORT TERM EVALUATION STRATEGIES	18
LONG TERM NON-ENGINEERING STRATEGIES	19
ENGINEERING TRAVEL PLAN RECOMMENDATIONS	20
OVERVIEW	20
SHORT TERM INFRASTRUCTURE STRATEGIES	20
LONG TERM INFRASTRUCTURE STRATEGIES	21
CONSIDERATION FOR DESIGN, FUNDING AND IMPLEMENTATION	22
APPENDICES	23

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INTRODUCTION

This Travel Plan represents the work of the St. Albans Town Educational Center Safe Routes to School team. Our school is striving for a Silver-level Partnership in the 2013/2014 school year and a Gold-level Partnership in the 2014/2015 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 St. Albans Town Educational Center (SATEC) 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 SATEC Travel plan Team	
Angela Stebbins Principal	Derek Madden SATEC Building Manager
Brenda Corey Traffic Control	Amy Ward Bus Coordinator/ Behavioral Specialist
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Amie Koontz SAP Counselor	Lisa Curry Teacher (Grade 1/2)
Lily Herbert Student/Walker	Liam Callahan Student/Walker
Maren Hill Town Planner	Judy Ashley VT Dept of Health District Director
Amanda Holland NRPC Regional Planner	Michael Cain Walk/Bike St. Albans
David Hutchinson Walk/Bike St. Albans	Brianna Haenke VT Dept of Health

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

The ideas and recommendations developed during this process will guide us in creating a well-balanced approach SRTS program at SATEC. 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 projects near SATEC 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 infrastructure improvements that will have a positive impact on walking and biking to school. These infrastructure recommendations are planning level recommendations and 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 St. Albans, the City of St. Albans 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 SATEC aligns with the Town of St. Albans’ efforts to promote better mobility for pedestrians and bicyclists. The SRTS program goals of combining engineering, education, enforcement, evaluation and encouragement strategies (also known as the Five E’s) align with our schools and town’s values. **Our vision for SATEC and the surrounding community is to have:**

- Safe traffic facilities and patterns for all modes of transportation, including pedestrian crossings the St. Albans State Highway and off-road bicycling and walking facilities;
- A community culture where students and families feel safe walking and biking to school, recreation areas and other destinations in town;
- SATEC families who prefer walking and biking to school over other means of transportation, even those who live further than two miles away from 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 **10%** of our students walking or biking to school at least **3** days a week during the fall and spring seasons of the 2014/2015 school year and a rate of **20%** 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 will walk or bicycle to school by the 2015/2016 school year.

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

- Reduce traffic congestion, chaotic driving behaviors, and pollution within and around the school campus;

- Identify and promote safe and well-lit pedestrian and bicycle routes in the Town;
- Improve road crossings, especially along the interstate access road;
- 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 congestion approaching campus caused by buses
- Reduce ride times on buses;
- Increase physical activity for students and faculty;
- Create a network of multi-use paths in the Town and City;
- Achieve 100% helmet use among children bicycling to school;
- 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 three 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
March 17, 2014	Kick-off Meeting: How the Vermont SRTS Travel Plan Works <ul style="list-style-type: none"> - Award of the planning assistance grant - Overview of the planning process - Opportunity and barrier discussions - Four E's discussion
April 18, 2014 & May 9, 2014	Travel Plan Review <ul style="list-style-type: none"> - Reviewed the draft plan - Identified roles and immediate steps for non-engineering recommendations
June 19, 2014	Plan Adoption <ul style="list-style-type: none"> - Adopted plan - Began implementation of non-infrastructure recommendations

TRAVEL PLAN CONTEXT

ST. ALBANS TOWN EDUCATIONAL CENTER CAMPUS AREA OVERVIEW

SATEC is located in the City of St. Albans just off the northeast corner of the intersection of S. Main Street and the St. Albans State Highway. The school is at the outer edges of the City of St. Albans. There is a gas station between the School and S. Main Street. Vehicular, pedestrian and bicycle access is constrained to a single driveway connecting the school campus to S. Main

Street on the north side of the gas station. The campus is bounded on the south side by the St. Albans State Highway (SASH), on the east side by a senior citizen residential development and on the north side by a cemetery. North of the cemetery is a single-family residential area. There are commercial establishments along the west side of S. Main Street to the north and south of the school with residential land uses behind them. There is also a single-family residential area south of the SASH east of S. Main Street.

Figure A: Context Map



The State of Vermont has classified S. Main Street as a minor arterial; it has two 16-foot travel lanes, two 8-foot marked parking areas and 5-foot sidewalks with grass strips on both sides of the road that vary in width from 3 feet to 10 feet. The grades on S. Main Street are relatively flat. The speed limit is posted at 25 miles per hour (mph) in front of the school. S. Main Street near the school is a Class 1 Highway - a State road that is under the control of the local municipality. There are sidewalks on both sides of the street in front of the school on S. Main Street that extend north to the downtown area and south to Parsons Avenue. There is a crosswalk on S.

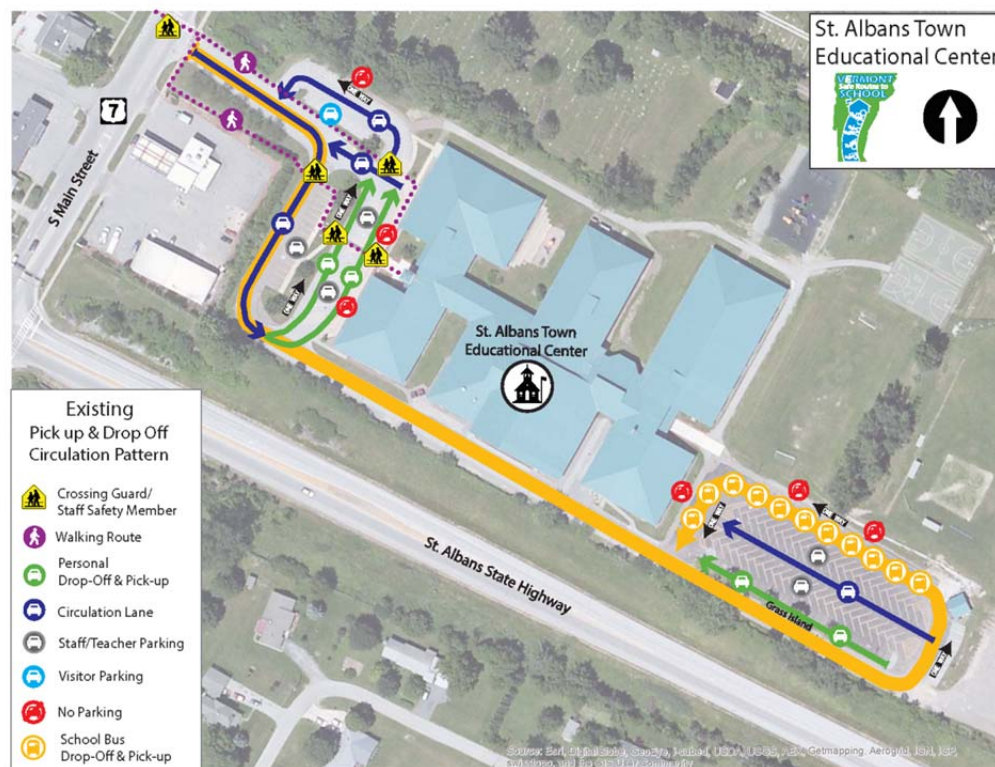
Main Street on the north side of the school driveway into the school campus and another crosswalk at the traffic signal at Upper Weldon Street. Traffic counts in 2011 show that the Average Annual Daily Traffic (AADT) is 12,000 vehicles per day on S. Main Street.

The SASH is a principal arterial and a freeway with two 13-foot wide travel lanes and 10-foot shoulders on either side with no pedestrian accommodations. Near the intersection of the SASH with S. Main Street, a narrow center median with a raised curb separates the east bound and west bound travel lanes. The speed limit is posted at 50 mph. There are no sidewalks on either side of the SASH and pedestrians are not allowed on the roadway. The SASH right-of-way width varies from 200 feet near the intersection with S. Main Street to 150 feet along the main portion of the road.

The intersection of S. Main Street with the SASH is a three-way intersection. Only the SASH inbound lane to the intersection is controlled by a stop. There is also a crosswalk on the SASH approach.

The access to the school is a three-lane driveway heading uphill from S. Main Street with two exit lanes and one entrance lane. The school access drive is controlled by a stop sign; there are no stop signs on S. Main Street at the school intersection. Near the top of the hill, all traffic turns right into a two-way driveway with parking angled along the side of the driveway closest to the school. The main driveway then turns left and splits into a driveway headed towards the back of the school and two lanes in front of the school with angled parking between the two lanes. Figure B provides an overview of the flow of the vehicles and pedestrians along the roadways around the school.

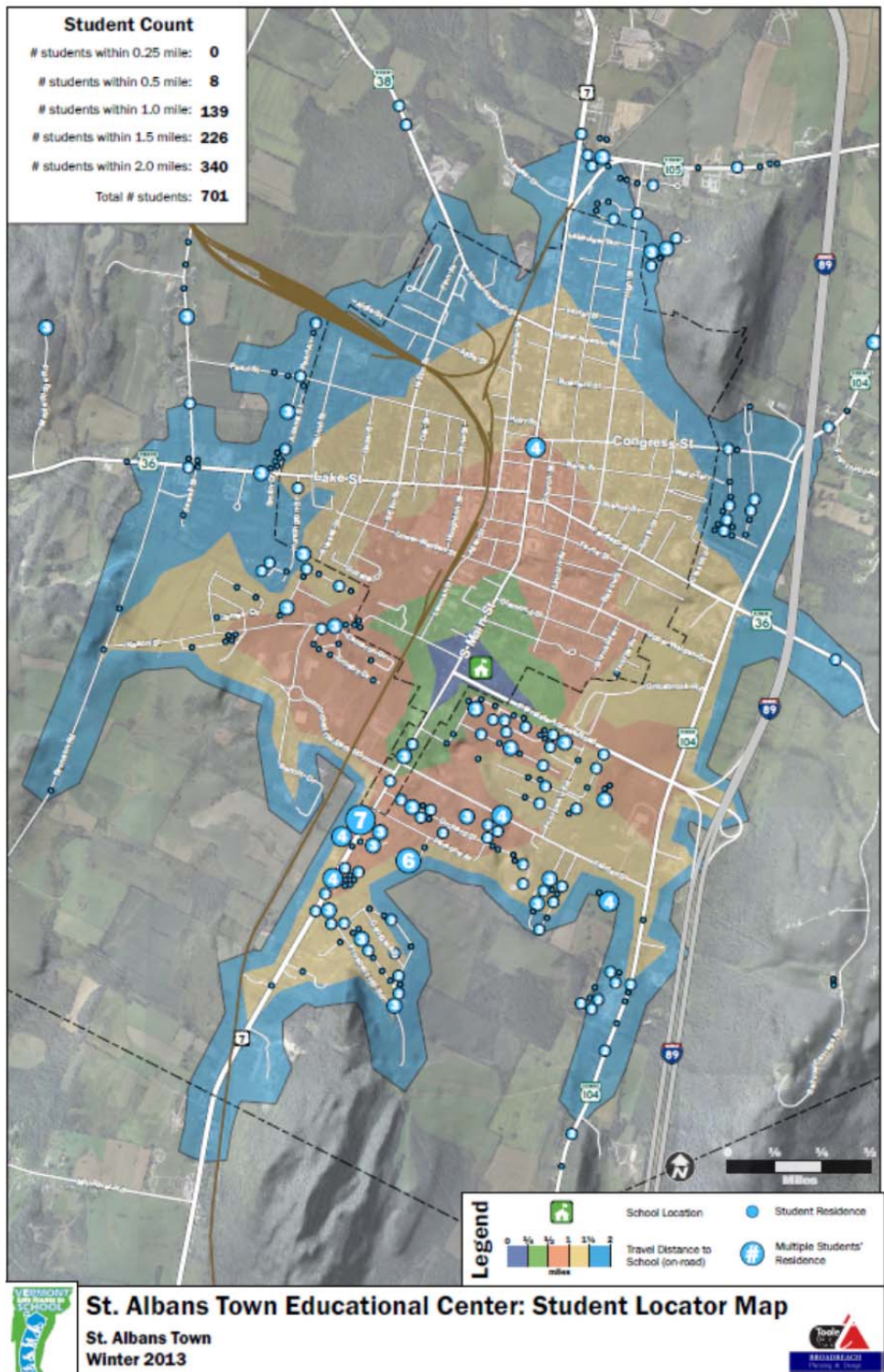
Figure B: Existing Circulation on the SATEC Campus



CURRENT SCHOOL DEMOGRAPHICS

SATEC has a total of 701 students enrolled for the 2013-2014 school year. Our school serves pre-kindergarten through eighth grade. Students come from St. Albans Town. Figure C shows the distribution of the current students.

Figure C: Distribution of SATEC Students



Demographic	Count	Percentage of student body
Students with Physical Disabilities	<i>No data available at this time</i>	
Limited English proficient students	<i>No data available at this time</i>	
Students living within 1/4 mile of school	0	
Students living within 1/2 mile of school	8	1%
Students living within 1 mile of school	139	20%
Students living within 2 miles of school	340	49%
Students in K-2	243	35%
Students in grades 3-5	211	30%
Students in grades 6-8	250	35%

CURRENT STUDENT TRAVEL MODES

Travel Mode	Walk	Bike	School Bus	Family Vehicle	Carpool	Public Transit	Other
Percentage of Student Body (AM)	4.0%	0.5%	46.0%	46.0%	4.0%	0.2%	0.0%
Percentage of Student Body (PM)	2.0%	0.4%	61.0%	35.0%	2.0%	0.2%	0.0%

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

SATEC offers busing to all students. The school requests that parents let them know if their student will be walking or riding a bicycle to school. The school has identified 5 children as regular walkers or bikers.

SCHOOL ARRIVAL AND DISMISSAL PROCEDURES

SATEC 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.

Students who currently walk to school enter the school property via one of the sidewalks along the entry drive from S. Main Street. They follow the sidewalks up to the front of the school. Staff members assist the students from 7:45 AM to about 8:05 AM at the crosswalks in front of the school. The crossing guard on S. Main Street at the school driveway arrives at 7:50 AM. Because of the heavy morning traffic on S. Main Street, the crossing guard at the crosswalk in front of the school on S. Main Street mainly functions as a traffic control officer, for which she received training.

The team observed student arrivals on Tuesday, April 8, 2014. Students began arriving at 7:35 AM. Most of the students walking to school had arrived before the staff was there at 7:45 AM to assist students in the crosswalks. There were a total of 19 students, 2 parents and 1 staff member who walked to school. Students appeared to come from both directions of Main Street; some of them may have been dropped off by their parents at the Dunkin Donuts/gas station between the school and S. Main Street. At least 4 students crossed Main Street to reach the school. One of our team members witnessed a close call as a vehicle did not yield for a student in the crosswalk. The team also noted that parents dropping off students typically did not yield to students in the crosswalk either on or off campus unless forced to by crossing guards.

Parents who drive their children to school line up in the parallel travel lanes between parked cars in front of the school. Those that arrive early wait for the school to open at 7:45 AM. The parents typically black traffic, idling in front of the school. Once the school opens, the school directs parents to use both of the front travel lanes for dropping off students to expedite the high volume of vehicles. The cars in the west lane (further from the school entrance) drop children near moving vehicles. School staff members encourage parents to pull their vehicles all the way



Crossing Guard/Traffic Control on S. Main Street



Student trying to cross S. Main Street in the crosswalk



Morning drop off

to the far north end of the drive before dropping their children, while keeping the crosswalk clear of cars. There is a high volume of drop-offs in a compressed period of time and the morning arrival process sometimes gets chaotic.

St. Albans has nine school buses in use during the morning student arrival process. Buses enter the front of the school via the main access drive in the order that they finish their routes. They go to the rear of the school and begin to stack in positions to let their students out. The first three pull diagonally to the sidewalk parallel to the back of the school. The next six buses line up along the sidewalk leading perpendicularly away from the back of the school. At 7:50 AM, the staff comes out and the first three buses release their students. When all students are off these buses, the buses pull away and the next three buses move into the vacated spaces and release their students. When this set of buses has released their students, these buses leave and the last three buses pull in and release their students. Although the schools' rear doors are primarily used for bus drop-offs, a few students walk into the school through this rear door with their parents, who have parked in the lot. On the day that our team observed the arrival process, 18 non-bussed students entered the school this way. Two students were dropped off by their parents in the parking lot to walk into the rear of the school on their own and 16 were accompanied to the door by their parents.

In the afternoon, parents retrieving their children by car will park in the lot in front of the school. Most get out of their cars and come to the front of the school to receive their children as they are dismissed. The staff members again assist students that walk out to the cars or walk home from school using the crosswalk on the school campus. The crossing guard/ traffic control staff member is again stationed at the intersection of the school drive and S. Main Street.

In the afternoon, there are 10 buses in use. Four buses park diagonally to the sidewalk at the rear of the school; the remaining buses park parallel to the sidewalk leading away from the school. Students in grades K through 2 are released from school and head to the buses at 3:18 PM. Grades 3 and 4 are released at 3:22 PM to board the buses. Grades 5 through 8 are released at 3:25 PM to board the buses. All vehicular movement within the parking lot stops while buses are actively being loaded.

All buses are loaded before any bus moves. The long idling period makes it a noxious process. When the buses are ready to leave, the staff at the rear of the school radio the staff in front of the school and the S. Main Street traffic control person. The traffic control person then stops traffic on S. Main Street to clear the exit ways of the school driveway for the buses to exit. The staff at the crosswalks in the front of the school hold vehicles as needed to clear the way for the buses, which can then leave the campus without delay. Once



Buses line up in the afternoon to receive students



Afternoon student pick up at the grassed island

the buses are gone, vehicular traffic on S. Main Street and on the school grounds can move again.

Parents coming to the rear of the school either park and walk up to the school to get their children or park along the grass island and wait for their children. There is a staff member that escorts students in front of the first parked bus across the one-way out drive to the grass island. (No parent or faculty vehicles are leaving the parking area through this driveway while the buses are parked there.) Once at the island, the students walk on either side of the parked cars, which results in some conflicting car and pedestrian movements. Parents who park their vehicles along the median are able to come and go while the buses are being loaded.

Arrival		
Travel Mode	Procedure	Time
Walk	Arrive staggered and enter through the front door when it opens at 7:45.	7:30am-8:00am
Bike	Put bikes in rack and enter through the front door.	7:45am-8:00am
School Bus	Arrive staggered. Enter through the rear door in stages.	7:50am-8:00am
Family Vehicle	Arrive staggered. Unload in the front and the rear.	7:30am-8:10am
Dismissal		
Travel Mode	Procedure	Time
Walk	Leave through the front entrance.	3:18 pm
Bike	Leave through the front entrance and head to bike rack.	3:18 pm
School Bus	Bus riders dismissed at rear door to students' bus.	3:18 pm - 3:25 pm
Family Vehicle	Parents line the access drive or park in designated spaces and wait for students at the front door.	3:15 pm – 3:30 pm

EXISTING TRAVEL HABITS

Students that walk to school coming from the south east of S. Main Street often come down the slope on the south side of the SASH. From there they walk along the south side of the SASH to the crosswalk at S. Main Street.

According to the March 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:

- Distance – 76%
- Amount of traffic along the route – 73%
- Speed of traffic along the route – 72%
- Safety of intersections and crossings – 67%
- Weather or climate – 62%;
- Violence or crime – 57%

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

- Safety of intersections and crossings – 100%
- Amount of traffic along the route- 67%
- Speed of traffic along the route- 67%
- Crossing guards – 67%

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: The intersection of S. Main Street (US Route-7) and St. Albans State Highway is a barrier for pedestrians crossing due to a long crosswalk width, heavy industrial vehicles, observed speed limits and vehicular traffic accessing Interstate 89.

SASH ends at S. Main Street in a T intersection. It is controlled by stop sign; there are no stop signs on S. Main Street. There is a faded 50-foot crosswalk across the SASH. There is also a 3-foot wide



Looking northwest at the intersection of St. Albans State Highway to S. Main Street.

raised median island on the SASH separating opposing travel lanes that stops several feet short of the crosswalk. Stop signs with flashing beacons are also present to improve vehicle stop rates and identify to motorists that pedestrians may be crossing this intersection. The intersection carries much of the industrial and vehicular traffic entering and exiting the Town of St. Albans and the City of St. Albans. Sidewalk segments exist on S. Main Street connecting to the existing crosswalk.

The traffic congestion, long crossing distance, presence of heavy industrial vehicles, perceived speed of traffic and lack of high-visibility crosswalk pavement markings at the intersection of S. Main Street and SASH make it difficult for pedestrians to cross the SASH. This is especially relevant for students during the peak morning and afternoon hours when there is a high volume of commuter traffic turning onto or exiting the SASH. Overall, the community is hesitant to allow students to walk and bike to school under current conditions.

Issue: A relatively high number of vehicles turning into commercial driveways on S. Main Street create conflict points for pedestrians using the existing sidewalk.

An existing gas station and coffee shop located on S. Main Street directly west of the school property has two wide access driveways that receive a relatively high volume of turning vehicles throughout the day. These driveways create conflict points for pedestrians using the existing sidewalk, especially because of the wide curb-cuts which increase turning speed. Students, staff and community members use this segment of sidewalk to access the SATEC and St. Albans Historic Downtown.



Looking north on S. Main Street towards SATEC driveway.

Issue: A high percentage of parents use personal vehicles to drive their children to school and do not always comply with school policies and drop-off/ pick-up procedures.

The team observed high volumes of vehicular traffic on the school grounds. Combined with bus pick-up and drop-off, the school circulation patterns create potentially dangerous conflicts between vehicles, pedestrians and bicyclists. Traffic around the school is exacerbated by pick-up and drop-off from the nearby Bellows Free Academy high school, which does not provide busing for its student population. In addition, on Tuesdays and Wednesdays, the high school just a bit further north on S. Main Street starts at the same time as the elementary school increasing traffic even more on those days. This high volume of vehicles creates a stressful walking and bicycling environment for the students and community.

Issue: Crossing and walking conditions on the school grounds are in poor condition.

The St. Albans Town Educational Center campus has a well-developed sidewalk infrastructure, but many crosswalks connecting to these facilities are faded, in poor condition and do not have high-visibility pavement markings. Motorists may not be aware of the presence of pedestrians due to lack of compliant signage, faded and less visible pavement markings. In the rear of the school, many parents line up along the grass island to pick up their children in the afternoon. When the grass island is muddy or filled with snow, students often walk in the driveway, mixing with vehicles that are entering or exiting.

Issue: No convenient link between the neighborhood south of the school and the school.

Many students on the south side of the SASH live within a walkable distance to the school. The road network connecting them to the school relies on the use of Freeborn Street, which is more than a quarter mile south of the intersection of S. Main Street with SASH. Students wishing to walk to school using the roadway network must first walk south (away from the school) towards Freeborn Street, then west on Freeborn Street to S. Main Street and then north again on S. Main Street to the school. This circuitous route encourages students to head towards the SASH, move down the steep slopes to the level area next to the highway and then either cross the SASH or walk along the side of the SASH to the crosswalk at the intersection with S. Main Street.

Issue: Minimal, hard to see crossing locations on S. Main Street near the SATEC.

There are two existing crosswalk locations on S. Main Street near the school: one on the north side of the access drive and one at the signalized intersection with Upper Gilman Street. Both of these crosswalks are faded and barely visible. The school's traffic control person is stationed at the crosswalk in front of the school from about 7:45 AM to 8:05 AM and from 3:18 PM to 3:30 PM in the afternoon. Students trying to use the crosswalk in front of the school outside of these times must typically find an opening in the vehicular traffic, which often does not stop even when the students are in the crosswalk.

Issue: Lack of a sidewalk connection south on S. Main Street to the residential areas in the Town of St. Albans.

The City of St. Albans sidewalk on the east side of S. Main Street stops at the City Line near Parsons Avenue. A large number of SATEC students live south of this point, either directly on S. Main Street or on side streets on the east side of the road that lead into S. Main Street. There is currently no sidewalk on S. Main Street in the Town that allows these students to easily walk along the side of S. Main Street to reach the existing City sidewalk.

Issue: Incomplete sidewalk system heading west on Nason Street into the Town.

There is a sidewalk on the north side of Nason Street west of S. Main Street. The sidewalk ends at Lemnah Drive, just east of the railroad tracks. A new sidewalk begins on the south side of Nason Street on the west side of the railroad tracks. There is no clear link between the two sections of sidewalk, across either Lemnah Drive or the railroad. The south side sidewalk ends

at a small cul-de-sac opposite Yankee Drive. Numerous students live beyond this point on Nason Drive or the streets that feed into it. These students need to walk along the side of the Nason Road to get to the sidewalk and then navigate on their own across the railroad track to reach the sidewalk on the north side of Nason Drive. Vehicles tend to speed on Nason Street; it is an important local link to the western portion of the Town. Lemnah Drive is the last north-south street on the west side of the City before the rail road and the City/Town line so it also receives significant traffic volumes in the morning.

Issue: There is a lack of pedestrian or bicycle facilities for the SATEC student community to access the Collins Perley Recreation Center.

The SATEC school community is located approximately 1 mile from the Collins Perley Recreation Center. While the primary users of the Center are the Bellows Free Academy students, the SATEC students and faculty travel on a weekly basis to the Center for scheduled activities and recreation classes. The SATEC and Collins Perley Recreation Center are divided by the SASH. Under existing conditions, there is not an acceptable pedestrian or bicycle link between the Center and the school. Currently, busing is provided from the school grounds to access the Center for scheduled activities.

Opportunity: Existing sidewalks provide a good connection to downtown St. Albans.

The existing sidewalks adjacent to the school provide important pedestrian links between the school grounds and St. Albans Historic Downtown. They create a clear route to school from the south along either side of S. Main Street and from the west along Nason Street.

Opportunity: On-campus drop-off policies can improve traffic circulation on and near campus.

The school has been trying different combinations of bus and vehicular drop-off and pick-up arrangements in consideration of the physical limitations of the campus. The disordered atmosphere of the school parking lot may improve with constant enforcement of a circulation plan. In the long term, increasing walking and bicycling will decrease the number of personal vehicles in the parking lot during arrival and dismissal times, relieving some traffic congestion.

Opportunity: The availability of the Knights of Columbus, Houghton Park, and the hospital sites are a potential alternate bus or parent drop-off location.

The Knights of Columbus and Houghton Park have large parking areas that are relatively empty early in the morning and link to continuous sidewalks to the school. These parking areas, along with some of the intersections or corners of key streets in residential areas, would make ideal locations for occasional student drop-offs and a starting point for walking school buses, allowing many more students to walk at least some distance to school and reduce some of the traffic congestion in and around the school parking lots.

Opportunity: The Thorpe Avenue Extension neighborhood is home to a large and dense population of students who would be good candidates for walking school buses.

There is significant opportunity to organize walking school buses from the Thorpe Avenue neighborhood because of the density of students within short proximity of the school. With efforts to organize neighborhood children in walking groups and provide supervision and assistance crossing SASH, this population of 50 students could become regular walkers.

Opportunity: The City of St. Albans is moving ahead with plans to create a four-way, signalized intersection at the three-way intersection of S. Main Street and SASH.

The City's plan to add a signal to this intersection is in the design phase. The installation of the signal is now planned as part of the larger roadway project to create a second major north-south street parallel to and to the west of S. Main Street. The completion of this project is still several years away. It can be designed to include pedestrian signals to help students and others to cross SASH. The plans currently do not include significant modifications to the SASH itself. It is therefore possible to extend the existing center median to create a pedestrian refuge and not have the improvement removed when the construction of the improvements occur. It may also be possible to accelerate the installation of the signal prior to the completion of the rest of the roadway project.

Opportunity: The Town's current study of ways to improve the link between St. Albans Town Education Center and the Collins Perley Recreation Center.

The Town of St. Albans is currently conducting a conceptual planning and feasibility study to determine the most appropriate way to provide pedestrian and bicycle accommodations between SATEC and the Collins Perley Recreation Center. The proposed study is examining potential alignment alternatives and identifying the preferred pedestrian and bicycle facilities to connect the SATEC and the Bellows Free Academy to the Collins Perley Sports & Fitness Center.

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 spring in PE class;
- Work with the St. Albans Police Department to reinforce safe walking and biking behavior;
- 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 SATEC’s SRTS efforts with the community through the *St. Albans Messenger* newspaper, the Franklin Chamber of Commerce, social media, Town Meeting Day, the PTO, and during Maplefest;
- Conduct a bicycle rodeo in May utilizing the Bicycle Safety Fair Kits available from Safe Kids Vermont, empowering older and high school students to help run the course;
- Dedicate time during the Welcome Back assemblies each fall to review transportation safety with students;
- Determine opportunities to integrate SRTS into the young writers project;
- Share the SRTS plan with the larger St. Albans community.

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:

- 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;
- Identify remote bus drop-off locations to encourage walking to school (Knights of Columbus, Barlough Park, local streets) and start walking school buses from these locations;
- Provide coffee and snacks to parents to walk or bicycle with their students to school on event days;
- Use incentives such as raffles, door prizes, or free bike maintenance, to increase student participation at the bicycle rodeo;
- Provide free or reduced-cost helmets to students before the spring bicycle rodeo by utilizing Safe Kids Vermont Discounted Helmet Program;
- Continue participation in Walk at Lunch Day, and consider expanding to the fall.

Ongoing activities:

- Implement Walking Wednesdays to spur behavioral changes (provide walking school bus leaders on foot and bike);
- Reward ongoing walking and biking activity by distributing tokens and tracking school-wide 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;
- Recruit older students, including Bellows Free Academy high school students, as partners to walk SATEC students to school while earning community service credits.

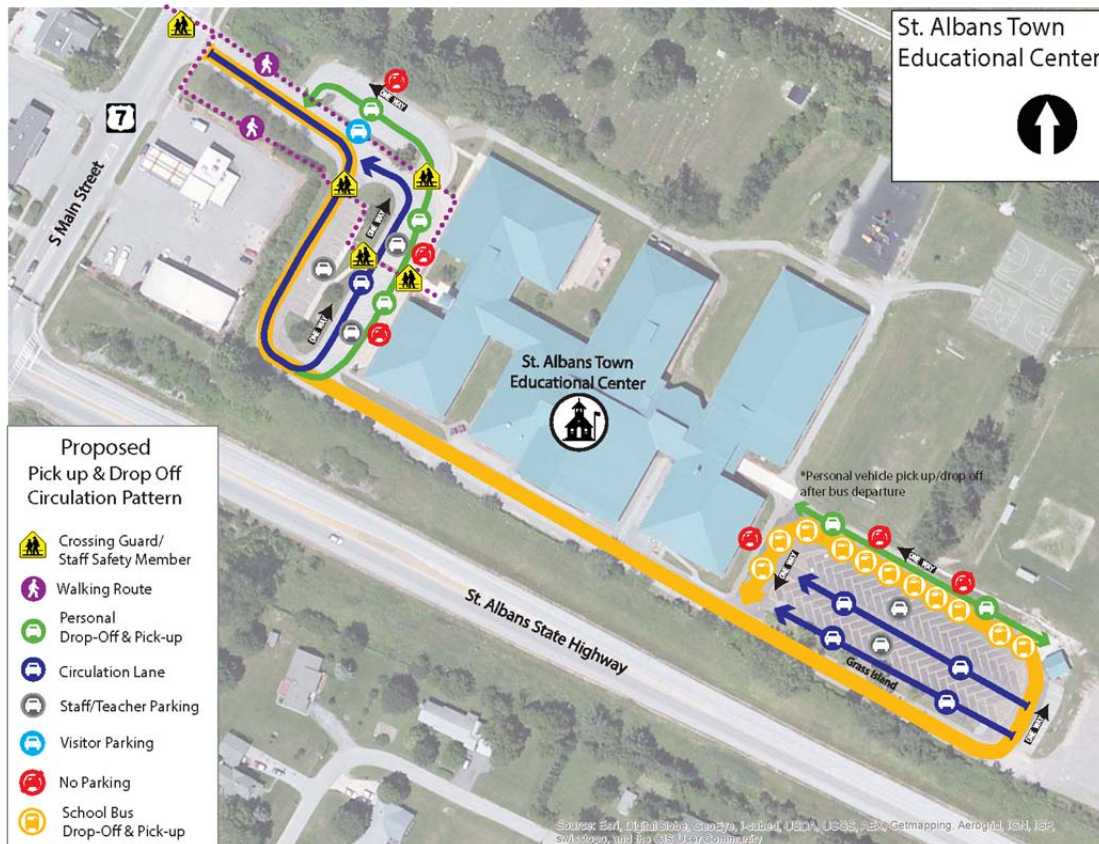
SHORT TERM ENFORCEMENT STRATEGIES

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 Vermont State Police, the Franklin County Sheriff and the City of St. Albans Police Department. Our enforcement activities this year will:

- Work with local police to enforce speed limit on Fairfax Street and S. Main Street;
- Locate speed trailers periodically in areas of concern near SATEC;
- Share safety messages on Front Porch Forum, in doctors' offices, at the hospital, in printed material sent home with the students and on the school website;
- Install flexible in-street pedestrian signs in major crosswalks as directed by VTrans guidance on the proper use of these devices;
- Use cones to delineate crosswalks on S. Main Street;
- Hand out safe driver pledges and flyers to parents dropping their children off at school;
- 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;

- Empower St. Albans Police 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 the highway access and S. Main Street;
- Expand the times that crossing guards are present at the school and S. Main Street crossings to at least 7:35 AM to 8:15 AM or encourage students to cross S. Main Street after 7:45 when the crossing guard is currently on duty;
- Modify the morning drop-off and afternoon pick-up processes to have parents pull as far to the front of the visitor parking area as possible and eliminate the use of the western northbound lane of travel in front of the school for parent drop-offs, as Figure D shows;
- Study the elimination of the use of the grass island as a location for parent pick up of students in the afternoon; and
- Have Police Officers present on special walking or bicycling event days.

Figure D: Proposed Circulation on the SATEC Campus



SHORT TERM EVALUATION STRATEGIES

Evaluation is an important component of our SRTS program. We plan to complete in-classroom student tallies and evaluation tools regularly, such as the student tally and parent survey forms provided by National Center for Safe Routes to School (NCSRTS). We first administered these in January 2013, which provided baseline information on student travel behavior. Subsequent student tallies and parent surveys will help us measure the effectiveness of SRTS efforts over time. As part of our evaluation strategy, we plan to:

- Collect study 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 and City of St. Albans and VTTrans to get updated information on traffic levels and speeds on S. Main Street and Nason Street; and
- Distribute parent surveys annually in January 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	Derek Madden	Annually in March
Student Tallies	Derek Madden	Annually in September and May
Walk Audits	SATEC SRTS Team	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:

- Create a community map with the best walking and bicycling routes to school;
- Work with older students to pair up with younger students in their walking and biking activities;
- Create a walk/bike to school punch card to be used at the school store;
- Help students take more responsibility for tracking their walking and bicycling achievements;
- Consolidate the school bus-stops in residential areas; and
- 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).

We have initially identified the sidewalks on S. Main Street and Nason Street as our walking and bicycling routes to the school.

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:

- Repaint the crosswalks on school property.

Site B: Off-campus areas.

Our goal in recommending modifications on these two streets is to create better walking routes for students that are as easy and safe for pedestrians and bicyclists to use as possible.

- Repaint crosswalks with high visibility and more durable materials on S. Main Street and the western end of the SASH;
- Add movable crosswalk signs, at least during school arrival and dismissal times, in the center of the crosswalks in accordance with VTrans guidance for the proper use of these devices;
- Extend the south side sidewalk on Nason Street to end opposite the north side sidewalk and add a crosswalk to connect the two sidewalks;
- Extend the curbed island on SASH at the intersection with S. Main Street as a pedestrian refuge;
- Support an expedited installation of the planned signals at the intersection of S. Main Street and SASH; and
- Study the viability of a shared use path from Potter Avenue next to SASH to the S. Main Street/ SASH intersection.

LONG-TERM INFRASTRUCTURE RECOMMENDATIONS

We have identified several long-term recommendations that will help to continue the achievement of the short-term infrastructure recommendations.

- Extend the sidewalk on Nason Street west to Green Mountain Drive and add a crosswalk on Nason Street at Green Mountain Drive;
- Extend the sidewalk on the east side of S. Main Street from where it ends at Parsons Avenue to Prospect Hill Road;
- Widen S. Main Street in the Town to create two 11-foot wide travel lanes and 3- to 4-foot wide paved shoulders to improve bicycling conditions; and
- Implement the recommendations of the Town's current study on improving bicycle and walking facilities between the school and Collin Perley Recreation Center.

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 visually impaired pedestrians, 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.
- Adjacent landowners should be involved in the planning and design of recommendations that could affect them, such as the addition of lights along the northern end of the North Street Sidewalk or the creation of a shared use path in the School House Road right-of-way.

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. February 2014 Student Travel Tally Report
- D. Spring 2014 Parent Survey Report
- E. St. Albans Town Educational Center 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

St. Albans Town Educational Center Safe Routes to School Non-Infrastructure Calendar

Activity	Coordinator	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug 2015	Sep 2015
EDUCATION																
Teach WalkSmart to K-2 and BikeSmart to 3-6 each spring in PE class																
Plan	Cathy S.															
Implement																
Work with the St. Albans Police Department to reinforce safe walking and biking behavior																
Plan	Jason W.															
Implement																
Provide bicycling and walking tips and tools to students, parents, and the community																
Plan	Angela S.															
Implement																
Share information about SATEC's SRTS efforts with the community																
Plan	Maren H., Amanda H., Judy A, Michael C., Angela S.															
Implement																
Conduct a bicycle rodeo in May, empowering older and high school students to help run the course																
Plan	Jason W., Cathy S.															
Implement																
Dedicate time during the welcome back assemblies each Fall to review transportation safety with students																
Plan	Angela S.															
Implement																
Determine opportunities to integrate SRTS into the young writers project																
Plan	Angela S., Amie K.															
Implement																

St. Albans Town Educational Center Safe Routes to School Non-Infrastructure Calendar

Activity	Coordinator	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug 2015	Sep 2015
ENCOURAGEMENT																
Participate in the International Walk to School Day and Vermont Intergenerational Walk and Roll to School Day/National Bike to School Day																
Plan	Angela S.															
Implement																
Identify remote bus drop-off locations and start walking school buses from these locations																
Plan	Angela S., Linda M., Amy W.															
Implement																
Provide coffee and snacks to parents to walk or bicycle with their students to school on International Walk to School Day and Vermont Intergenerational Walk and Roll to School Day																

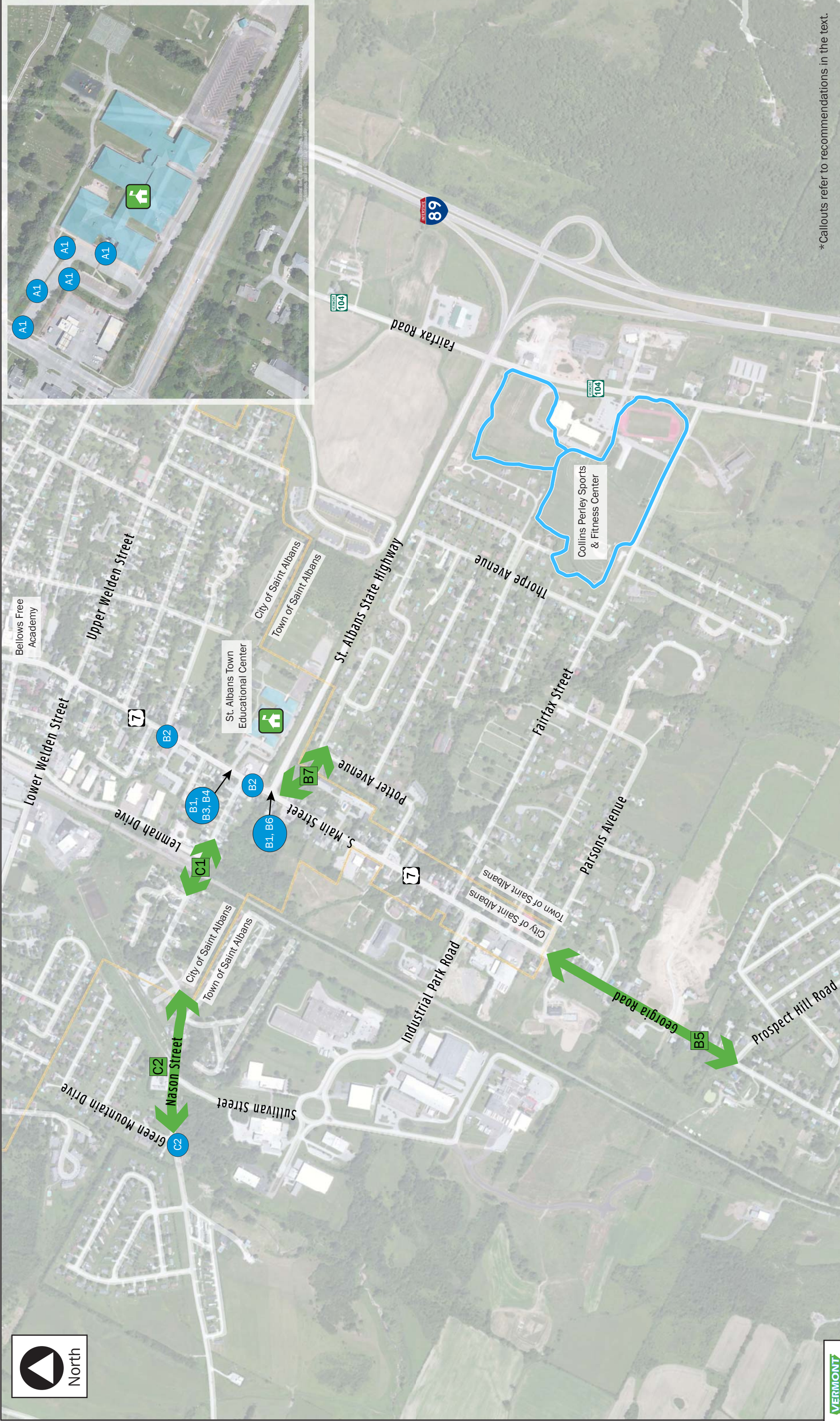
St. Albans Town Educational Center Safe Routes to School Non-Infrastructure Calendar

Activity	Coordinator	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug 2015	Sep 2015
ENFORCEMENT																
Work with local police to enforce speed limit on Fairfax Street and S. Main Street;																
Plan	Jason W.															
Implement																
Locate speed trailer periodically in areas of concern near SATEC																
Plan	Jason W.															
Implement																
Share safety messages on Front Porch Forum, in doctors' offices, at the hospital, in printed material sent home with the students and on the school website																
Plan	Brianna H., Derek M., Maren H.															
Implement																
Install flexible in-street pedestrian signs in major crosswalks as directed by VTrans guidance on the proper use of these devices																
Plan	Jason W., Allen R.															
Implement																
Use cones to delineate crosswalks on S. Main Street																
Plan	Brenda C.															
Implement																
Hand out safe driver pledges and flyers to parents dropping their children off at school																
Plan	Derek M.															
Implement																
Engage parents and the community to help exemplify proper walking, driving and bicycling behavior and make safe behavior normal actions																
Plan	Jason W., Angela S., Judy A., David H.															
Implement																
Empower St. Albans Police Officers to implement a Caught Being Good" program																
Plan	Jason W.															
Implement																
Add a crossing guard to the intesection of the access highway and S. Main Street																
Plan	Angela S., Derek M.															
Implement																
Expand the times that crossing guards are available on school and S. Main Street crossings so that they are available to students from at least 7:35 AM to 8:15 AM																
Plan	Angela S., Brenda C.															
Implement																
Modify the morning and drop off and afternoon pick up processe to use all of just the front lane																

St. Albans Town Educational Center Safe Routes to School Non-Infrastructure Calendar

Activity	Coordinator	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug 2015	Sep 2015
EVALUATION																
Conduct student tally travel data collection																
Plan	Derek M.															
Implement																
Conduct annual walking & biking audit																
Plan	Derek M.															
Implement																
Work with the Northwest Regional Planning Commission, the Town and City of St. Albans and VTTrans to get updated information on traffic levels and speeds on S. Main Street and Nason Street																
Plan	Amanda H./Maren H.															
Implement																
Distribute parent survey annually																
Plan	Derek M.															
Implement																





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



*Callouts refer to recommendations in the text.

St. Albans Town Educational Center Location Map

Saint Albans, VT
Spring 2014

-  School Location
-  Existing Off-Street Path
-  Segment Improvement
-  Intersection/Spot Improvement



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 St. Albans Town Educational Center (SATEC). These recommendations were developed by VT SRTS Resource Center based in input from the SATEC 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.
- 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	Curb/No Curb	85 th Percentile	Average	ADT
S. Main Street (Route 7)	Major Collector on a Class 1 Highway in the City in front of the School and a Major Collector on a State Highway in the Town	35 mph school zone	Curbs	No speed data available at this time.		12,000 (2011)
Nason Street	Class 3 City and Town Road	25	Curb on east side	No speed data available at this time.		No Data Available

Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
<p>A. St. Albans Town Educational Center (SATEC)</p> <p>The school has walkways on either side of the entrance drive. The walkways cross the entry drive and parking areas at five locations with crosswalk markings.</p> <p>The driveway wraps around the south side of the school to reach a larger parking area at the rear of the school. There are entrances into the school at the front and the rear.</p>	<p>There are five crossing locations at the school. There is one crosswalk at the school access driveway and S. Main Street, two at the entrance to the school along the drop-off/pick-up lane, one at the northern end of the drop-off/pick-up lane, and one at the parking lot. School staff members monitor the crossing locations at the school entrance shortly before school starts and after school is over. They stop traffic when students want to cross the driveways. The crosswalk markings on these crossings are worn and barely visible.</p>	<p>A1. Repaint existing crosswalks with a high-visibility, durable, block pattern on the school property and add ADA-compliant landings on either side of each crosswalk.</p>	Short Term	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> <i>Safety concerns</i> <input checked="" type="checkbox"/> <i>Existing walking or bicycling routes</i> <input checked="" type="checkbox"/> <i>Priorities for the school community</i> 	High priority

Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
<p>B. Off-campus Area - S. Main Street/St. Albans State Highway</p> <p>S. Main Street (Route 7) is a Major Collector on a Class 1 Highway; the City of St. Albans owns and maintains the road in front of the school. In the Town, the road is a Major Collector on a State Highway.</p> <p>In the City, S. Main Street is approximately 48 ft wide with two 12-ft travel lanes alternating along the road with center turn lanes, parallel parking or wide shoulders. The posted speed limit is 25 mph. There are existing concrete sidewalks on both sides of the road, separated from the curb by a green space that is typically 5 ft wide. The sidewalk extends north to the City center and south to the City/Town line at Parsons Avenue.</p> <p>In the Town, S. Main Street is approximately 28 ft wide, with two 12-ft travel lanes and 2-ft paved shoulders on each side of the road.</p>	<p>The crosswalks on S. Main Street were installed with color and texture to call attention to the crossing. The texture and color have worn over time so that the crosswalks are barely visible and in poor condition.</p> <p>The existing sidewalks end at the south Town/City line. Numerous residential streets intersect with S. Main Street in the Town south of the Town/City line on the east side of the road. The paved shoulders on S. Main Street are only 2 ft wide and there are no crosswalks to bring pedestrians across the road.</p> <p>The speed limit on S. Main Street in the City is 25 mph; the speed on S. Main Street in the Town is 40 mph. The AADT is at or over 12,000 vehicles.</p>	<p>B1. Repaint the existing crosswalks on S. Main Street and the St. Albans State Highway with high-visibility, durable, block pattern crosswalk and add ADA-compliant curb ramps on either side of the crosswalks.</p> <p>B2. Install speed feedback signs at both ends of the existing school zone locations on S. Main Street to alert drivers of their actual speed and the posted speed limit. There is potential to use solar energy as a power source for the proposed signage.</p> <p>B3. Add an in-street pedestrian crossing yield sign (R1-6a) in the middle of the crosswalk in front of the school at least during student arrival and departure times, following guidelines from VTrans on the proper use of these features.</p> <p>B4. Install two Rectangular Rapid Flashing Beacons (RRFB) at the existing crosswalk crossing S. Main Street at the school entrance drive.</p> <p>B5. Extend the existing sidewalk (approx. 2,000 ft) on the east side of the S. Main Street from Parsons Avenue to at least Prospect Hill Road.</p>	<p>Short Term</p> <p>Short Term</p> <p>Long Term</p> <p>Short Term</p> <p>Long Term</p>	<p><input checked="" type="checkbox"/> <i>Safety concerns</i></p> <p><input checked="" type="checkbox"/> <i>Existing walking or bicycling routes</i></p> <p><input checked="" type="checkbox"/> <i>Priorities for the school community</i></p>	<p>High priority</p> <p>4</p>

Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
B. Off-campus Area - S. Main Street/St. Albans State Highway (Continued)		B6. Extend the existing curbed median on the St. Albans State Highway at the intersection with S. Main Street west past the crosswalk to form a pedestrian refuge island.	Short Term	<input checked="" type="checkbox"/> <i>Safety concerns</i> <input checked="" type="checkbox"/> <i>Existing walking or bicycling routes</i> <input checked="" type="checkbox"/> <i>Priorities for the school community</i>	High priority
		B7. Study and further evaluate the viability of installing a shared use path from the S. Main Street/St. Albans State Highway intersection to Potter Avenue. <i>Note: Formalizing the path will require ADA compliance, necessary easements and permits, and parcel ownership verification for the proposed path alignment.</i>	Long Term		
					5

Site	Need	Recommendation	Time Frame	Ranking Factors	Team Priority
<p>C. Off-campus Area - Nason Street</p> <p>There is an existing sidewalk on the north side of Nason Street heading west from S. Main Street to Lemnah Drive, just east of the railroad crossing. The sidewalk continues on the south side of Nason Street west of Lemnah Drive.</p> <p>The south side sidewalk extends only as far as the cul-de-sac on the east side of the intersection of Nason Street with Yankee Drive. West of the end of the sidewalk into the Town, Nason Street is approximately 22 ft wide with no delineated paved shoulders or pedestrian facilities.</p>	<p>There is no link between the two sidewalks on Nason Street that can guide students and other pedestrians to the southern sidewalk across Lemnah Drive.</p> <p>There are numerous residents in the Town further to the west in neighborhoods that lead onto Nason Street. There are no pedestrian facilities on the north side of Nason street to accommodate these residents.</p>	<p>C1. Create a link (approx. 180 ft) between the two sections of Nason Street sidewalk by the extension of the south side sidewalk to be opposite the north side sidewalk, the creation of ADA compliant curb ramps and the addition of a crosswalk on Nason Street between the two sidewalks.</p> <p>C2. Extend the existing south side sidewalk further west on Nason Street to Green Mountain Drive. Add ADA compliant curb ramps and a crosswalk crossing Nason Street at Green Mountain Drive.</p>	<p>Short Term</p> <p>Long Term</p>	<p><input checked="" type="checkbox"/> <i>Safety concerns</i></p> <p><input checked="" type="checkbox"/> <i>Existing walking or bicycling routes</i></p> <p><input checked="" type="checkbox"/> <i>Priorities for the school community</i></p>	<p>High priority</p> <p>6</p>

C. May 2014 Student Travel Tally

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

School Name: SATEC

Set ID: 14906

School Group: St. Albans Schools (City and Town Educational Center)

Month and Year Collected: May 2014

School Enrollment: 703

Date Report Generated: 05/29/2014

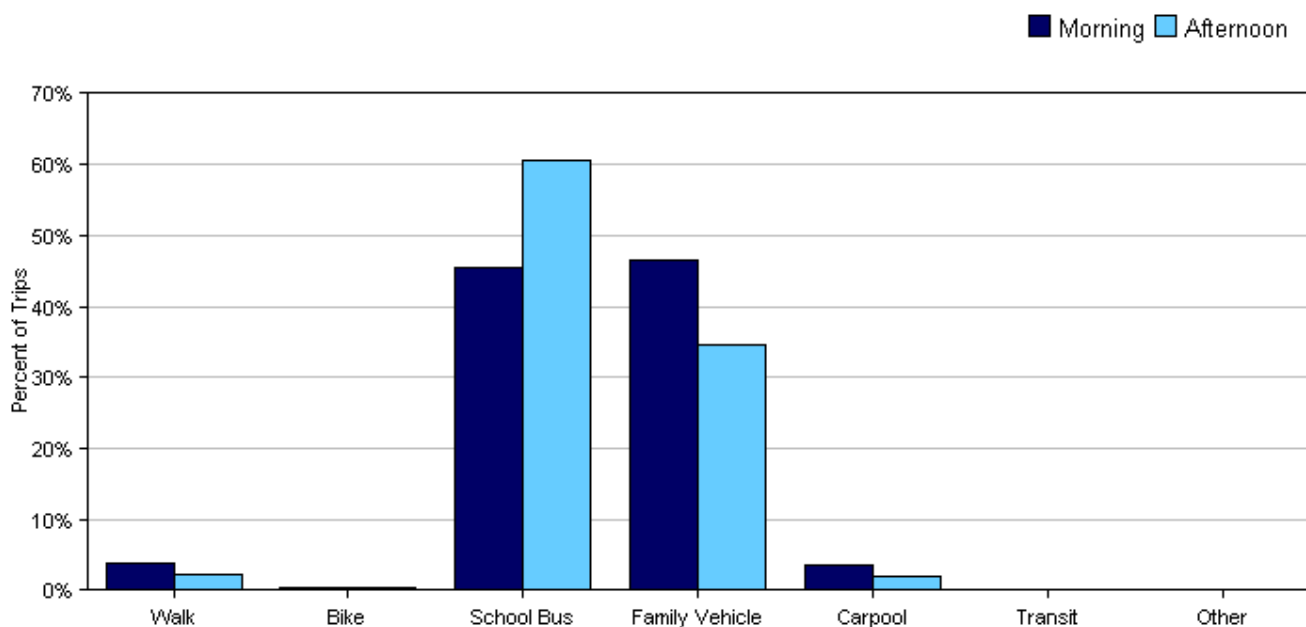
% of Students reached by SRTS activities: 76-100%

Tags:

**Number of Classrooms
Included in Report:** 34

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

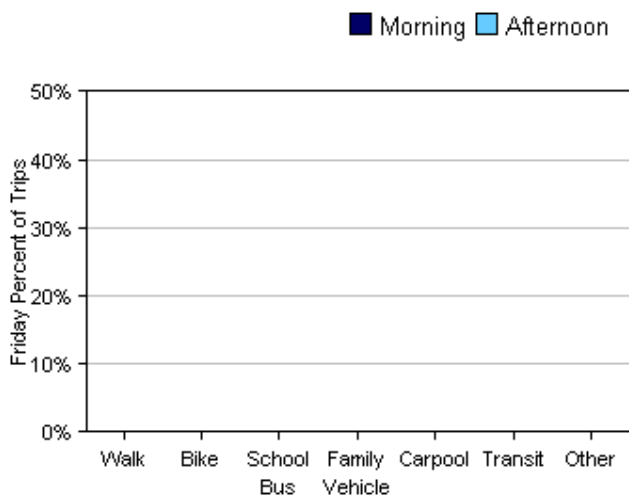
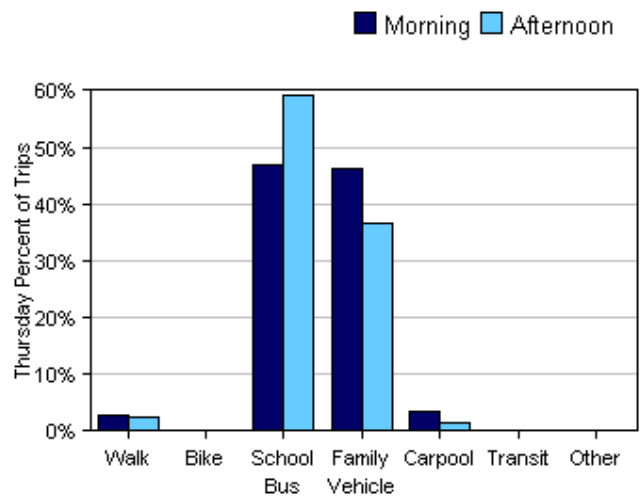
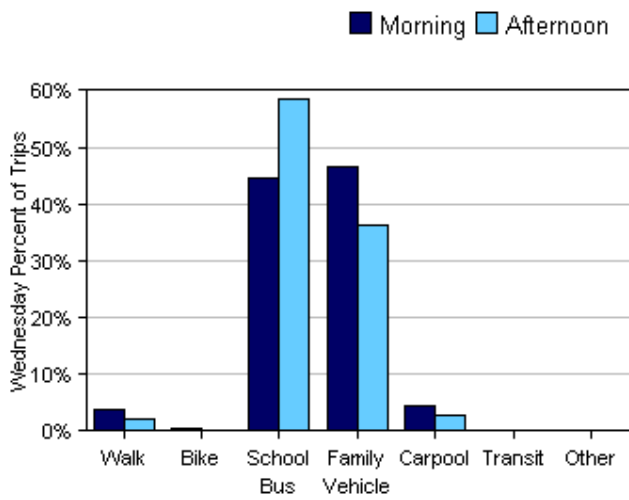
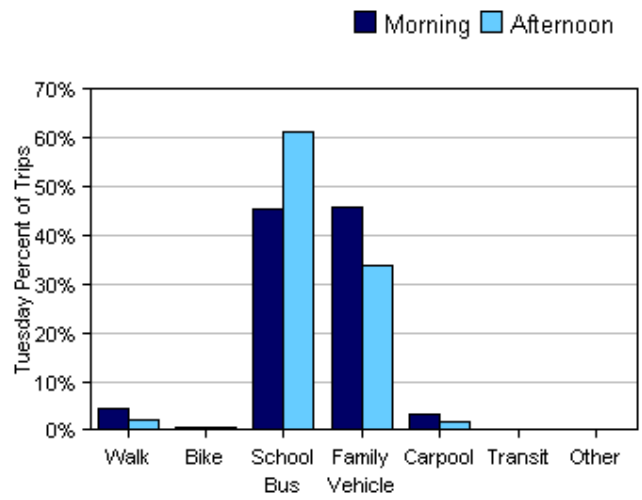
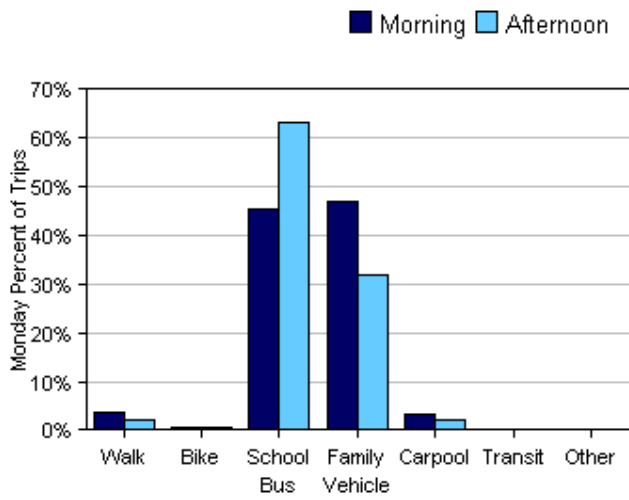


Morning and Afternoon Travel Mode Comparison

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	2303	4%	0.5%	46%	46%	4%	0.2%	0.0%
Afternoon	2327	2%	0.4%	61%	35%	2%	0.2%	0%

Percentages may not total 100% due to rounding.

Morning and Afternoon Travel Mode Comparison by Day

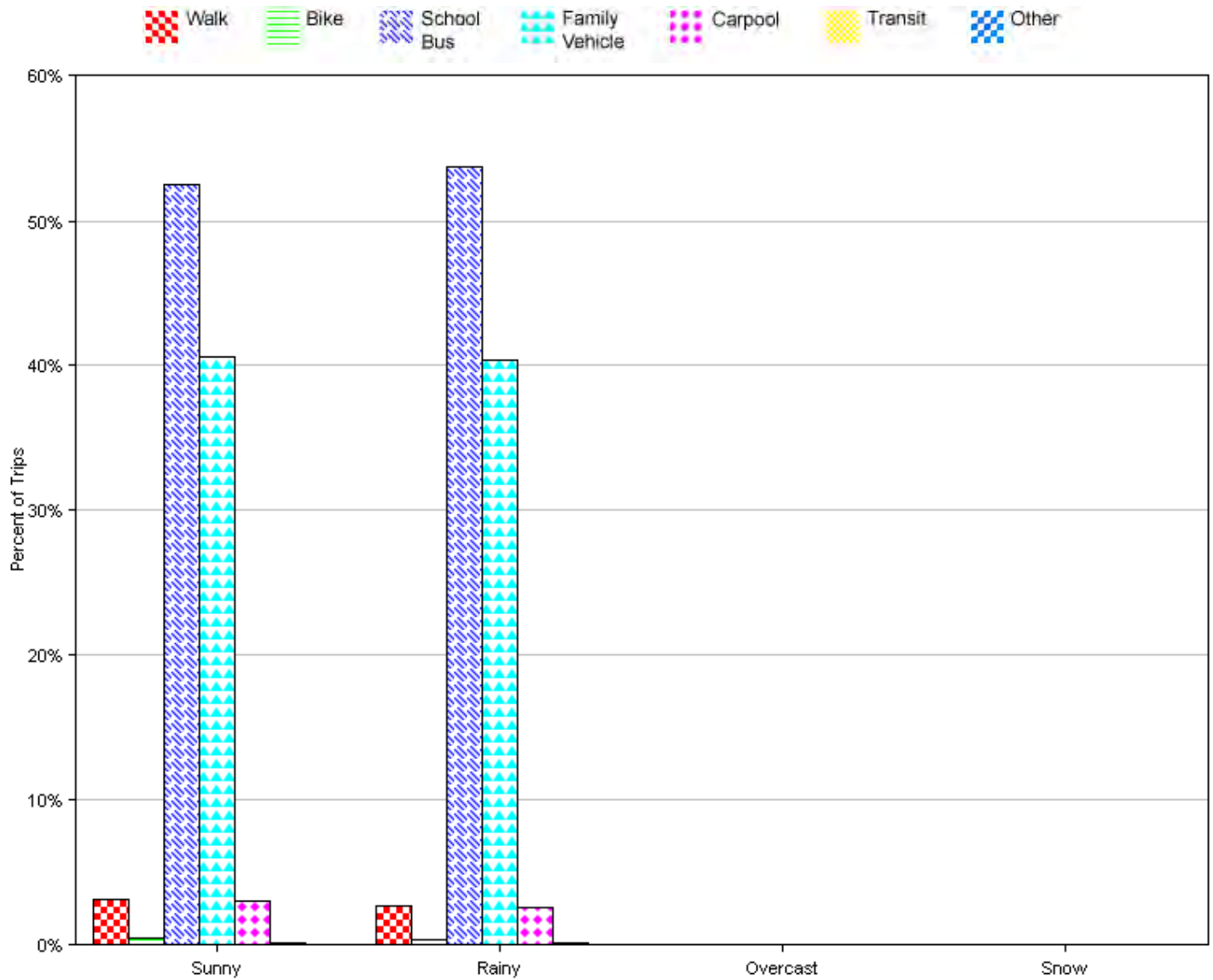


Morning and Afternoon Travel Mode Comparison by Day

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Monday AM	579	4%	0.7%	45%	47%	3%	0.2%	0%
Monday PM	581	2%	0.5%	63%	32%	2%	0.2%	0%
Tuesday AM	591	5%	0.7%	46%	46%	3%	0.2%	0.2%
Tuesday PM	597	2%	0.7%	61%	34%	2%	0.2%	0%
Wednesday AM	590	4%	0.3%	45%	47%	5%	0.2%	0%
Wednesday PM	594	2%	0.2%	58%	36%	3%	0.2%	0%
Thursday AM	543	3%	0.2%	47%	46%	3%	0.2%	0%
Thursday PM	555	2%	0.2%	59%	37%	2%	0.2%	0%
Friday AM		0%	0%	0%	0%	0%	0%	0%
Friday 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	2372	3%	0.5%	53%	41%	3%	0.2%	0.0%
Rainy	2258	3%	0.4%	54%	40%	3%	0.2%	0%
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.

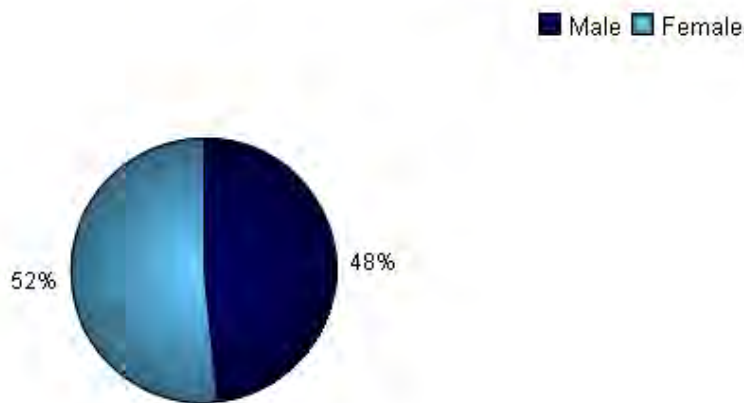
D. Parent Survey Reports

Parent Survey Report: One School in One Data Collection Period

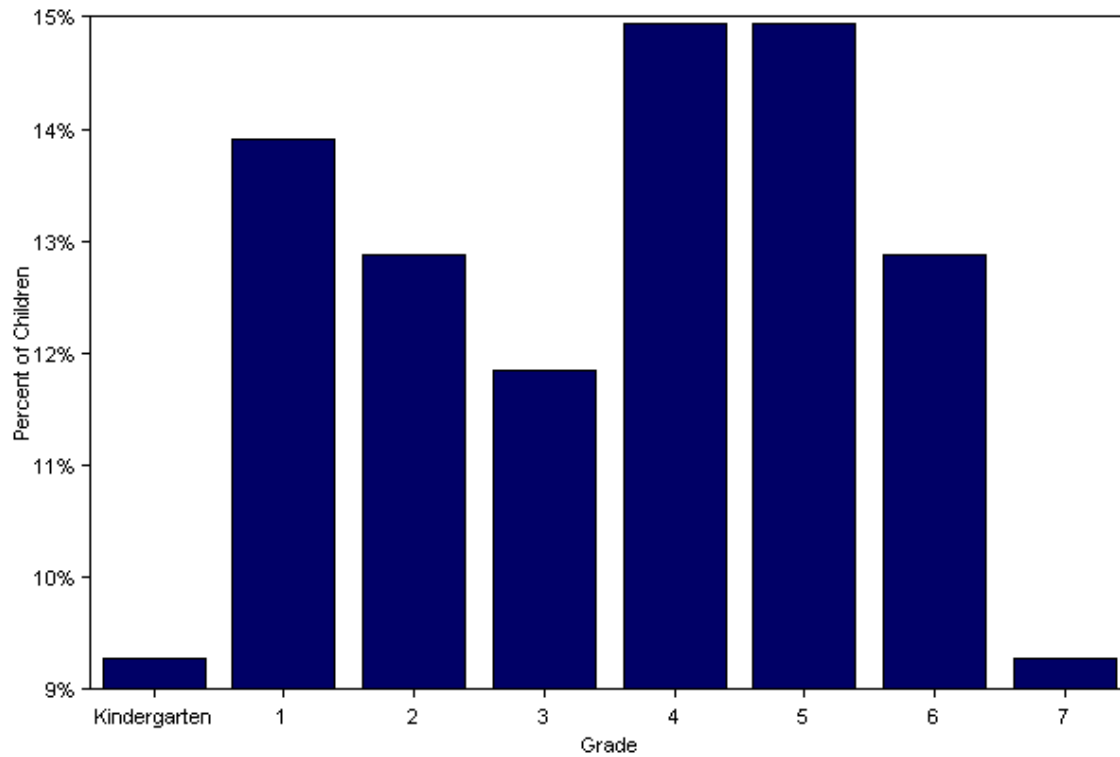
School Name: SATEC	Set ID: 11297
School Group: St. Albans Schools (City and Town Educational Center)	Month and Year Collected: March 2014
School Enrollment: 700	Date Report Generated: 05/06/2014
% Range of Students Involved in SRTS: 76-100%	Tags:
Number of Questionnaires Distributed: 700	Number of Questionnaires Analyzed for Report: 197

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



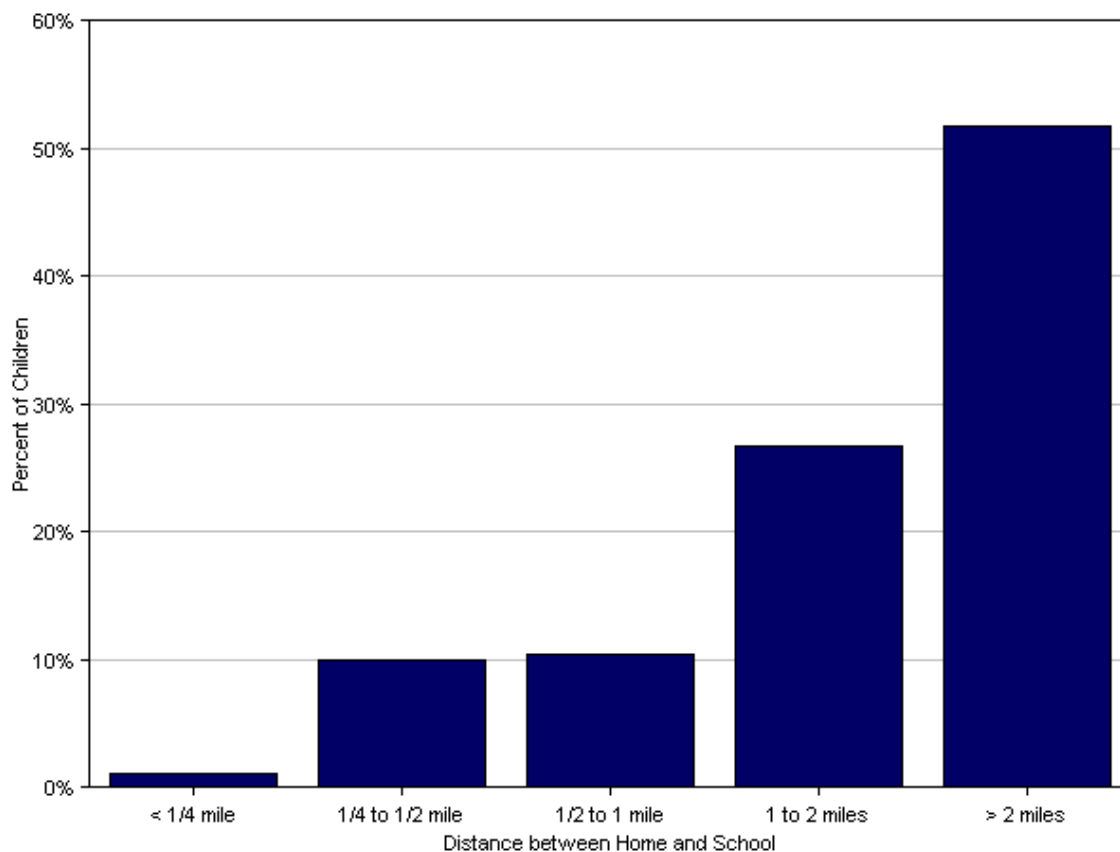
Grade levels of children represented in survey

Grade in School	Responses per grade	
	Number	Percent
Kindergarten	18	9%
1	27	14%
2	25	13%
3	23	12%
4	29	15%
5	29	15%
6	25	13%
7	18	9%

No response: 1

Percentages may not total 100% due to rounding.

Parent estimate of distance from child's home to school



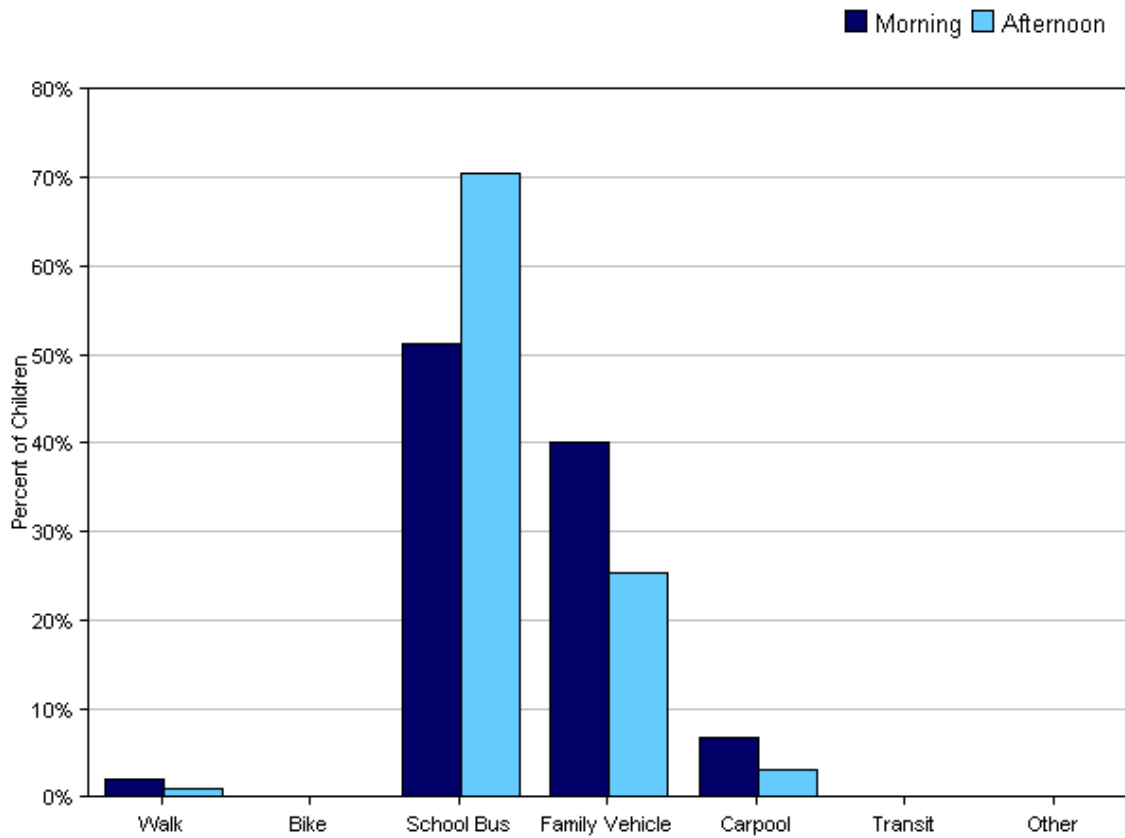
Parent estimate of distance from child's home to school

Distance between home and school	Number of children	Percent
Less than 1/4 mile	2	1%
1/4 mile up to 1/2 mile	19	10%
1/2 mile up to 1 mile	20	10%
1 mile up to 2 miles	51	27%
More than 2 miles	99	52%

Don't know or No response: 6

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

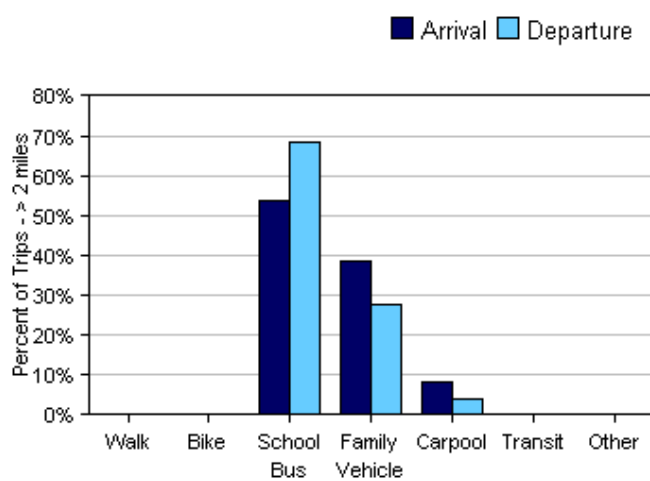
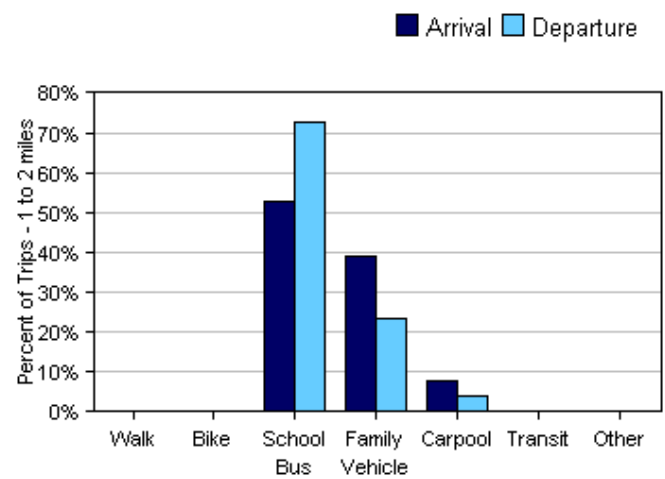
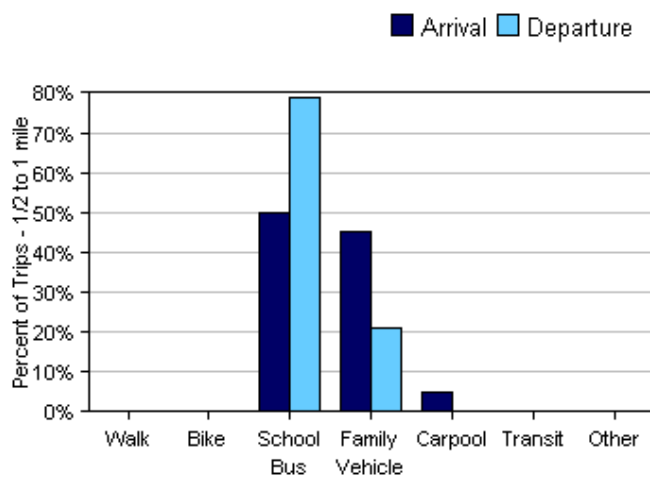
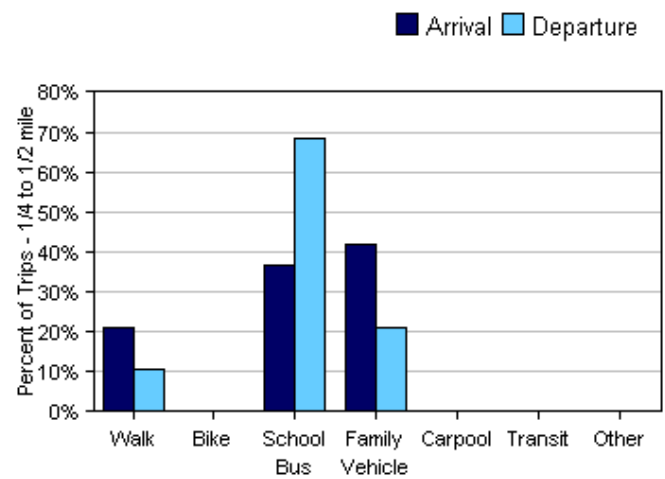
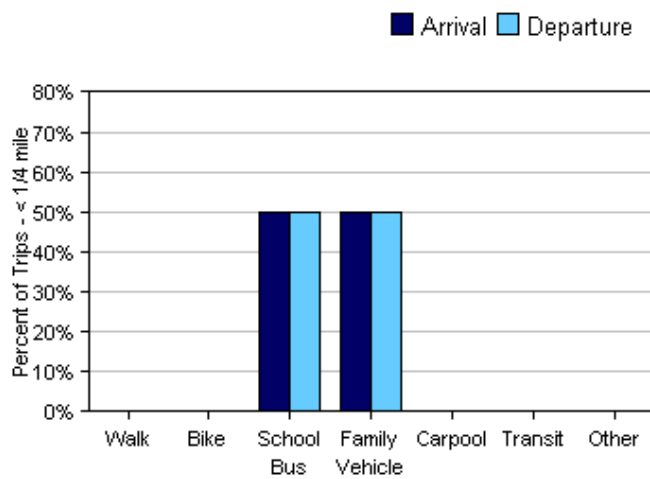
Time of Trip	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	195	2%	0%	51%	40%	7%	0%	0%
Afternoon	193	1%	0%	70%	25%	3%	0%	0%

No Response Morning: 2

No Response Afternoon: 4

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	2	0%	0%	50%	50%	0%	0%	0%
1/4 mile up to 1/2 mile	19	21%	0%	37%	42%	0%	0%	0%
1/2 mile up to 1 mile	20	0%	0%	50%	45%	5%	0%	0%
1 mile up to 2 miles	51	0%	0%	53%	39%	8%	0%	0%
More than 2 miles	99	0%	0%	54%	38%	8%	0%	0%

Don't know or No response: 6

Percentages may not total 100% due to rounding.

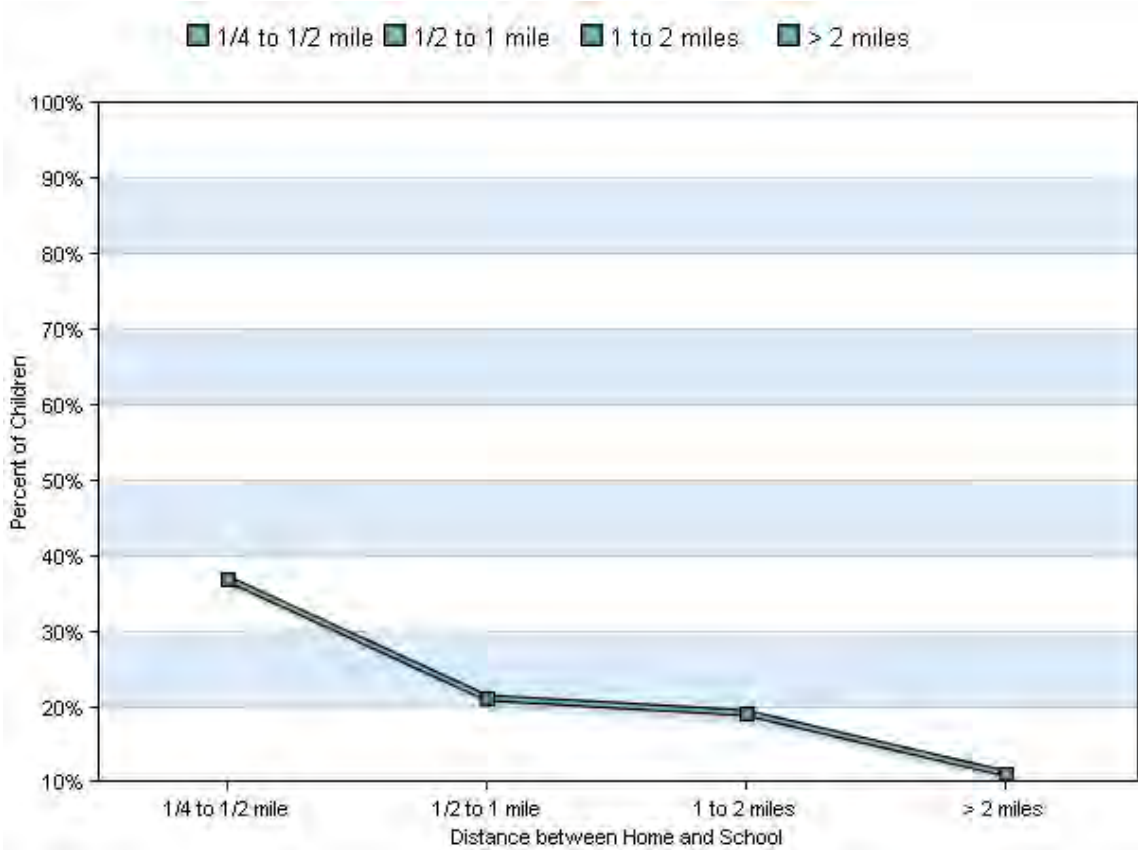
School Departure

Distance	Number within Distance	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Less than 1/4 mile	2	0%	0%	50%	50%	0%	0%	0%
1/4 mile up to 1/2 mile	19	11%	0%	68%	21%	0%	0%	0%
1/2 mile up to 1 mile	19	0%	0%	79%	21%	0%	0%	0%
1 mile up to 2 miles	51	0%	0%	73%	24%	4%	0%	0%
More than 2 miles	98	0%	0%	68%	28%	4%	0%	0%

Don't know or No response: 8

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

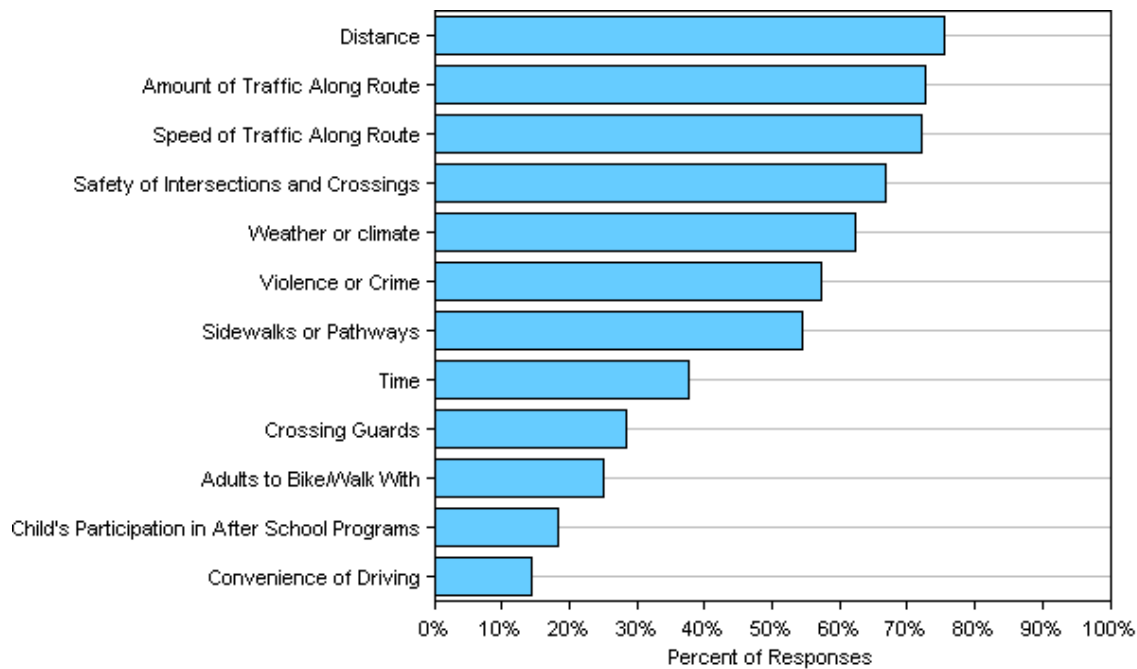


Percent of children who have asked for permission to walk or bike to/from school by distance they live from school

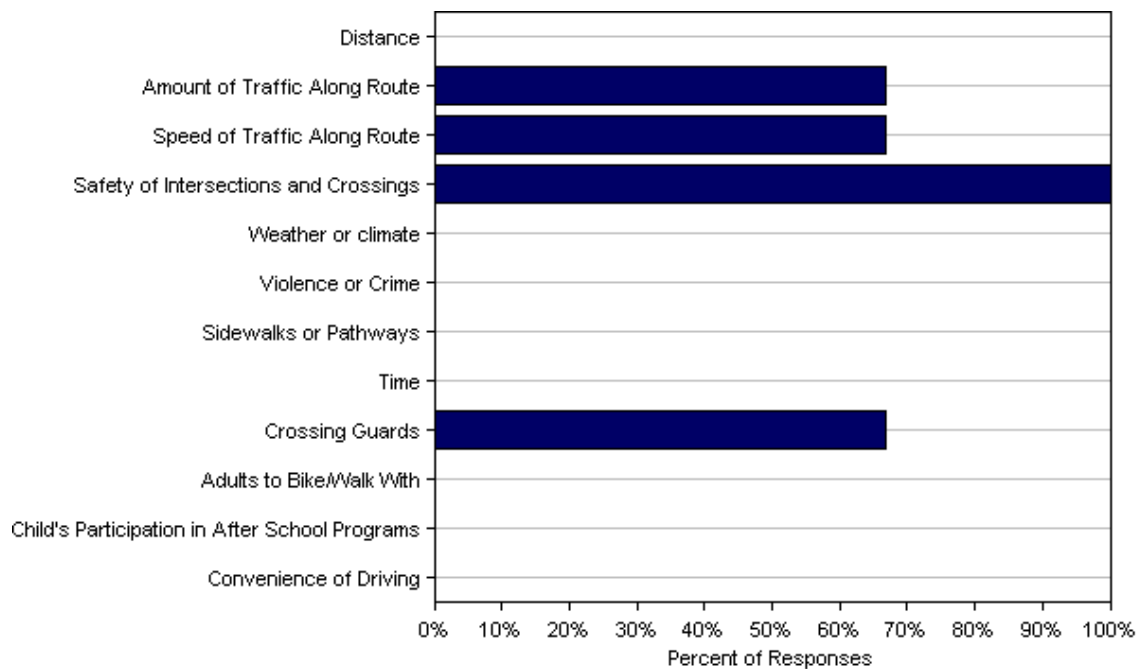
Asked Permission?	Number of Children	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles
Yes	31	0%	37%	21%	19%	11%
No	154	100%	63%	79%	81%	89%

Don't know or No response: 12
 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
Distance	76%	0%
Amount of Traffic Along Route	73%	67%
Speed of Traffic Along Route	72%	67%
Safety of Intersections and Crossings	67%	100%
Weather or climate	62%	0%
Violence or Crime	57%	0%
Sidewalks or Pathways	54%	0%
Time	38%	0%
Crossing Guards	28%	67%
Adults to Bike/Walk With	25%	0%
Child's Participation in After School Programs	18%	0%
Convenience of Driving	14%	0%
Number of Respondents per Category	180	3

No response: 14

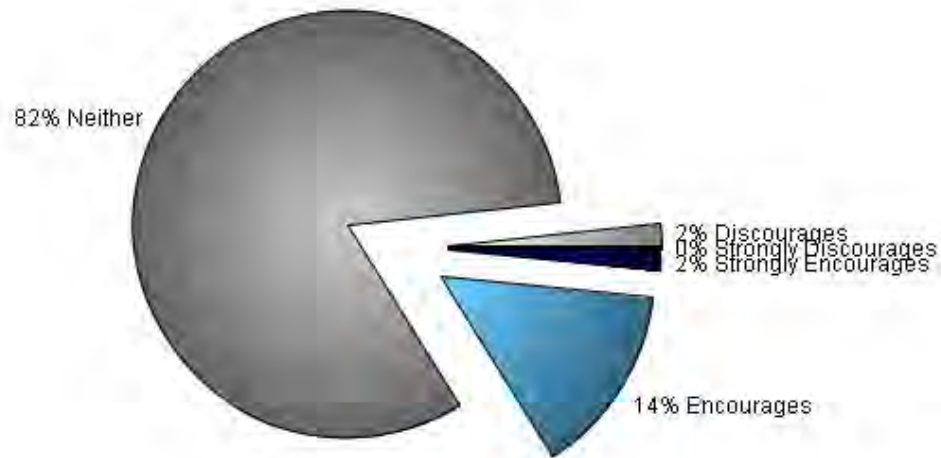
Note:

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

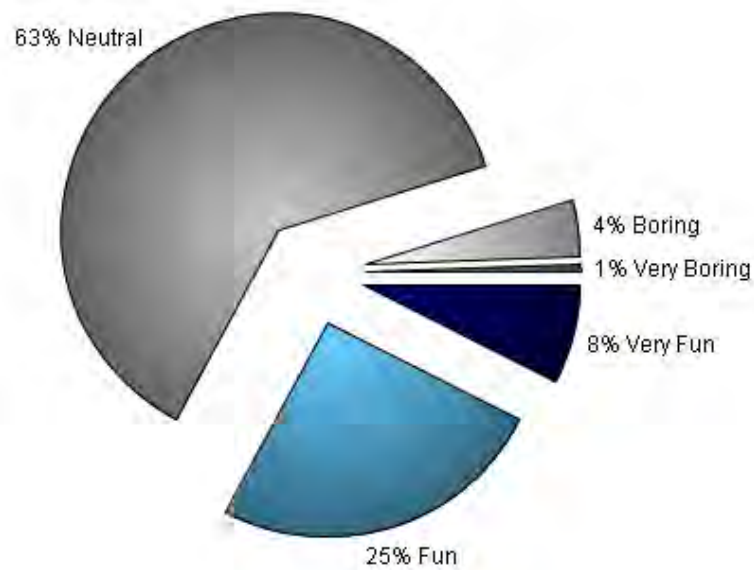
--Each column may sum to > 100% because respondent could select more than issue

--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.

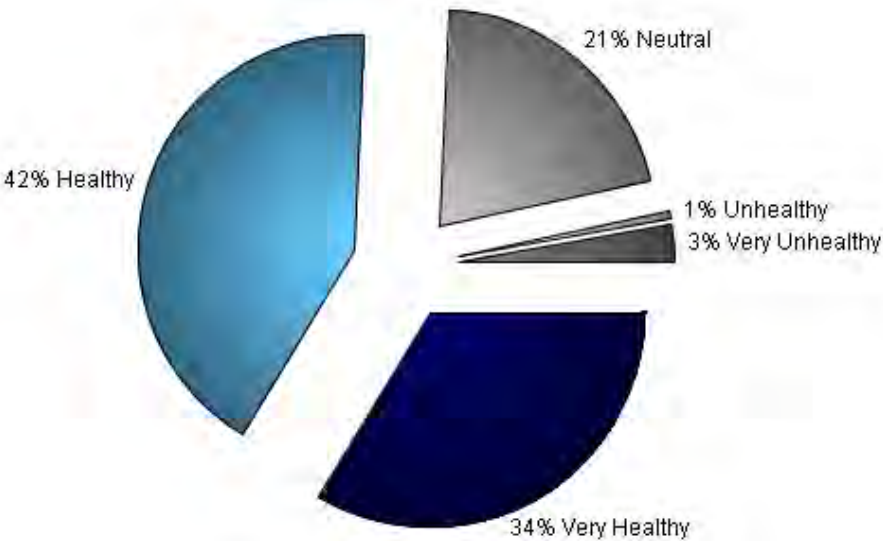
Parents' opinions about how much their child's school encourages or discourages walking and biking to/from school



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
1157053	There is a hotel between our house that is known for housing drug users and convicts. This is the largest concern I have in my child walking/biking to/from school.
1157063	My daughter prefers walking to school as she is the last bus stop and the bus is very crowded. The bus has not stopped at her stop on more than one occasion this year so she had to walk. I do not like that she walks as there is a dangerous intersection with no crossing guards but she enjoys it and has had no problems to date.
1157064	My daughter prefers walking to school as she is the last bus stop and the bus is very crowded. The bus has not stopped at her stop on more than one occasion this year so she had to walk. I do not like that she walks as there is a dangerous intersection with no crossing guards but she enjoys it and has had no problems to date.
1159909	My child is only in 4th grade. I do usually walk with her during the months that are warmer and easier to walk in. I think this winter has been a hard one with the ice and snow. We will walk once the weather is warmer and sunny.
1159911	If there was a bike route along Lower Newton Rd, we would use it all of the time!
1166533	My child would work best in class and I would prefer to have her work with and be in class with Aubrey Hayden, Mikala Lynch, and Julie Parent. Thank you. Ann Marie Gagne
1166537	I would encourage my kids if the distance and amount of traffic on the road was not of concern. And it would take about 30 minutes.
1166749	Lake Street is the road that concerns me - fast cars, no bike lane. My high school boy would love to bike, but I don't want him hit by a car.
1166758	A pass-over walkway should be located close to the school to be truly useful.
1166933	My child has walked to school one time and I drove by to check on her. I would be more comfortable if she had a peer to walk with.
1166938	Home is close to school, but there aren't any sidewalks or pathways to school. A crossing guard is needed at the intersection of Fairfax Rd and Fairfax Street. I'd allow my child to walk with a group.
1157083	My child would like to ride his bike to school, as he has mentioned this more than once but I feel very strongly that we live too far away from the school to consider this. We live down towards the Bay and the trip would be too long and too challenging for a child to get to school on time and to not get hit along the way. Not to mention it's all up hill. It's a nice thought but I'm not sure it's feasible from where we live. I would worry sick every day that he did this, for the trip up and back. For us, busing is the safest route. If we lived closer, this would be a great idea and opportunity.
1157085	Multiple issues would need to be addressed for me to feel comfortable letting my son walk or ride his bike without an adult. That is why I answered unsure.
1166761	My child does ride a bike occasionally to and from school when the weather is nice (spring, fall) with an older sibling in 7th grade. We don't have a sidewalk from our driveway (Parsons Ave), so they must be on Main St. for a short time which is why he can't do it alone.
1171662	Walking would be great if we lived closer and our son was older. Our son would love to bike or walk.
1162408	The intersection of the interstate access road and Route 7 is very busy and dangerous to cross. I as an adult am even uncomfortable crossing there. I would love for there to be a safer solution to this intersection. Many children do cross there everyday and it is not safe. There is not even as much as a crossing light.
1166532	As a traffic engineer, I have great concern that the intersection of the Access Rd and S. Main St is not properly controlled as it should be signalized with pedestrian amenities and lacks a crossing guard for kids walking to school from south of the Access Rd. This serves as an impediment to walking to school.
1166535	Question #10 (list barriers) did not allow for "not applicable." Some but not all factors would have to change. The presence of bike path and sidewalks is a primary factor
1166536	No sidewalks and very busy intersection. Too much traffic. Bad layout. Unsafe from our house (Prospect Hill Rd).
1166547	My child has 2 homes. This survey did not allow for multiple answers so it's not a true view of our child's travel to and from school.

1166636	Speed is my biggest concern.
1166753	I would allow my daughter to walk or ride a bike with a friend, but Fairfax Street gets all the traffic for the industrial park and isn't wide enough for pedestrians.
1166755	Taya is currently in foster care and we don't feel comfortable allowing her to walk alone.
1171635	I worry my child would loiter and be late every day if not supervised.
1171673	The idea that we can "fix" route 7 traffic and provide a safe environment for a 14 year old girl to walk it strikes me as naive. We support PE and extra curricular sports as an essential element of grade school education.
1157061	While crossing guards would ease my concerns for my child crossing busy intersections, I don't think there's anything that can be done to ease my main fears. Our road has a speed limit but it's rarely followed (most people in town will tell you they know how fast cars are speeding down Brigham Road). Also, the area around Beverage Mart up through Food City is full of "rough" people hanging around. I've seen fights, heard yelling and swearing, etc. I simply would not allow my child to walk or ride alone through that area.
1159910	I would love to see more implementation of walk/bike to school routes.
1160211	Crossing the Interstate Access Road is the biggest reason I won't allow my children to walk to school alone. A walking bridge connecting the development near the Interstate Access to the school property would make me feel comfortable in letting my children walk alone to school because they would not have to cross the Access road. It would also be more time efficient and a shorter distance, especially since one of my children carry a rather heavy backpack to school each day.
1166540	We would love our son to bike, but it is too far and unsafe.
1166542	There are no sidewalks on our roads and there is a busy intersection with no crossing guards (from Parsons Avenue).
1166543	I would never allow my child to walk or bike to school, yes its too far for us but even if it wasn't I don't feel it is safe in this day and age.
1166544	When my son is old enough to make independent decisions, walking to school may be OK. Biggest concern from our house (Laurie Ave) is no sidewalk and huge traffic intersection at the interstate access road.
1166746	I would not encourage my grandson to walk or bike to school. Too many distractions and unsafe. I believe he would not use the time wisely.
1171656	Sidewalks needed!
1166531	What is the purpose of this survey?
1166539	Right now at her age (grade 1) I would never let my child walk to or from school. Maybe in high school with a friend, but I just don't trust anyone these days.
1166546	I'd like my child to be able to walk or bike to school, but I don't trust the neighborhoods she'd be walking through.
1166743	Instead of working on this issue, the fact that there is absolutely minimal parking at the end of the day should be addressed. It is very difficult to pick up the kids and be able to park the car conveniently!
1166534	I grew up riding my bike to school, but now with a lot of traffic and crime, I don't feel confident.
1166538	Our weather here is not comfortable for a 1 mile walk, wearing a heavy backpack, most kids do not like to dress for the weather either. My son is active and healthy. I am concerned about the inattentive drivers. Not worth the chance.
1166932	We live 6 miles from school on a busy road without sidewalks, or even a shoulder! It would be very unlikely that anyone would allow their child to bike or walk between our house and the school.
1171636	I do not feel comfortable with the way the world is today to let my child walk/bike to school until he is at least 16.
1162941	This survey is biased towards parents and their respective student children that attend your schools! Bike or walking paths--paved or cement sidewalks--concern the whole population that would use them (not just parents and their respective student children that attend your schools), but especially the tax payers and the individuals directly affected by more impervious surfaces being laid down causing additional flooding in their affected areas!
1166541	We live far enough that I do not even allow my high school son to walk or ride a bus. It is very inconvenient that I have to drive him everyday. Some days he is stuck until after 5pm.
1166921	If the school was in a better area in the town then this would be an option for our child.

1166939	I have no idea how much the school encourages or discourages walking or riding bikes to and from school.
1166545	Not only is there too much traffic, but the school is located in the city, most town kids couldn't walk and with the drug problems St. Albans is having, I wouldn't let my kids walk anywhere alone.
1166548	Currently, my son can be dropped off at the babysitter's house and walk to school a few days a week. This is about 1/2-1 mile away.
1166922	Having sidewalks and crossing guards would be lovely and a blessing for the children who do walk to school.
1166934	We live too far to bike to school. Also, we live where there is too much traffic.

E. Typical Infrastructure Recommendations

APPENDIX E TYPICAL INFRASTRUCTURE RECOMMENDATIONS

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



Rectangular Rapid Flashing Beacons:

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

Curb Extensions:

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



Curb Radius Reductions:



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

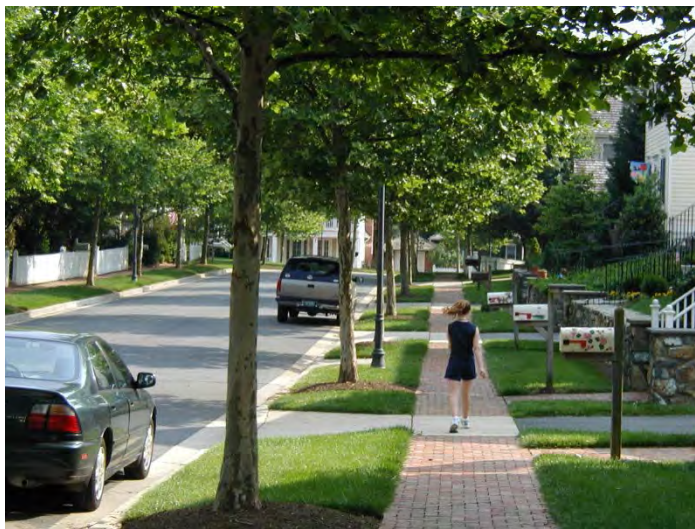
High Visibility Crosswalks:

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



Sidewalks and buffers:

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



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

School Zone Identification:

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

Figure 7C-1. Two-Lane Pavement Marking of “SCHOOL”



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.

Median Refuge Island:

A median 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. Design considerations for median refuge islands should include ADA compliance, maintenance concerns, and snow plow accommodations.



F. Non-Engineering Strategies Resource Guide

APPENDIX F: NON-ENGINEERING STRATEGIES RESOURCE GUIDE

Strategy	E's	Advantages	Considerations	Resources
<p>Walking and Biking Safety Assembly</p> <p>These single-day events 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>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. bike rodeos). 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"> Pedestrian Safety Lesson Plan and Activities http://scsaferoutes.org/downloads/SafeKidSWTSDMaterials.pdf National Highway Traffic Safety Administration Pedestrian Safety Lessons http://www.nhtsa.gov/ChildPedestrianSafetyCurriculum WalktoSchool.org - Classroom activities that encourage walking and biking. www.walktoschool.org/eventideas/classroom.cfm Willie Whistle - The National Highway Traffic Safety Association has created a video to help teach children pedestrian safety skills. http://www.nhtsa.gov/people/injury/willie/willie.zip

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 that {School Name} already participates in.</p> <p>Generally this event is scheduled for the first full week in October. Why not use this strategy multiple times a year?</p>	<p>Education, Encouragement</p>	<ul style="list-style-type: none"> • Excellent kick-off event for Safe Routes to School program • Generates enthusiasm for walking and biking • Way to raise community awareness about safety issues • Can be as simple as a few kids and parents meeting to walk to school or very elaborate celebrations • Can be folded into studies of international cultures as it is an international event • Date is flexible- to be counted by the National Center for Safe Routes to school the event need only take place before Dec 1. 	<ul style="list-style-type: none"> • Preparations for elaborate celebrations must begin several months in advance to allow time to identify partners, plan activities, and promote the event • Should provide bicycle and pedestrian safety information to children and parents • International Walk to School Day takes place in October but some schools organize multiple Walk to School Day (or "Walk and Roll Day") events over the course of the school year (e.g. one in the fall and one in the spring). 	<ul style="list-style-type: none"> • U.S. Walk to School Day website (provides resources and event registration): www.walktoschool.org • International Walk to School Day website: www.iwalktoschool.org/ • Spice up Walk to School Day http://scsaferoutes.org/downloads/Encouragement/SC-SRTS-Tip-Sheet_SpiceUpWTS.pdf • Plan and promote your Walk to School Day event http://scsaferoutes.org/downloads/Encouragement/SC-SRTS-Tip-Sheet_PlanPromote.pdf • Include students when it is too far or unsafe http://scsaferoutes.org/downloads/Encouragement/SC-SRTS-Tip-Sheet_IncludeStudents.pdf
<p>Frequent Walker/Bicyclist Program or Walking Wednesdays</p> <p>Track and reward students who walk and bicycle to school. Can be an individual competition or a competition among classes.</p>	<p>Encouragement</p>	<ul style="list-style-type: none"> • Provides positive reinforcement for walking and bicycling. • Children respond to incentives. • Can include all students. • Can include walking and bicycling beyond the trip to school. 	<ul style="list-style-type: none"> • Necessary to identify a coordinator. • Establish a simple record-keeping system. • Establish age-appropriate goals. • Consider giving rewards to parents as well, since parents are often involved in the commute to school. 	<ul style="list-style-type: none"> • Walking School Bus tip sheet http://scsaferoutes.org/downloads/Encouragement/SC-SRTS-Tip-Sheet_WalkingSchoolBus.pdf • Invitation to parents to join the Walking School Bus http://scsaferoutes.org/downloads/Encouragement/SC-SRTS-Letter-WalkingSchoolBus.docx • Frequent Walker Punch card template http://scsaferoutes.org/downloads/Encouragement/SC-SRTS-Punchcard.pdf

Strategy	E's	Advantages	Considerations	Resources
<p>Traffic Enforcement (Staff/Crossing Guards)</p> <p>This can be an ongoing program for school staff and crossing guards. This works well if the school has an existing reward point program.</p>	<p>Education, Enforcement, Encouragement</p>	<ul style="list-style-type: none"> • Crossing guards play an important role in helping children cross the street at key locations, reminding drivers of the presence of pedestrians, and making parents feel more comfortable about letting their children walk and bicycle to school. • Staff and crossing guards can also reward students who are “caught being good” by issuing School Reward Points. 	<ul style="list-style-type: none"> • Requires some training and coordination with crossing guards 	<ul style="list-style-type: none"> • Adult School Crossing Guard Guidelines (NCSRTS) http://guide.saferoutesinfo.org/crossing_guard/pdf/crossing_guard_guidelines_web.pdf • Florida School Crossing Guard Training Guidelines http://saferoutesinfo.org/program-tools/florida-school-crossing-guard-training-guidelines • Lessons from Florida’s Crossing Guard Program http://saferoutesinfo.org/events-and-training/srts-webinars/lessons-floridas-crossing-guard-program
<p>Student Safety Patrol Program</p> <p>This can be an ongoing program for 5th grade students. Student safety patrols can offer</p>	<p>Education, Enforcement, Encouragement</p>	<ul style="list-style-type: none"> • Students can also issue citations if condoned by the school. • Excellent way to educate parents and encourage appropriate behaviors while supporting the school’s SRTS program. • Teaches students valuable leadership skills. 	<ul style="list-style-type: none"> • Requires an adult organizer such as a parent, teacher, or law enforcement officer • Materials such as sashes and badges are encouraged • Requires adult supervision while students are “on-duty” • Student safety patrols will also be trained to set the model example for younger students. • In the last month of school, 	<p>Giveaways for students when they cash-in their Reward points</p> <p>AAA Safety Patrol Program: http://www.aaamidatlantic.com/Foundation/SchoolPrograms/SchoolSafetyPatrol</p>

educational literature to offenders to let them know about traffic safety issues (and proper behavior) surrounding the school zone.			student patrols can “train” 3rd graders who are interested in being trained in the fall.	
			<ul style="list-style-type: none"> • One option is to host an end of the year party to honor the graduating safety patrols 	

Strategy	E's	Advantages	Considerations	Resources
<p>Bike Rodeo</p> <p>This is a single-day event that promotes bicycle safety. At the rodeo, students can borrow bicycles or bring their own.</p>	<p>Education, Encouragement</p>	<ul style="list-style-type: none"> Events like bike rodeos make learning fun and can help strengthen community ties with event organizers and participants. At the rodeo students learn safety skills such as how to properly wear a helmet and how to behave while bike riding. The rodeo can also have a closed “test course” for the students to ride along. This helps the students to practice in a safe environment and gain confidence in their decision-making skills. One possible partner for this is the local police department. 	<ul style="list-style-type: none"> Requires able and willing instructors Should be age-appropriate Bicycle safety education may require an outside instructor, e.g. a police officer. These events require planning and materials to share with students 	<ul style="list-style-type: none"> Bicycling Life page on bicycle rodeos: http://www.bicyclinglife.com/SafetySkills/BicycleRodeo.htm An organizer’s guide to bicycle rodeos 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 and progress from the previous school year and set new goals for the upcoming school year.</p>	<p>Evaluation</p>	<ul style="list-style-type: none"> • Establishes baseline information on student travel behavior and perceived barriers to walking and biking • Helps determine existing needs • Helps determine success of SRTS efforts and identify needed adjustments 	<ul style="list-style-type: none"> • Best to conduct initial surveys before SRTS measures have been implemented • Requires teacher buy-in and administrative organization • Getting parents to fill out and return surveys can be a challenge. Follow up is necessary. Consider a contest among classes for highest rate of return. 	<ul style="list-style-type: none"> • Student In-Class Travel Tally Form: http://www.saferoutesinfo.org/resources/evaluation_student-in-class-travel-talley.cfm • Parent Survey Form: http://www.saferoutesinfo.org/resources/evaluation_parent-survey.cfm • Instructions for Survey Administration: http://www.saferoutesinfo.org/resources/evaluation_instructions.cfm • Instructions for Data Entry: http://www.saferoutesinfo.org/resources/evaluation_cover-sheets.cfm
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Strategy	E's	Advantages	Considerations	Resources
Walking School Buses/ Bicycle Trains Walking school buses and bicycle trains are adult supervised groups of students walking and/or bicycling to school.	Education, Encouragement	<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"> • Walking School Bus tip sheet http://scsaferoutes.org/downloads/Encouragement/SC-SRTS-Tip-Sheet_WalkingSchoolBus.pdf • Bicycle Train guide http://scsaferoutes.org/downloads/Encouragement/SC_SRTS_Bike_Train%20Guide.pdf
Drive Safe Campaigns 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.	Education	<ul style="list-style-type: none"> • Has the ability to positively effect change in and community around the school • Improves the safety of the walking environment • Good drivers can help to set the example for good behavior. This is especially true for helping to control speeds. 	<ul style="list-style-type: none"> • This requires a person to organize and administer the campaign. • May not be effective at schools where parent/teacher organizations are weak • Law enforcement officers would be great at speaking at the campaign events. Sometimes, due to their heavy schedules that can be difficult to pin down. • A good way to contact parents is at back to school night and PTA meetings. Starting at the beginning of the year helps to prevent bad habits from starting. Law enforcement officers (or other teachers) can hold a brief assembly to explain the dangers of unsafe driving in school areas. • Law enforcement officers can provide a demonstration of how difficult it is to quickly stop a moving vehicle at 50, 40 and 30 mph. The National Center has information on how the speed of the vehicle can affect the severity of injury that the pedestrian experiences in a crash. 	<ul style="list-style-type: none"> • Driving Around Schools: Keeping Children Safe http://apps.saferoutesinfo.org/lawenforcement/resources/driving_tips.cfm • Parents, Avoid Becoming a Traffic Hazard http://www.aaamiddleatlantic.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

APPENDIX G: INFRASTRUCTURE STRATEGIES RESOURCE GUIDE

Strategy	Advantages	Considerations	Resources	Actions
<p>Wide Paved Shoulders</p> <p>Wide paved shoulders are created by striping a roadway to provide space for a shoulder and a travel way for motor vehicles. Travel lanes on local roads have been typically reduced to ten feet wide with a few municipalities reducing their travel lane on local roads to nine feet. On state roadways, travel lane widths are typically eleven feet. Wide paved shoulders can also be created by adding pavement to one or both sides of the paved roadway.</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 classification 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, it is best to begin 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 the narrower travel lanes for speed reduction and safer conditions for pedestrians and bicyclists. • Review wider shoulder proposals with municipal officials. If sufficient pavement is exists, suggest conducting an experiment with temporary striping to provide the wider shoulders. • Follow up with feedback and request for comments from the 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. The temporary signs can be relocated easily and set up for short time periods, which increases their effectiveness. 	<ul style="list-style-type: none"> Speed feedback signs must follow the State's placement guidelines that be provided on State Roads. 	<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_Guide_lines_on_the_Use_of_Radar_Speed_Feedback_Signs.pdf 	<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. 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 to the municipality of providing a permanent speed feedback sign. Check with the regional planning commission, the local police or the county sheriff about 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. 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 a notification to both pedestrians and motorists on 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 pedestrians has cleared the roadway. 	<ul style="list-style-type: none"> • In Vermont, the recognition of the right of pedestrians in a crosswalk is higher than in other states; however pedestrians should assume that a motorist may not see them or stop. • Crosswalks should typically have a receiving facility, such as a path or sidewalk, on either end. However, on town roadways where pedestrians use the sides of the roadway for travel and there is a regular need for pedestrians to cross the roadway, a crosswalk might be appropriate. • Crosswalks may be marked with different striping patterns but the most common pattern is the ladder style. • Further considerations may be needed for crosswalks location at unsignalized intersections and at mid-block locations to determine if additional features are needed to increase pedestrian safety. 	<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 	<ul style="list-style-type: none"> • Talk with the municipal road commissioner, planner or engineer to get their guidance on the best way to move forward with the installation of a high visibility crosswalk on a non-state road. After gaining their support, discuss the request for a crosswalk with the municipal legislators, if needed. • 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 appropriate municipal official or employee to approach the regional planning commission to get assistance on doing a study to determine if a crosswalk is warranted and safe. .

Strategy	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 <u>American Association of State Highway and Transportation Officials, <i>Guide for Development of Bicycle Facilities</i>, latest edition</u> 	<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 work on the 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/Share the Road Signs</p> <p>Bicycle route signs are officially designated routes for bicyclist through municipalities. They are typically used to focus bicycle travel onto roadways most suited for it. “Share the Road” signs are roadway signs that provide a notice to motorists, bicyclists, and pedestrians that they need to share the road with each other.</p>	<ul style="list-style-type: none"> • Bicycle route signs assist bicyclists in determining the best route for their travel. • Provides a notice to all road users that they are not the only ones using the roadway. • Can 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 “Share the Road” signs must meet the guidelines provided in the <i>Manual on Uniform Traffic Control Devices</i> (MUTCD). 	<ul style="list-style-type: none"> • <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i> http://www.aot.state.vt.us/progdev/Sections/LTF%20Info/BikePedTOC.html • <i>Manual on Uniform Traffic Control Devices</i>, latest edition (MUTCD), 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, administer or other municipal officials to gain their support for the creation of bicycle routes and/or for posting “Share the Road” signs. • 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, typically landscaped, that can be greater than two feet. When sufficient right-of-way is not available for a buffer, a curb should provide some degree of separation between the roadway and the sidewalk. Other considerations include drainage, grading, existing signs and structures, and utilities. 	<ul style="list-style-type: none"> <i>Vermont Pedestrian and Bicycle Facility Planning and Design Manual</i> to 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) 	<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. Contact the regional planning commission for advice on process and funding options. Gain their assistance to gaining input from VTTrans for sidewalks on State highways. 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 adjacent to a school which extends several hundred feet in each direction and is identified with signs and pavements markings and often a reduction in the posted speed limit, all meant to alert motorists to the presence of students on or near the road.</p>	<ul style="list-style-type: none"> School Zones Increase awareness of motorists that there may be students on or near the road and that they should drive more slowly and carefully. They help to make a safer environment for students as they walk along or across a roadway. 	<ul style="list-style-type: none"> The amount of daily vehicular traffic that passes by the school during arrival and dismissal times. The sight distances for signs and pavement markings noting the limits of the school zone. 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. 	<ul style="list-style-type: none"> 	<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 sidewalk. Discuss the creation of a school zone with local Selectboard, Board of Trustee or City Council to gain their support. Work with the municipal officials and the regional planning commission to contact VTrans to gain their approval of a school zone on a state road, starting with the VTrans Safe Routes to School coordinator. 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
Road Signs Road signs provide information on road conditions, direction, advisories or mandatory actions.	<ul style="list-style-type: none"> Signs can notify road users about road conditions, users, regulations or suggestions that may not be immediately apparent. Signs are typically not 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. Permanent signs often become part of the background that are not readily perceived for regular road users. Changing conditions, such as temporary flashing lights or periodic flags, can continually draw attention to a sign. Adding new signs to 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. 	<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"> 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 place the signs. Work with the municipal officials and the regional planning commission to contact VTrans to gain their approval of a school zone on a state road, starting with the VTrans Safe Routes to School coordinator.

Accessible Pedestrian Signals:

Accessible Pedestrian Signals (APs) include pedestrian signal features, including push buttons that are designed to accommodate persons with disabilities, particularly visually impaired. Accessible Pedestrian Signals can be appropriate where specifically requested to assist disabled citizens, or where conditions warrant (i.e. areas where it is difficult to cross using non-visual cues, complex signal phasing, complex intersection geometry, etc.). The 2009 MUTCD includes the following guidance: “if a leading pedestrian interval is used, the use of accessible pedestrian signals should be considered” (2009 MUTCD Section 4E.06).

Leading Pedestrian Intervals:

At signalized intersections, Leading Pedestrian Intervals (LPIs) allow the crosswalk/pedestrian movement to begin crossing between three and six seconds before the green light is given to motor vehicle traffic in the same direction. LPIs are appropriate at signalized intersections where there is relatively heavy pedestrian volume or significant conflicts with turning vehicles.

Pedestrian Countdown signals:

Countdown signals provide a numerical display of time remaining once the “red hand” or “Don’t Walk” symbol appears, allowing pedestrians to see how much time they have left to complete crossing the street.

Traffic Controls at Intersections:

Traffic signals regulate the flow of all travelers across intersections, regardless of mode. Signals for both motorists and pedestrians are particularly important at high-use, mid-block crossings on higher speed roads, multi-lane roads, or at highly congested intersections (2009 MUTCD).

Rapid Flashing Beacons:

Rapid flashing beacons will increase the visibility of students and all pedestrians as they cross the roadway. 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.

Curb Extensions:

Curb extensions are recommended to reduce pedestrian crossing distances (and thus exposure to traffic) and to slow motor vehicle turning speeds. Curb extensions located along school bus routes should effectively calm traffic, but not impede buses from making the turn.

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 without extending the curb line

ATTACHMENT D: GLOSSARY

into a parking lane. Curb radius reductions located along school bus routes should effectively calm traffic but not impede buses from making the turn.

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. Thermal plastic materials should be used to resist decay.

Speed Tables/Raised crosswalks:

Raised crosswalks are flat-topped speed humps with crosswalk markings painted on the top. Raised crosswalks serve two purposes: they make pedestrians more visible to motorists; and they cause motorists to slow at the most critical location, where pedestrians cross (*The Effects of Traffic Calming Measure on Pedestrian and Motorists Behavior, FHWA 2001*). The state does not allow speed humps or tables on the state roadway system.

Stand-back Lines:

Stand-back lines are pavement markings placed on sidewalks a few feet from the edge of the curb. This crossing treatment is used to help students know where on the corner it is safe to wait.

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 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. The preferred design for sidewalks in this plan is a minimum six foot wide sidewalk with a minimum two foot wide buffer. Available right of way will impact the ultimate design. The DOT standard minimum sidewalk width is five feet from back of curb. Recommended dimensions for sidewalks with buffers are a five foot sidewalk with a two foot buffer. For uncurbed sidewalk, the minimum width is three feet with a green strip separating the sidewalk from the road.[NAME OF LOCAL JURISDICTION] standards are for a six foot sidewalk and a two foot wide buffer.

Lighting:

Pedestrian-level lighting will improve safety and comfort throughout the neighborhoods. We recommend that lighting be installed at the same time as sidewalks. The highest priority for lighting should be given to those intersections identified where students cross.

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

ATTACHMENT D: GLOSSARY

markings can work with existing school zone signs to reinforce the message to motorists about the school zone.

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 provide ongoing information to motorists about the speed at which they are traveling.