

Health Impact Assessment of School Transportation Policy in the Essex Westford Educational Community Unified Union School District



Prepared by the Vermont Department of Health Burlington District Office
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Table of Contents

Executive Summary	3
Findings & Predictions.....	3
Recommendations	4
Acknowledgements	4
Background.....	6
What is a Health Impact Assessment?	6
What is the School Transportation Policy Decision in Essex and Westford?	6
Screening: Why do an HIA on this policy decision?.....	6
The Essex Town, Essex Junction and Westford Communities	7
Scoping	9
Pathway Diagram	11
Assessment.....	12
Methodology.....	12
Existing Health Conditions.....	12
Parent Survey (Appendix A)	16
Youth Focus Group (Appendix B)	16
Predictions of Health Outcomes by Mode of Transportation	17
District Provided Transport	17
Access to Education and Support Services/Equity.....	17
Injury/Personal Safety.....	17
Physical Activity	18
Mental Health	19
Active Transportation (Walking & Biking)	20
Injury/Personal Safety.....	20
Physical Activity	22
Mental Health	24
Transport in Personal Vehicles	25
Injury/Personal Safety.....	25
Physical Activity	27
Mental Health	27
Recommendations.....	28
Monitoring.....	32
Appendix A – Parent Survey	33
Appendix B – Youth Focus Group Guide.....	35
References.....	38

Executive Summary

Beginning in June 2016, the Vermont Department of Health Burlington District Office completed a Health Impact Assessment (HIA) of school transportation policy in the newly consolidated Essex Westford Educational Community Unified Union School District (abbreviated the Essex Westford School District). Prior to consolidation the separate school districts had three different policies. School consolidation compelled the district to create a single transportation plan that was equitable across the district.

Thus, the goals of the HIA are:

- Determine the health impacts associated with diverse types of transport to and from school
- Recommend ways the school district, parents, and the community can promote positive health impacts and mitigate negative impacts related to school transport

Based on scoping with the community, the HIA focuses on the health impacts of:

- Injury/ Personal Safety
- Physical Activity
- Mental Health

These health impacts are studied through the different transportation scenarios of district provided transport, active transportation, and transport in personal vehicles. Components of the assessment are both quantitative and qualitative and include a profile of existing health conditions primarily from the Youth Risk Behavior Survey, national literature review, a parent survey administered specifically for this project, and a focus group with local high school students. A Health Impact Assessment Advisory Committee comprised of local community members, parents, school staff, municipal staff, and representatives of regional organizations was convened to advise the Health Department in completing the assessment.

Findings & Predictions

Findings are based on the results of literature review, the parent survey, and youth focus group data. Predictions of potential health impacts are summarized in the table below.

	<i>Injury/ Personal Safety</i>	<i>Physical Activity</i>	<i>Mental Health</i>
<i>District Provided Transport</i>	Positive Impact	Negative Impact	Positive and Negative Impacts
<i>Active Transportation (Walking & Biking)</i>	Positive and Negative Impacts	Positive Impact	Positive and Negative Impacts
<i>Transport in Personal Vehicles</i>	Negative Impact	Negative Impact	Negative Impact

Table 1

Recommendations

Our assessment found that transport in private vehicles is likely to have negative health impacts on injury/personal safety, physical activity, and mental health. While physical activity would be positively impacted by active transportation, the likelihood of students walking and biking to school is greatly influenced by travel distance, parental perceptions of safety, and parental commuting schedules. Any added bussing should be done in a way that preserves or increases current rates of active transportation. Based on our findings, we propose the following recommendations be considered in development of the school transportation policy in the Essex Westford School District. These recommendations have been vetted with the Health Impact Assessment Advisory Committee and key community stakeholders. They are likely to promote positive health outcomes and mitigate negative outcomes related to potential changes in school transportation policy.

Encourage use of bussing by those eligible

1. Maintain and expand bussing schedules to increase access to all after school activities (i.e. activity and late busses).
2. Coordinate pick-up/drop-off times with school start/end times to minimize blocks of time when students are not occupied at either the beginning or end of the school day. In the event this is unavoidable, include supervised structured activity within those blocks of time.
3. Enforce student behavior policies/protocols during bussing.
4. Ensure appropriately trained adult supervision, in addition to the bus driver, is in place on busses. If only a limited number of monitors can be hired, assign monitors to highest need busses based upon behavior incident data collected at the beginning of the year.

Improve school zone safety

5. Provide an adequate number of crossing guards at high volume and high speed intersections.
6. Provide plenty of secure, sheltered bicycle parking that meets national best practice standard close to an entrance of each school building.
7. Work with municipal staff to identify and prioritize infrastructure improvements (e.g., sidewalks, paths, bike lanes, pavement markings, etc.) that would encourage and support walking and biking to schools.
8. Use pavement markings, signage, other prompts and enforcement to promote the safety of pedestrians and bicyclists in areas where busses and cars are operating on school grounds.
9. Minimize number of private vehicles near school grounds by supporting bussing, walking, biking, carpooling, remote drop off, etc.

Acknowledgements

The Burlington District Office of the Vermont Department of Health would like to recognize a cadre of community partners whose participation in the completion of this assessment assured comprehensive consideration of local conditions making the project relevant to the communities involved. Thank you to the members of the HIA Advisory Committee whose frank, spirited exchanges truly enriched this process. The Advisory committee is comprised of representatives from the following organizations: The Chittenden County Regional Planning Commission, Chittenden Central Supervisory Union, school board members and staff from Essex Town, Westford and the new Unified District, University of Vermont

Medical Center, Building Bright Futures, Public Works and parents from Essex Junction, Essex Town and Westford. Thanks also to school administration, the new unified school board, key stakeholders interviewed, parents, and students.

Background

What is a Health Impact Assessment?

Factors such as access to safe, affordable and reliable transportation, education, places to be physically active, housing, and healthy food are, collectively, contribute more to people's health than access to medical care.¹ This understanding is prompting collaboration between the health sector and other sectors that have not traditionally been seen as playing a role in health - such as transportation, land use planning, education, environment, and economic development - to engage in a process called Health Impact Assessment, or HIA.

HIA is defined as “a collaborative and systematic approach used to consider the effects of a policy, plan, or project on the health of a population” and involves completing 6 steps: screening, scoping, assessment, recommendations, reporting and monitoring. HIA is a systematic, flexible approach that uses data, research, and stakeholder input to assess the potential health impacts of policies or projects.²

What is the School Transportation Policy Decision in Essex and Westford?

In November 2015, voters in Essex Junction, Essex, and Westford voted to consolidate the Chittenden Central Supervisory Union (which includes school districts in Essex Junction and Westford) and the Essex Town School District. As a result of this consolidation, a new unified school district was formed, the Essex Westford Educational Community Unified Union School District (abbreviated the Essex Westford School District), along with a new school board. The school board was charged with reviewing and passing 25 mandatory policies, one which is related to school transportation.

Prior to consolidation, there were three different transportation policies in these communities:

1. Essex Town School District – provides universal bussing
2. Essex Junction School District – does not provide bussing (known as a walking district)
3. Westford School District – provides bussing only for students up to 8th grade

With consolidation, the community and school board are interested in creating a consistent and equitable school transportation policy across all schools in the three communities.

Screening: Why do an HIA on this policy decision?

In June of 2016, the Superintendent of the Essex Town School District reached out to the Burlington District Office of the Vermont Department of Health requesting support with adding the health lens into the decision-making process for this policy. After initial meetings and conversations, this project was screened to be an appropriate fit for a Health Impact Assessment. Specifically:

- There was sufficient time to conduct the analysis before the final decision is made
- The policy has the potential to impact specific and clear links to health outcomes (e.g. physical activity, safety, stress) for a large population (e.g. all students, parents and caregivers, and the surrounding community)
- Recommendations from the assessment can potentially improve the impact the policy has on health

- The community had already voiced concerns over the school transportation policy in prior discussions and studies related to consolidation
- There was opportunity to build relationships, empower community members, and demonstrate how health can be used in decision-making through the process

The Essex Town, Essex Junction and Westford Communities

Essex Town, including the Village of Essex Junction, is the second most populated community in Vermont, with a total population of 20,946.³ It is located in the center of Chittenden County, the most populated county in the State. Essex Junction is an incorporated village within Essex Town. In Vermont, an incorporated village is a legal municipality, meaning it has the authority to raise taxes and institute and enforce municipal laws, but must be associated with a town. Essex Junction and Essex Town each have their own public works departments, fire departments, planning and zoning departments, recreation departments, and libraries. They share the same police department, and some essential government functions, such as assessing property values, are performed only by Essex Town.⁴

Essex Junction is considered more urban and walkable, by Vermont standards, versus the town which has more suburban or rural qualities. The town of Westford is the most rural of the 3 communities, with a total population of 2,080.³

A non-profit organization called the Heart & Soul of Essex was formed to carry out the work of a two-year planning grant from the Orton Family Foundation. During the grant cycle, the organization engaged over 1,000 residents in a conversation about the future of Essex. The findings from this community engagement effort inform portions of this HIA adding more local perspective to the HIA process.⁵

There are three schools in Essex Town and five schools in Essex Junction. One school in Westford serves students from pre-Kindergarten through Grade 8. All high school students, with the exception of some in Westford, attend Essex High School, located in Essex Junction. Students in Westford currently have school choice and may choose to attend other area high schools. With the consolidation, school choice will be phasing out over four years, at the end of which all Westford students will attend Essex High School. Post consolidation, grade levels remain the same in each school building and no schools closed.

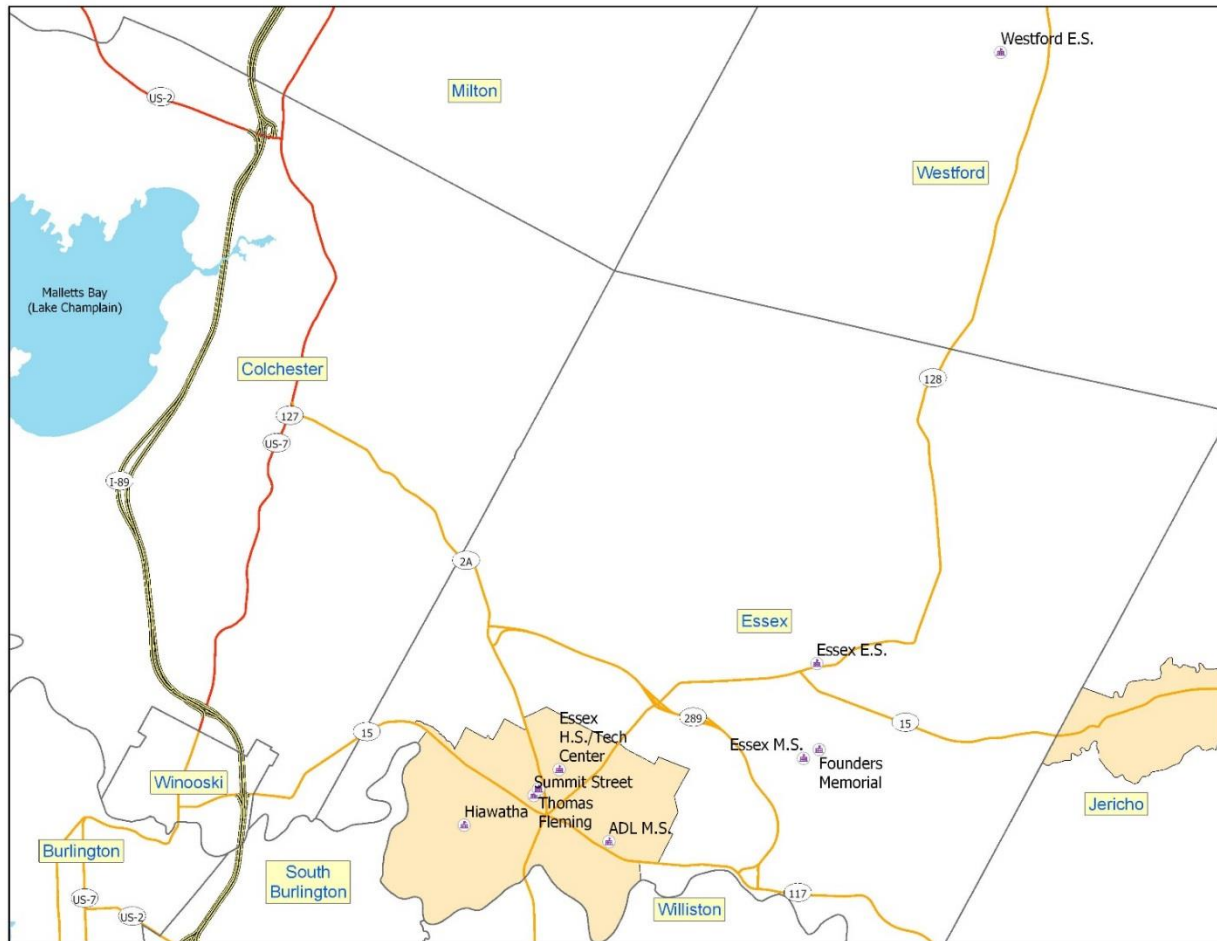


Figure 1 Map of Essex and Westford Schools

School	Grades	Enrollment
Essex Elementary School	Pre-K – Grade 2	379
Hiawatha School	Pre-K – Grade 3	238
Summit Street School	Pre-K – Grade 3	243
Founders Memorial School	Grades 3-5	409
Thomas Fleming School	Grades 4-5	225
Westford Elementary School	Pre-K – Grade 8	183
Albert D. Lawton	Grades 6-8	381
Essex Middle School	Grades 6-8	438
Essex Community Educational Center: Essex High School and Center for Technology - Essex	Grades 9-12	1694

Table 2 Grades and enrollment of Essex and Westford Schools⁶

Scoping

Scoping determines which health impacts will be investigated, the methods for analysis and the work plan for completing the assessment. Determining health impacts for this study was completed with input from the school board and an HIA Advisory Committee.

In September 2016, staff from the Burlington District Office of Health Department attended a school board meeting to outline the HIA process and conduct a scoping exercise to begin examining and prioritizing potential health outcomes associated with a comprehensive transportation policy. Board members were asked to identify populations that would likely be most affected by a new district-wide transportation policy. Overall results indicated that populations of interest were youth, town residents (particularly lower income residents) and property owners. When broken out by their towns of residence/representation, board members from Essex Junction prioritized youth and the elderly while those from Essex Town deemed low income residents as the community likely to be most impacted. There was no clear priority amongst Westford representatives.

Additionally, Health Department staff convened an HIA Advisory Committee made up of individuals from each of the three towns. Representatives on the committee included residents, parents, school board members, municipal and school employees, and regional representatives from related organizations. The committee serves to:

- help guide the overall direction of the process
- provide a communication channel to other stakeholders not formally involved in the process
- offer a strategic direction to ensure local relevance
- identify resources and activities relevant to the HIA
- help formulate and review recommendations.

The first advisory committee meeting was held on September 29, 2016 with two successive meetings in December 2016 and April 2017. A final meeting, to be held in July, will focus on evaluation of the HIA process and its impact. To continue scoping, the group reviewed health impacts/populations the school board had prioritized earlier in the month. The top three health impacts were:

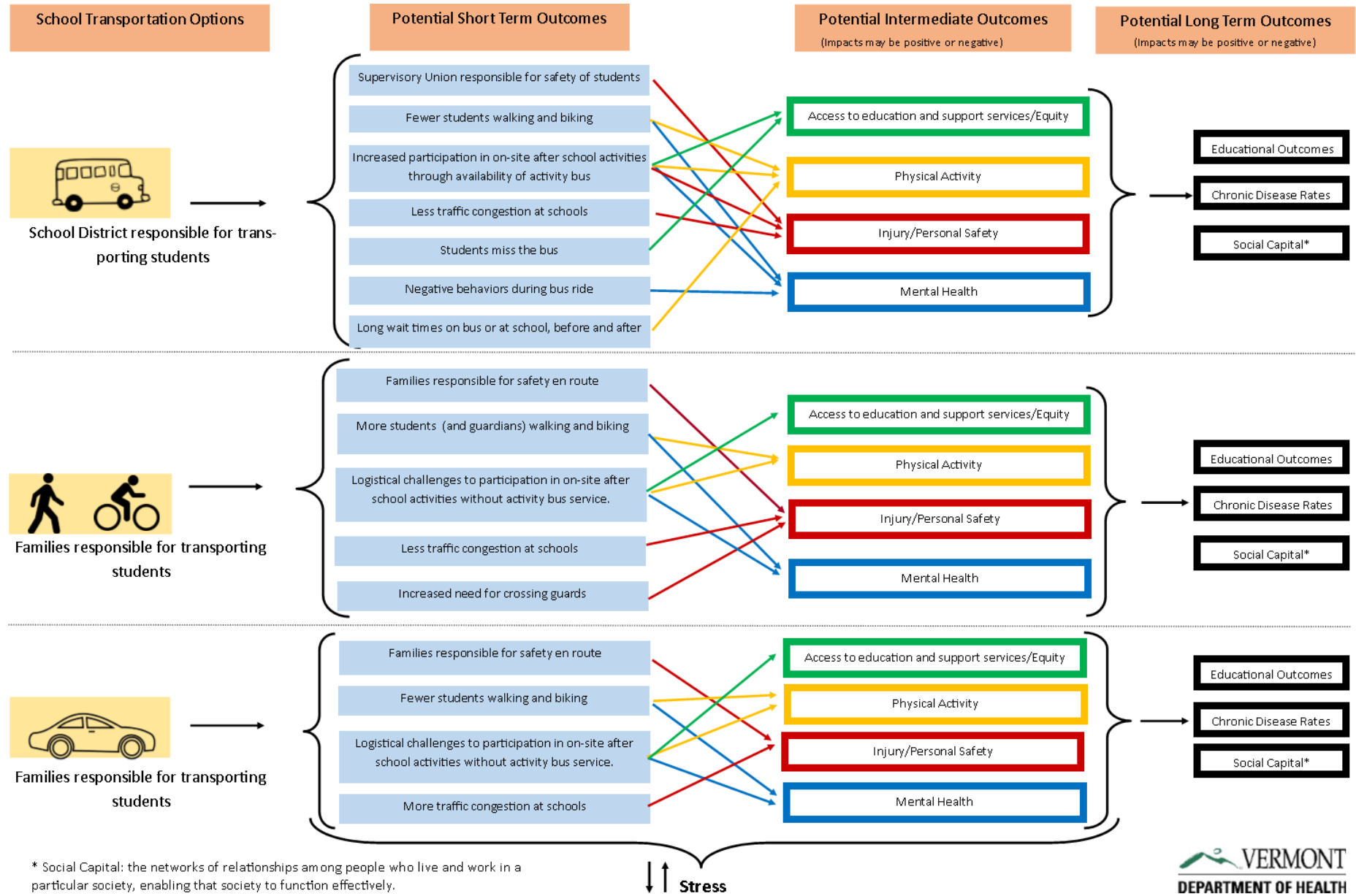
- Injury/ Personal Safety
- Physical Activity
- Mental Health

Participants were asked to discuss these impacts in relation to two transportation scenarios, that is – bussing added and bussing taken away. Copious notes were taken to ensure capture of all transportation related health impacts. These health determinants were compiled and used to create a pathway diagram. The purpose of a pathway diagram is to show the relationship between a series of determinants and the eventual health outcomes that may result.

The Pathway Diagram looks at three different transportation scenarios: district provided transport, active transportation, and transport in personal vehicles. Potential short term, intermediate term, and long-term outcomes are addressed with a focus on the scoped health outcomes. No matter which mode

of transportation is used, getting children to school is stressful. This was reflected by parents in the community and is noted at the bottom of the pathway diagram. This framework provides the structure of the Assessment and following report.

Pathway Diagram



Assessment Methodology

The assessment includes a mix of quantitative and qualitative data and a literature review. Data collection began in the summer of 2016 and extended through early Spring 2017. Quantitative data include public health data for middle and high school students gathered in the Youth Risk Behavior Survey and a parent survey designed specifically for this project. Qualitative data include open comments from the parent survey, a youth focus group, and input from presentation/attendance at community meetings. Staff from the Burlington District Office also completed an informal windshield tour of the schools in all communities to better understand the different neighborhoods and school zones.

Existing Health Conditions

The Youth Risk Behavior Survey⁷ is completed on every odd year for middle and high school students across for Vermont. This survey includes sections on physical safety, nutrition, weight, physical activity, use of tobacco, alcohol and other substances, and youth assets. Data specifically pertaining to the health impacts to be studied in this report are provided below. These include: overweight/obesity, physical activity, bullying, physical safety, and participation in extracurricular activities. There are also data included from the Statewide Incident Reporting Network which is Vermont's pre-hospital electronic documentation database. Vermont's Emergency Medical Service agencies report into this system.

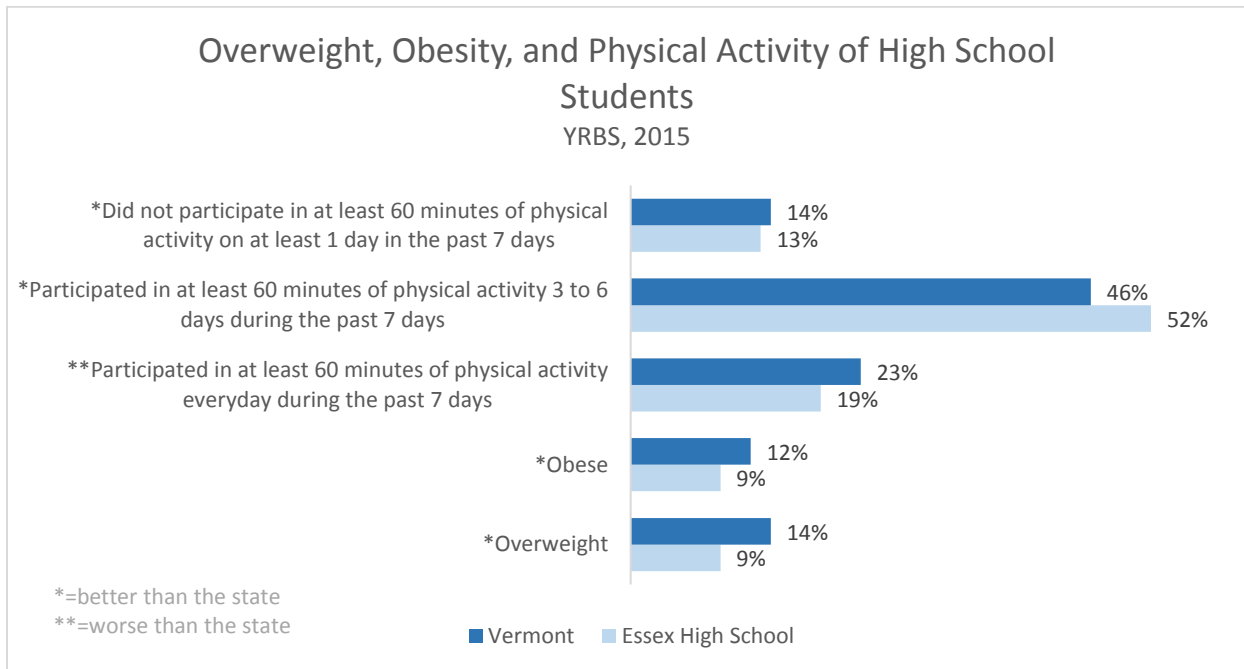


Figure 2

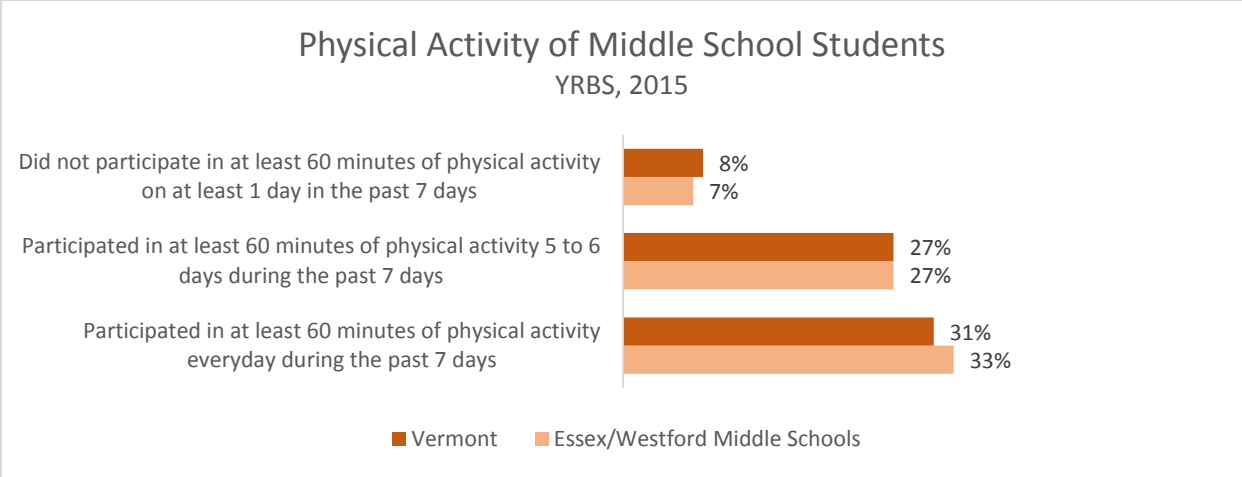


Figure 3

Eighteen percent of students in Essex High School are overweight or obese which is significantly less than the state. Since 2005, the trend has been flat for obesity and slightly improved for overweight. The trends have been consistently better than the State. About half (52%) of local students were physically active for at least 60 minutes 3 to 6 days in the past week, and only 19% were active every day (Figure 2). Middle schoolers tend to be more active than high schoolers, though over two-thirds (69%) do not participate in the recommended 60 minutes of physical activity every day (Figure 3).

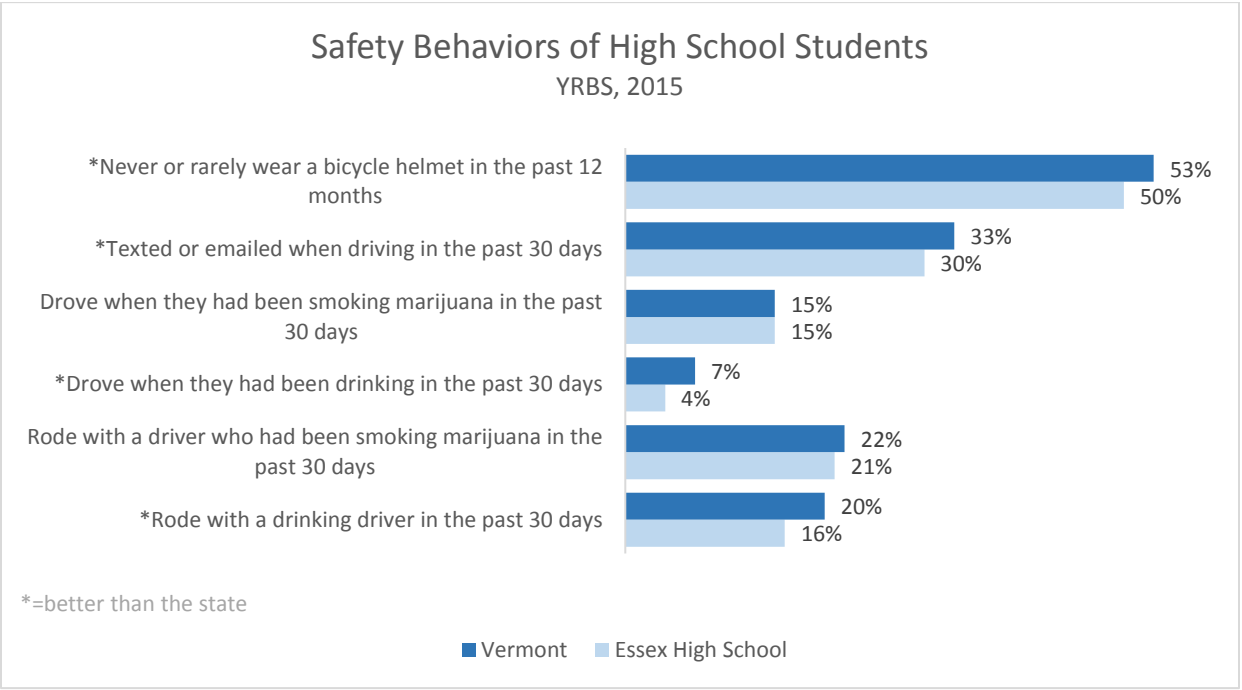


Figure 4

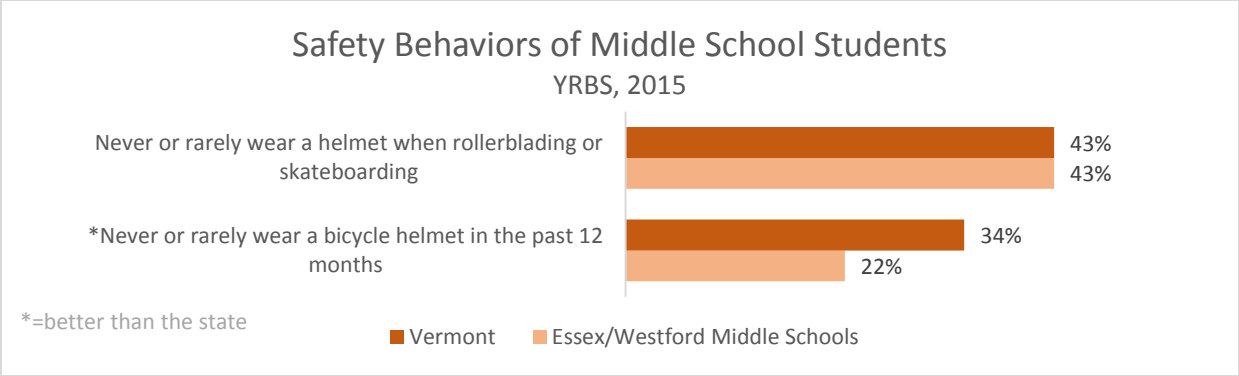


Figure 5

Essex High School students exhibit some risk behaviors related to bicycling and driving. Though statistically better than the state, half never or rarely wear a bicycle helmet and almost a third (30%) of drivers have texted or emailed when driving in the past 30 days. There is also a proportion of students using or riding with someone who is using marijuana or alcohol (Figure 4). Middle school student helmet use is more prevalent than at the high school level, with only 22% never or rarely wearing a bicycle helmet in the past 12 months. Interestingly, the prevalence of never or rarely wearing helmet while rollerblading or skateboarding is much higher at 43% (Figure 5). Additionally, Vermonters ages 15 to 44 had statistically significantly higher rates of unrestrained occupant injury than Vermonters in other age groups. The rates seen among those 15 to 24 years of age (113.5 per 100,000) and 25 to 44 years of age (84.4 per 100,000), were four to five times higher than the rates seen among all other age groups.⁸

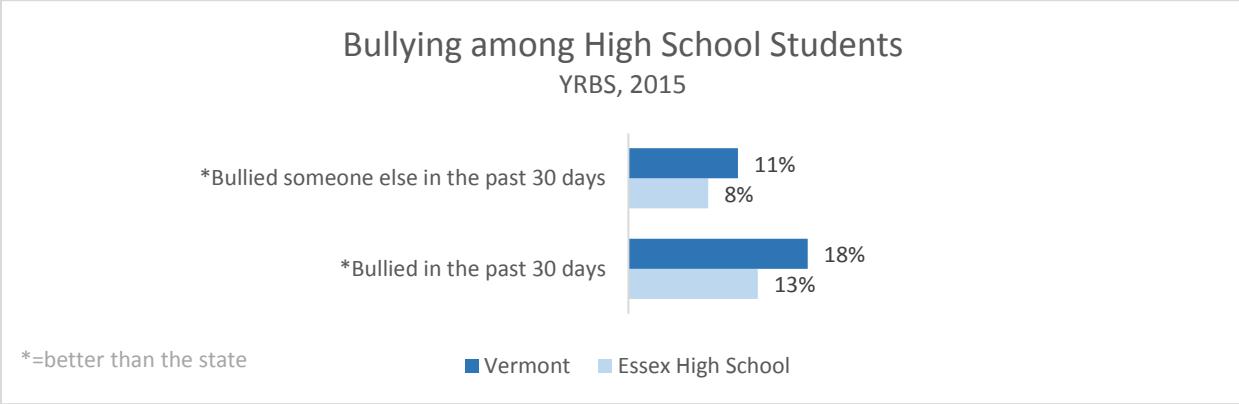


Figure 6

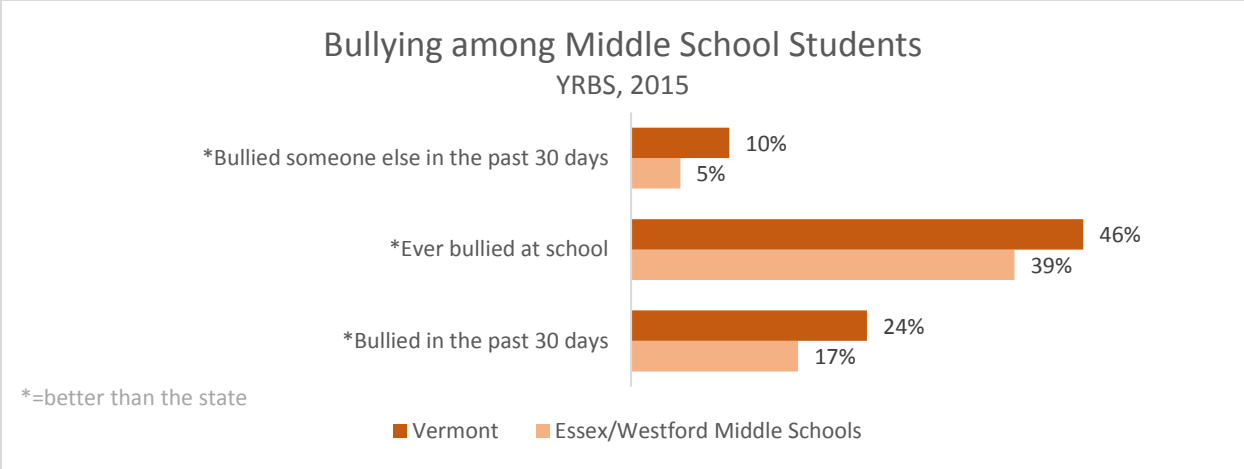


Figure 7

Bullying someone else and being bullied among students at both the high school and middle school levels in Essex and Westford is statistically less prevalent than the State averages (Figures 6 and 7). The Youth Risk Behavior Survey questionnaire describes bullying as such: *Bullying occurs when, on many occasions, a student or group of students say or do unpleasant things to another student to make fun of, tease, embarrass, or scare him/her; or purposefully exclude him/her. Bullying can occur before, during, or after the school day; on school property, **a school bus**, or at a school-sponsored activity. It is not bullying when two students of about the same strength and power argue or fight or when teasing is done in a friendly way.* While one cannot know how much bullying may have occurred on the school bus, it is safe to assume that some bullying occurs in that setting.

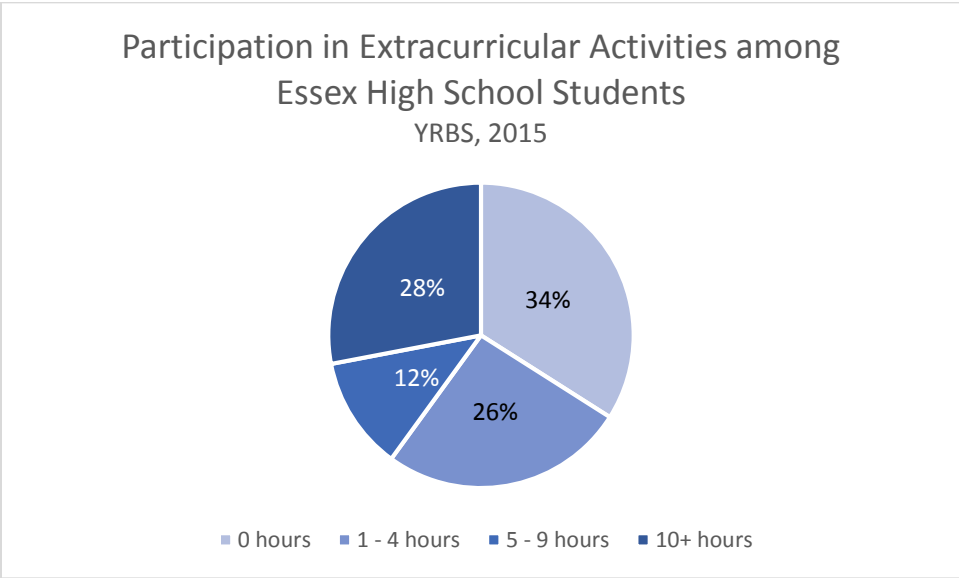


Figure 8

Students in Essex High School are busy, with two-thirds (66%) reporting at least 1 hour of extracurricular activity in an average week and over a quarter (28%) reporting 10 or more hours per week (Figure 8).

Parent Survey (Appendix A)

Through coordination with the school board, the Burlington District Office of the Health Department sought input on health and safety topics related to school transportation in Essex and Westford. Parents and caregivers of students in these communities were asked to respond to a short survey. The survey's prime purposes were to garner information about how students currently travel to school and to provide demographic context. The results would inform recommendations to the school board and administration in planning for the future.

Over 800 completed surveys were collected reporting on approximately 1300 students; the survey was not limited by household so multiple responses may have been collected within one household. The geographic breakdown of respondents was as follows: 47% from Essex Town; 40% from Essex Junction, 10% from Westford, and 3% from another town. The racial/ethnic mix of respondents reflected the ethnic diversity of the communities, as compared to census data. Among the parents responding 46% held an Associate's or Bachelor's degree, 40% reported having a Master's Degree or higher, 8% reporting they had some college and 5% reported high school was their highest level of education. Student's primary mode of transportation to and from school, broken out by districts, is shown in Figure 9.

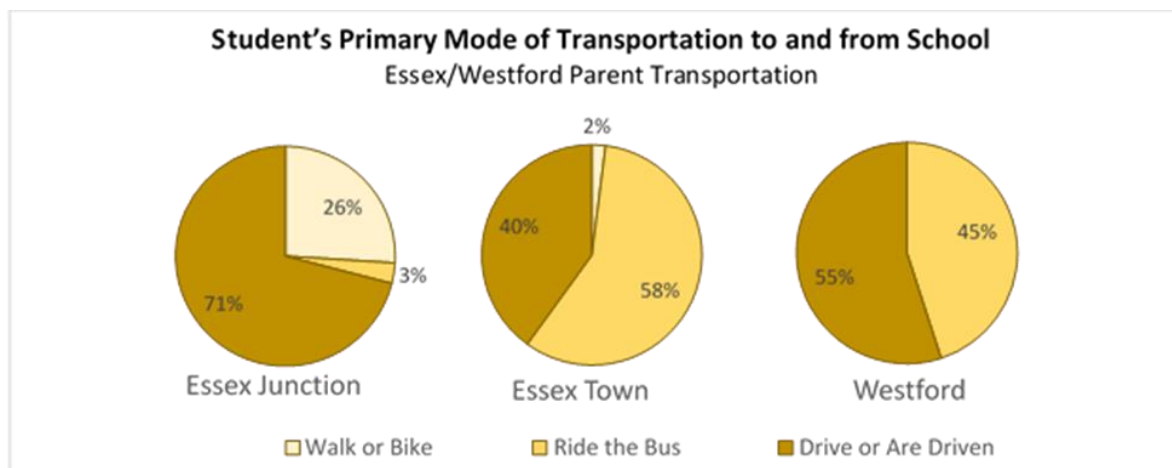


Figure 9

Youth Focus Group (Appendix B)

Health Department staff worked with the principal of Essex High School to plan a youth focus group. A focus group guide was developed and vetted with the Health Surveillance Division of the Health Department. Students from across grades and communities were recruited and nine participated, with parent permission, in a guided discussion on modes of school transportation.

Of the nine participants seven are driven to school, one drives their own vehicle, and one walks to school. The Health Department team created a Focus Group Discussion Guide which is best practice for

conducting focus groups. All comments were noted and used to inform the narrative of the report and to corroborate or alter the recommendations presented.

The group was asked to craft recommendations for the transportation policy that brought focus to bear on any issues they felt were unaddressed by the recommendation we presented.

Predictions of Health Outcomes by Mode of Transportation

District Provided Transport

Access to Education and Support Services/Equity

Of the three modes of transportation studies, school district provided transport has the potential to have the greatest positive impact on access to education and support services. This is due to the ability for students to be transported to school and afterschool activities without the logistical challenges that come with coordinating walking and bike safely and transport in personal vehicles. These logistical challenges will be further discussed in upcoming sections of this report.

Injury/Personal Safety

All modes of transportation are associated with some risk of injury. This HIA will not recommend one form of student transportation over another. Our focus is to provide data that underpin achievable recommendations for safety and injury prevention for all common modes of student transport.

Universal bussing or bussing for all students outside of an established radius around school buildings has the potential to reduce traffic congestion in school zones at peak drop-off and pick-up times. According to the 800+ respondents to the parent survey, 53% of households report driving their children to/from school. Of respondents who reside in Essex Junction, 70% reported driving their children to and from school on a routine basis. 55% of Westford and 40% of Essex Town parents surveyed responded similarly (Figure 9).

At the center of Essex Junction is an intersection known as the Five Corners. This intersection experiences high traffic volumes, particularly at peak commute times. According to a 2014 report conducted by the Chittenden County Regional Planning Commission, morning and evening peak hour delays at this intersection are assessed at level of service E or F, meaning very long (35.1-50 seconds) or extreme (>50 seconds) delays, respectively.⁹ Every bus on the road can mean 36 fewer cars clogging the morning commute and 36 fewer cars polluting the atmosphere.¹⁰ A series of strategies set forth by the Center for Problem Oriented Policing includes the implementation of bussing to reduce traffic congestion around schools, and by extension through nearby intersections. This is an effective means of reducing the number of children taken to school by car, as well as the associated congestion. Less vehicles in the school zone can decrease risk for injury. While a bussing program has the

“The number of cars in and around our schools in the Junction is crazy. We need alternatives - safer/established walk/bike paths, bussing, something.” – **Parent**

“School busses are necessary for multiple purposes. School bus is only safe mode of transportation and helps to prevent traffic problems.” – **Parent**

“The EJ schools need bussing to mitigate the traffic issues around 5 Corners. Or school times need to be staggered more. It is impossible to get children to different schools if you need to drive. EJ isn't as small as you think and it is not a walking community for everyone.” – **Parent**

potential to reduce the number of automobiles entering and exiting the school zone, a systematized, well-marked traffic flow pattern is critical for both the safety of students on busses and those arriving or departing school via other modes is still necessary.¹¹ Just over half (54%) of parents surveyed in Essex Junction (prior to consolidation, a walking district) said their child(ren) would take a bus if it were available while 39% said they would not use school bus service. Reasons parents said they would not use school bus service included bus schedules, prolonged ride times, increased expense to the district, unsafe/unruly environments and unnecessary when students can walk.

If bussing is offered, district-wide safety considerations related to operation of the school bus become ever more critical. Currently bus-drivers must¹²:

- Pass a physical examination every 2 years, or less if deemed necessary by a doctor
- Attend a school bus driver training clinic
- Have a valid VT driver's license
- Have both a passenger and a school bus endorsement.
- Pass required vision, written, and skills tests
- Retake the written test at the Department of Motor Vehicles every renewal cycle (4 years), and if requested the Skills Evaluation
- Participate in refresher training (8 hours) every four years
- Are subject to criminal background checks
- Participate in random drug testing

“In addition to the knowledge and skill requirements of operating commercial motor vehicles, school bus drivers must be aware of the risks that are unique to transporting school children.” - **Vermont School Bus Manual**

The driver’s primary responsibility is to operate the school bus safely ensuring all bus passengers are safely seated, observing speed limits and obeying road signs, helping children get on and off the bus safely, etc. Negative student behaviors on the bus may lead to the driver being distracted while driving. Though the number of incidents reported and feedback from school staff don’t identify the school bus as a problematic place for negative student behaviors, many parents perceive the school bus as unsafe.

However, a study looking at conducted by the National Highway Traffic Safety Administration (NHTSA) found youth fatalities during school travel across lowest among those riding the school bus at <1%. In the same study, 57% of all youth fatalities occurring during school travel hours occur in a vehicle operated by a teen driver, 23% in a vehicle operated by an adult driver, and 19% occur through other modes of travel, such as walking and biking. NHTSA concluded students are about 70 times more likely to get to school safely if they take the school bus instead of travelling by car.¹³

“My biggest concern about the bus is the potential negative influence of other kids, the lack of supervision if there is bullying/harassment.” - **Parent**

“Bullying is way worse on social media, bus incidents are a small fraction.” - **School Security Team**

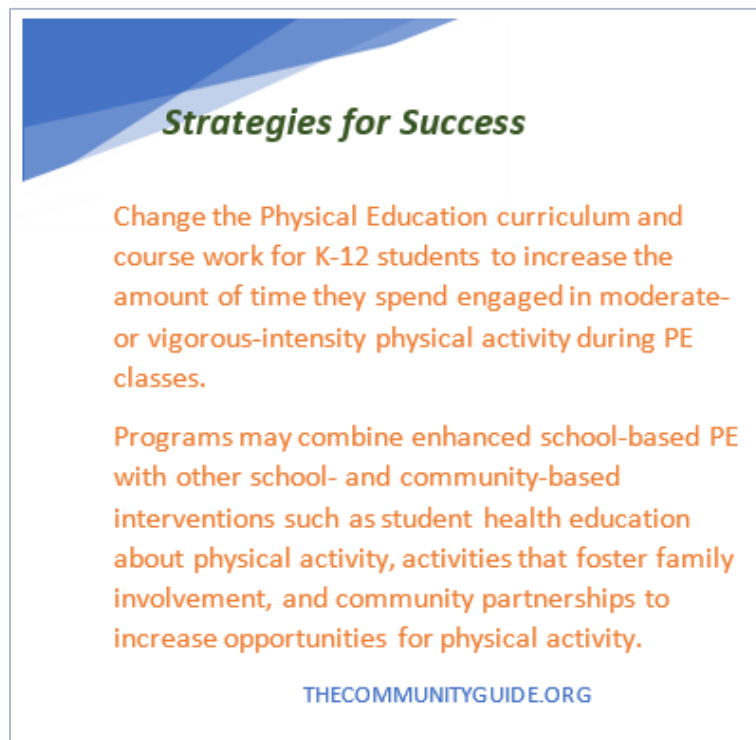
“We have zero confidence in the physical and emotional safety of our kids and the reliability of buses in the district.” - **Parent**

We predict district provided transport to have a positive impact on injury/personal safety.

Physical Activity

The addition of school bus service could impact the amount of physical activity students accumulate per day. As previously mentioned in the existing health conditions, only one-third (33%) of middle-school students in Essex and Westford got the recommended 60 minutes of physical activity daily. Nineteen

percent of High School students in Essex High School got the recommended daily physical activity. This is significantly lower than the state average of 23%. The percentage of Freshmen and Juniors reporting daily physical activity were lowest at 17 and 13 percent, respectively.⁷ Overall, middle and high school students are far from reaching the recommended minimums for daily physical activity.



Strategies for Success

Change the Physical Education curriculum and course work for K-12 students to increase the amount of time they spend engaged in moderate- or vigorous-intensity physical activity during PE classes.

Programs may combine enhanced school-based PE with other school- and community-based interventions such as student health education about physical activity, activities that foster family involvement, and community partnerships to increase opportunities for physical activity.

THECOMMUNITYGUIDE.ORG

It is difficult to find studies dedicated to examining the physical activity rates of students who ride school busses exclusively. Most studies focus on active commutes to school, safety around those commutes, environmental barriers and facilitators of active commutes and why parents opt to drive children versus allowing them to walk or bike to school.

Removing active commutes from the equation, in the case of universal bussing or bussing beyond a certain radius around school buildings, has the potential to perpetuate a status quo in which the majority of students are not moving enough to maintain a healthy weight and to prevent development of chronic disease, in the long term.

There are studies that explore the health benefits of the “hybrid” commute – walking or bicycling to a bus stop and taking the bus to a final destination. It seems reasonable to project a similar outcome on youth who walk to/from central school bus stops as part of their trip to school. Results from a study conducted in 2005 suggest that Americans who walk to and from transit stops obtain an appreciable amount of daily transit-related physical activity (median of 19 minutes). Regardless of the amount, as per the Surgeon General physical activity can be continuous or intermittent.¹⁴

We predict district provided transport to have a negative impact on total physical activity for students who currently walk or bike to school.

Mental Health

Even if the negative perception that many parents have of the school bus environment may differ from the reality, the negative perception itself is a barrier to utilization of busses for student transport.

Data from other regions are mixed. A study of third, fourth and fifth graders found, contrary to the researchers’ expectations, that children tend to be more prosocial than aggressive on the school bus ride.¹⁵ Behavior that is prosocial may be any action that is perceived to benefit others or prompt harmonious relations with others. Such behavior occurred more often among older participants than among younger participants. The finding that aggressive behavior (physical acts and verbal threats toward others) decreased with age is consistent with past research.¹⁵ A study of elementary school

children from Canada reported that a disproportionate rate of bullying occurred on the playground/school yard and during cafeteria and outside recess/break time. The bus loading area was among the locations/situations with the least reports of bullying. The school bus as a location was not assessed.¹⁶

In a study, over 11,000 students in southern Ontario, CA completed an online Safe School Survey. Students were asked to indicate where and when they felt unsafe. Sixteen locations and times were specified and students rated their perception of safety for each of these locations. Hallways, bathrooms, classrooms and outdoor recess areas were the top locations in which students reported not feeling safe. Though students in elementary school and secondary school identified these four places as particularly unsafe, the magnitude for secondary school students was higher for all except outdoor recess areas – this was more an issue for elementary school students. Perceptions of lack of safety on the bus showed no significant difference between grade levels and was not rated unsafe by most students.¹⁶

Essex High school students cited many reasons for not riding the bus. These included:

- long duration of the bus ride
- preference for riding in a car
- unappealing bus schedules – have to get up too early
- busses are cold in winter
- too busy to be dependent on bus schedule.
- do not need the social aspect of the bus as a high school student.

When asked to reflect on their perceptions of riding the school bus during their elementary/middle school years the students asserted that when they were younger bussing was “cool because they were able to talk to friends.” Additionally, they felt “younger kids don’t care about riding the bus” but for high school students the bus is a less favorable option.

Researchers have identified several barriers to student bus use, ranging from the more tangible, including family or work responsibilities, limited resources for equipment or other expenses, and transportation or other logistical difficulties. Busses that transport students to after-school events at other community venues or that ensure students have a safe mode of transport back home after late afternoon or evening events on the school property can eliminate the logistical issues some families face.

Students of low socioeconomic status rode the school bus less often than their classmates of high socioeconomic status. This participation gap is a cause for concern, especially if extracurricular activities can be a means of bringing at-risk students more fully into the school community, thereby increasing their chances of school success.¹⁷

We predict district provided transport to have both positive and negative impacts on mental health.

Active Transportation (Walking & Biking)

Injury/Personal Safety

Attempting a systematic increase in the number of children who opt to walk or bike to school comes with a concomitant increase in risk for injury and/or potential threats to safety. Furthermore, injury

prevention and physical activity levels are linked. Community level improvements to address safety concerns can increase walking and biking, and in turn, this decreases injury. These community level strategies will be discussed further in the physical activity section below.



Figure 10³⁰

In a study conducted among eight schools in the Houston Independent School District on the effect of a Safe Routes to School Walking School Bus program, there were some improvements in certain safety behaviors associated with a walking commute to school. The intervention schools had a five-fold improvement in child pedestrians crossing at the corner or crosswalk. Since the majority (74–82%) of US child pedestrian fatalities from 2001–2009 occurred at non-intersection locations, decreasing non-intersection crossings may help reduce risk of injury or death.¹⁸

Additionally, perception of safety is a barrier to whether children walk/ bike to school. In a cross-sectional analysis of Canadian school children, facilitators and barriers to active transportation to school were studied. In this analysis, 'worrying about being bullied or attacked on the way to school' was identified as an impediment by 68.0% of the study population. Such fears were also reported for those who reported using other modes of transportation, with 71% who used public transportation reporting such worries, and 69.9% who used other motorized/private modes of transportation.¹⁹

“We are rural and far from the school with no safe walking or biking routes.” – **Parent**

“My child is autistic and can not walk alone or with a friend. She would easily wander and could get hurt.” - **Parent**

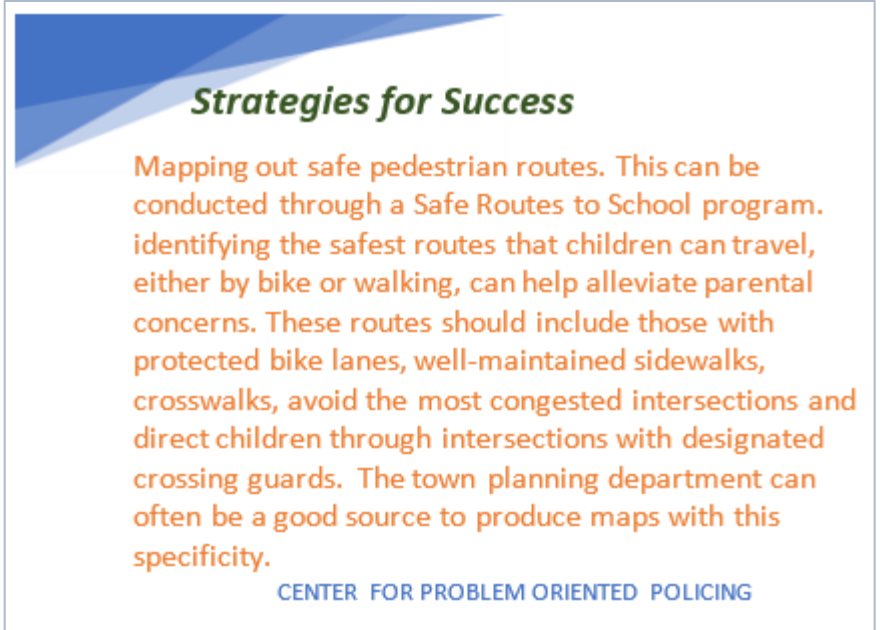
We predict active transportation to have both positive and negative impacts on injury/personal safety.

Physical Activity

Active transport to school, such as walking or biking, increases physical activity levels in children, and physical activity has health and academic benefits.²⁰ Physical activity prior to the onset of the school day might also play a role in cognition, effective learning, and academic performance as well as benefit physical health and fitness. Researchers found that a positive association between an active commute to school and cognitive performance was stronger in those girls who spent more time actively commuting. In contrast, an active commute did not seem to be associated with cognitive performance in adolescent boys.²¹

Research suggests that children are more likely to walk or bike to small schools in walkable neighborhoods than to larger schools in remote locations.²² This seems intuitive. *More likely*, however does not go far enough to change social norms. Regardless of the availability of bussing or the opportunity to be driven to/from school the benefits of active transport are well-documented.^{23,24}

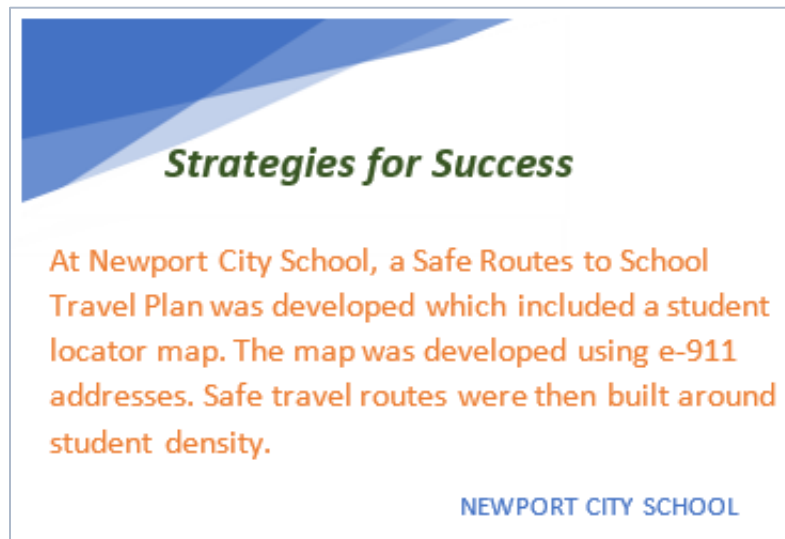
In recognizing the benefits of active school transport, the 2015 campaign “Step it up! The Surgeon General’s Call to Action to Promote Walking and Walkable Communities” encourages walking to school through promotion of safe routes and collaborating on community-wide approaches that address safety concerns.²⁵



Strategies for Success

Mapping out safe pedestrian routes. This can be conducted through a Safe Routes to School program. Identifying the safest routes that children can travel, either by bike or walking, can help alleviate parental concerns. These routes should include those with protected bike lanes, well-maintained sidewalks, crosswalks, avoid the most congested intersections and direct children through intersections with designated crossing guards. The town planning department can often be a good source to produce maps with this specificity.

CENTER FOR PROBLEM ORIENTED POLICING



Strategies for Success

At Newport City School, a Safe Routes to School Travel Plan was developed which included a student locator map. The map was developed using e-911 addresses. Safe travel routes were then built around student density.

NEWPORT CITY SCHOOL

According to the literature, travel distance has the greatest impact on whether a student will walk or bike to school. At distances greater than a half mile from the school, walking ceases to be the most common travel mode; at 1 mile, walking rates decrease near zero.²⁶ In the United States, children who lived within 1 mile of the school were more than 3 times as likely to walk or bicycle to school than children who lived greater distances from the school.²⁰ This national literature aligns with results in the local parent survey; distance was most frequently cited

as the reason children do not walk to or from school. More than a quarter of parents indicated

dangerous intersections, weather and lack of sidewalks as additional reasons their children did not walk or bike to school (Figure 11).

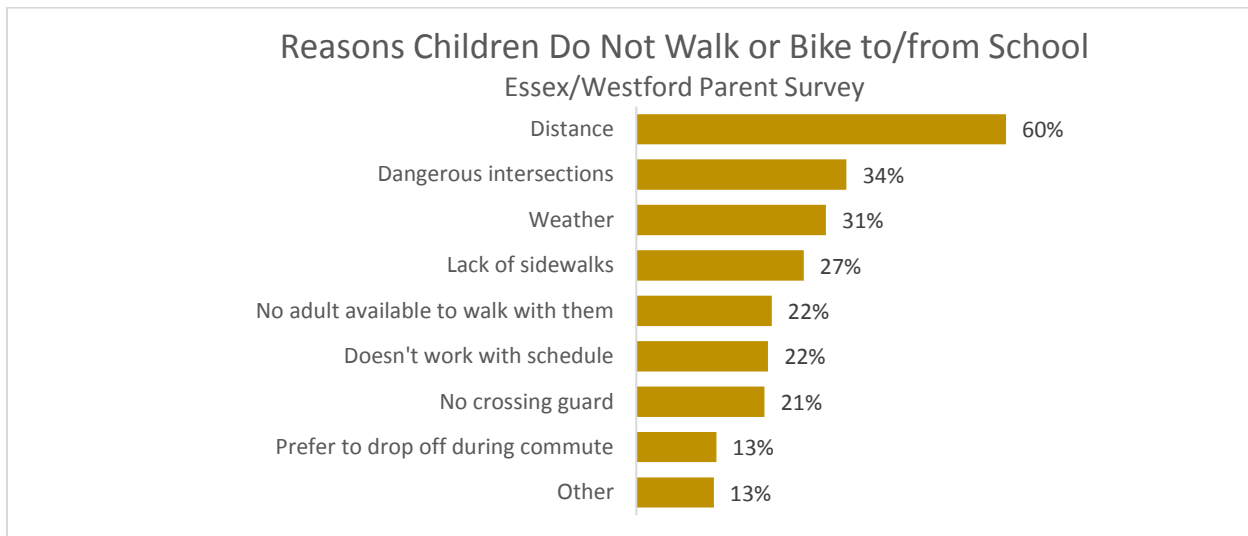


Figure 11

A supportive physical environment (including sidewalks and safe pathways/routes to school) is a necessary condition to encourage active travel to school. It does not, however, provide a complete answer either. Shorter distances from home to school, and therefore shorter travel times for non-motorized transportation modes, were clearly related to a greater likelihood of children walking or biking to school. Children were also more likely to walk or bike to school in neighborhoods that were densely populated, were in an urban location, featured mixed land uses, and had a highly-connected street network.²⁷

Such an environment does not necessarily result in an increased number of students walking to school. In yet another study, fear of child abduction was the number one barrier to active commutes identified by parents and children. However, many other factors, including the flexibility of parent work schedules, parent motivation, and the physical load student must carry to and from school, also influence parents' decisions about whether children walk or bicycle to school.²⁸

A study of approximately 600 elementary school students found that walking to/from school was associated with higher overall levels of physical activity compared to traveling by car, although the journey to school itself contributes relatively little to the overall accumulated physical activity the individual students attained. The mechanisms by which these differences manifest is unknown and more research is required into the social determinants of physical activity associated with active commuting. This study, in concert with others that have had similar findings provides a good body of evidence in support of policy initiatives to promote active commuting to school as a means of boosting physical activity levels.²⁹

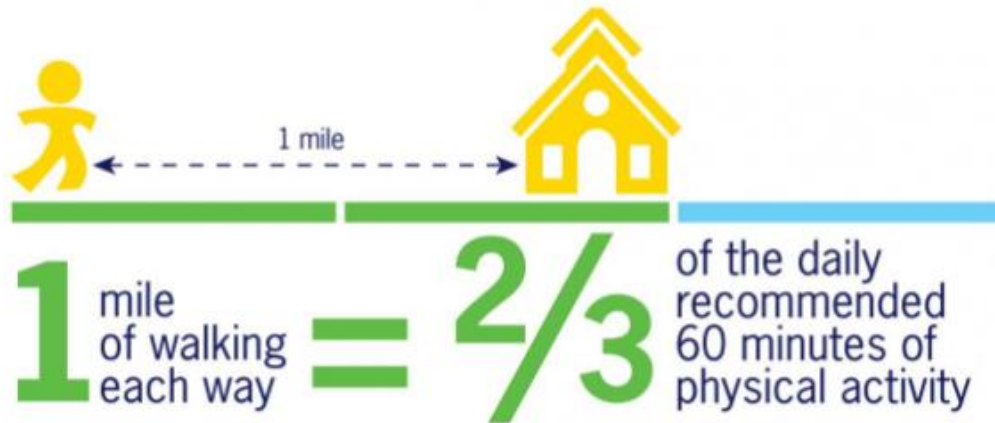


Figure 12

Walking one mile to and from school each day is two-thirds of the recommended sixty minutes of physical activity a day. Plus, children who walk to school have higher levels of physical activity throughout the day.³⁰ Additionally, children who walk or bicycle to school have higher daily levels of physical activity and better cardiovascular fitness than do children who do not actively commute to school.²⁰

We predict active transportation to have a positive impact on physical activity.

Mental Health

As previously stated, children who walk or bike to school tend to have higher levels of physical activity generally. Regular physical activity has been shown to reduce feelings of depression and anxiety and promote psychological well-being.³¹

Several studies show that school age children’s perceived self-efficacy is related to their physical activity. We found that children’s beliefs in their own abilities to overcome various barriers directly predicted their active commuting behavior.^{32, 33, 34} Investigators analyzed reports from 3,997 participants in the 2009/10 cycle of the Canadian Health Behaviour in School-Aged Children (HBSC) study. The sample consisted of urban students in grades 6–10 who lived in close proximity of their school and were hence ineligible for school bussing. Students who indicated walking or bicycling to school were classified as engaged in active transportation. Analyses focused on relations between bullying and active transportation, as well as barriers to active transportation as perceived by young people. Twenty seven percent of young people indicated being victimized, and 12% indicated that they engaged in bullying. Girls were more likely to be victimized than boys, and younger students were more likely to be victimized than older students. Bullying on the way to school was cited as an impediment to active transportation by 68% of surveyed students. Victimization by bullying was reported more frequently by children who used active transportation.³⁵

We predict active transportation to have both positive and negative health impacts on mental health.

Transport in Personal Vehicles

In 2009, American families drove 30 billion miles and made 6.5 billion vehicle trips to take their children to and from schools, representing 10-14 percent of traffic on the road during the morning commute.³⁰

Injury/Personal Safety

According to a 2010 National Center for Safe Routes to School review of over 100,000 parent surveys collected from schools around the United States, fear of traffic speed and traffic safety often impacts whether parents allow their children to walk or bicycle to school. Fifty-five percent of parents who reported not allowing their children to walk or bicycle to school identified traffic speed as a significant reason in their decision-making process. Forty-eight percent of parents identified intersection and crossing safety as reasons. For these reasons and others cited previously, more school children are driven to school than the number of using other modes combined.³⁶

Strategies for Success

The Washington State Traffic Safety Commission School Zone Safety grant program pays for safety education and small traffic safety improvements. This program is funded by fines from school zone traffic violations. In addition, all school districts in Washington State are required to have a suggested active commute route plan for every elementary school.

EYLER, AMY A., ET AL. "POLICIES RELATED TO ACTIVE TRANSPORT TO AND FROM SCHOOL: A MULTISITE CASE STUDY." *HEALTH EDUCATION RESEARCH* 23.6 (2008): 963-975.

Social trust, or lack thereof is a notable reason why parents choose to drive their children to and from school versus supporting an active commute.³⁷

Parental concerns about traffic safety typically are related to perceptions about traffic volume and speed of vehicles around the school. *Paradoxically, while they may perceive they are reducing the risk of injury for their own child, they are also contributing to the problem.*³⁸

“The biggest problem is congestion. Signage is a joke, people might look at it but they don’t follow it.” – **School Staff**

Results of a literature review by Brigham Young University researchers³⁹ suggests that a combination of effective traffic control devices, public education, and appropriate law enforcement are all necessary to improve speed-limit compliance in school zones. While this seems logical since most behavior change must be addressed from different angles, it has proven difficult. Safety personnel in the district consider the traffic safety issues is of paramount importance – “we have been lucky that we haven’t had any serious accidents or fatalities.”

Distracted driving poses a risk to the driver, their passengers, fellow motorists, pedestrians and bicyclists. Safe Kids, USA conducted a study of school zones around 20 middle schools in 15 states. Of the 41,426 cars that were observed traveling through an active school zone, one in six drivers were driving distracted as they drove past the trained observers stationed at mid-points in the school zones. The majority of distracted drivers were observed during the afternoon school zone hours as compared

to the morning hours. Both male and female drivers had high distraction rates. Regardless of gender, if the drivers were not wearing their seatbelts then they were 35% more likely to be distracted as compared to drivers using seatbelts.⁴⁰ There is a strong positive correlation between the restraint use of an adult driver and that of young children in the vehicle.⁴¹

As mentioned earlier, 30% of Essex High School Students reported texting or emailing while driving in the past 30 days on the 2015 Youth Risk Behavior Survey. Among 12th graders, the age group more likely to drive to school, the prevalence was 41%.⁷

The 5 E's promoted by Safe Routes to School Programs provide a template for schools to create a safer transportation environment for all modes. They are:

- **Education:** Teach students and community members about walking and biking safely. Education can happen through in-school curriculum, bike/ped safety assemblies, newsletter blurbs, tips sheets, and send-home flyers. Use resources such as Local Motion and the Essex Walk/Bike Group.
- **Encouragement:** Get students and parents excited about walking and biking by hosting special events, walking school buses and bike trains, holding schoolwide competitions, or celebrating walking and biking with student art or other projects.
- **Enforcement:** Reduce negative behaviors such as speeding, double parking, or disobeying traffic signals by working with local law enforcement. Officers can attend walking events to monitor speeding activity or to build relationships with school children and neighbors.
- **Engineering:** Improve the physical walking and biking environment. Schools can work with municipalities to determine which infrastructure improvements should be prioritized to encourage students to walk or bike to school safely.
- **Evaluation:** Check to see if your strategies are working! Schools and local governments can record walking and biking rates, parent concerns, and traffic data to evaluate the success of a SRTS program. Evaluation activities can help set goals and establish baseline data for planning projects.

Strategies for Success

The majority of students attending the Green Street School in downtown Brattleboro live within two miles of the school. In a 2006 baseline survey, parents expressed concern with traffic speed around the school. In response, the Green Street School implemented a comprehensive approach to the issue that involved;

- a marketing campaign, student
- parent safety education,
- encouragement activities
- program evaluation.

The school also used BikeSmart and WalkSmart lesson plans to teach students safe ways to walk and bicycle. Parents took an active role in leading the growth of Green Street's popular walking school buses from 3 in 2006 to 11 in 2008. School administration helped educate and encourage Brattleboro's citizens to:

- reduce their speeds through ads in local newspapers.
- shovel their sidewalks in the winter
- trim their hedges in the spring to help keep sidewalks clear.

A combination of these efforts helped Green Street Elementary reduce the percentage of speeding cars around the school between 7:00 am and 9:00 am from 59% in 2006 to 21% in 2008.

SAFEROUTESINFO.ORG

We predict transport in personal vehicles to have a negative impact on injury/personal safety.

Physical Activity

A study conducted in Australia found that factors associated with car travel to school were mode of parents' travel to work, parent attitudes, number of cars in the household, and distance from home to school. Researchers concluded that to be effective, walk to school programs need to address the link between parent journey to work and student journey to school.⁴² In the parent survey conducted for this HIA, 32% of parents/caregivers responding expressed that they prefer to drop their child off at school on their way to work rather than use school bus service (Figure 13). Thirteen percent of parents did not permit their children to walk, but would rather drop them off at school on their way to work.

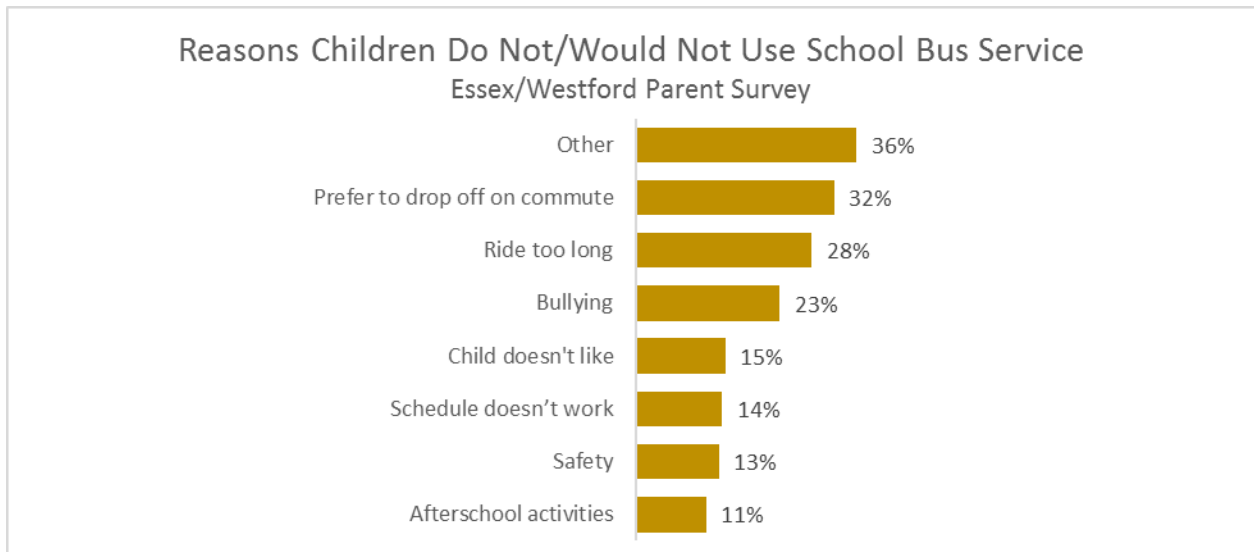


Figure 13

By driving children to school their opportunities for accumulating the recommended amount of physical activity either through an active or hybrid commute are diminished.

We predict transport in personal vehicles to have a negative impact on physical activity.

Mental Health

There are several studies that examine the psychological, physical effects of commuting but these are generally in urban areas that do not share characteristics with the Essex and Westford. Having said that, nearly one-third of parents surveyed reported that they dropped their children off at school on the way to work. Consequently, there may be some license to generalize data from studies that examine the effect of commuting on stress levels and health. Research has shown correlations between levels of traffic congestion and an adverse effect on psychophysiological measures.^{43,44} There are many elements that contribute to commuting stress, but traffic congestion and commute duration are the primary. Traffic congestion is a stressor because it is an *impedance* – the blocking or thwarting of movement and goal attainment. In this case goal attainment might be a timely arrival at one's place of employment or to the airport for a business trip. Congestion often leads to longer commute times.⁴⁵

“Physical impedance” can be objectively measured by the distance and time of the journey, along with the number of road exchanges, which represent nodes of congestion. “Subjective impedance” is the person’s perception of commuting constraints.⁴⁶ Generally, higher physical impedance was associated with lower frustration tolerance, more negative mood, lower residential and job satisfaction, more work absences, in addition to higher blood pressure, more colds and flu not associated with absences from work.⁴⁵ Health-care expenditures for people reporting themselves as highly stressed are 46% higher than for people with lower stress levels.⁴⁷

Slow downs in the school zone and congestion entering and exiting school property are examples of congestion motorists must endure that can have adverse impacts on mental health.

We predict transport in personal vehicles to have a negative impact on mental health.

Recommendations

Our assessment found that transport in private vehicles is likely to have negative health impacts on injury/personal safety, physical activity, and mental health. While physical activity would be positively impacted by active transportation, the likelihood of students walking and biking to school is greatly influenced by travel distance, parental perceptions of safety, and parental commuting schedules. Any added bussing should be done in a way that preserves or increases current rates of active transportation. Based on our findings, we propose the following recommendations be considered in development of the school transportation policy in the Essex Westford School District. These recommendations have been vetted with the Health Impact Assessment Advisory Committee and key community stakeholders. They are likely to promote positive health outcomes and mitigate negative outcomes related to potential changes in school transportation policy.

Encourage use of bussing by those eligible

1. *Maintain and expand bussing schedules to increase access to all after school activities (i.e. activity and late busses).*

The Heart and Soul Project of Essex has engaged close to 1,000 Essex community members in neighborhood conversations, a survey and other activities to help identify the community’s common values. Education was amongst the 8 values determined most important to the town.

Essex invests time, energy, and resources to ensure that our highly respected schools meet the needs of *everyone* in the community. We are proud to support learning that *extends beyond the traditional classroom* and includes the arts, athletics, and vocational instruction.


heartandsoulofessex.org/values

“Some New Americans are not participating in after school activities because their families lack transportation which makes staying after school impossible.” – **School Staff**

Activity busses promote equity by allowing students whose families do not have cars to participate in afterschool activities and to be transported home safely.

2. *Coordinate pick-up/drop-off times with school start/end times to minimize blocks of time when students are not occupied at either the beginning or end of the school day. In the event this is unavoidable, include supervised structured activity within those blocks of time.*

“My son likes to ride the bus with his friends. At the end of the day, he sits in the gym and waits at least 20 minutes for his bus to come because we share busing with Essex High School/ Middle school. He get's home 1 hour after school has finished. He is very hungry at this point as it is 4pm and his lunch was at 12:00pm and also more tired. I hope this can be corrected. Thank you!” - **Parent**



Strategies for Success

At some schools in the Burlington School District, the Move it Move Program allows students to run from 7:45 until 8:10 Monday, Wednesday, Friday. The program is conducted in partnership with the Greater Burlington YMCA.

Cats on the Move happens on Tuesday & Thursday during the same pre-school day time slot. UVM student athletes lead students in guided Physical Activity, such as relays and other activities.

BURLINGTON SCHOOL DISTRICT

3. *Enforce student behavior policies/protocols during bussing.*
4. *Ensure appropriately trained adult supervision, in addition to the bus driver, is in place on busses based upon behavior incident data collected at beginning of the year. Assign monitors to highest need busses (if only a limited number of monitors can be hired).*

The US Department of Education recommends that schools provide active adult supervision and monitor and track bullying behavior as part of a comprehensive battery of best practices to address behavioral concerns among students.⁴⁸

Lower levels of adult supervision and inadequate monitoring are related to increased risks for aggressive behavior among young people.³³ During the vetting process this recommendation was supported by all school staff interviewed.

Additionally, The American Academy of Pediatrics Committee on School Health states: *Adult supervision on school buses should focus on ensuring that passengers stay seated, use seat belts when available, and keep arms and heads inside windows; assisting in handling emergencies; assisting passengers with special needs; and escorting children across busy roadways. These objectives can best be met by a second adult (other than the driver) serving as a monitor on the school bus.*⁴⁹

Improve school zone safety

5. *Provide an adequate number of crossing guards at high volume and high speed intersections.*

The primary responsibility of an adult school crossing guard is to help children safely cross the street as they walk or bicycle to and from school. Additionally, a well-trained, adult school crossing guard can help to accomplish the following goals:

- Discourage children from behaving unsafely near traffic and encourage safe behavior by *all* pedestrians at the school crossing.
- Alert motorists that pedestrians are in the process of using the school crossing, temporarily stopping the flow of traffic using a STOP paddle.⁵⁰

Crossing Guards are Eyes on the Street for:

- Unsafe driver behaviors
- Unsafe pedestrian behaviors
- Unlawful parking
- Construction interfering with safe crossing
- Unsafe street conditions
- Suspicious activity
- Improper or lack of safety belt or bicycle helmet use

Figure 14

6. *Provide plenty of secure, sheltered bicycle parking that meets national best practice standard close to an entrance of each school building.*
7. *Work with municipal staff to identify and prioritize infrastructure improvements (e.g., sidewalks, paths, bike lanes, pavement markings, etc.) that would encourage and support walking and biking to schools.*

The Heart and Soul Project identified a Safety goal that stipulates upgrades to the physical infrastructure that will allow residents to move about our community with comfort and security. This underpins the current recommendation and resonates with the body of literature that identifies lack of infrastructure for pedestrians and bicyclists as a significant barrier to active school commutes. Regional and town planning staff sat on our HIA Advisory Committee. There is a walk/Bike Task Force in Essex that might be the agent to move this recommendation forward.

“It is very important that parents, pediatricians, and school districts work together to ensure that all children can get to school safely.”
Phyllis F. Agran, M.D., MPH, FAAP, lead author of the *American Academy of Pediatrics Policy on School Transportation Safety*

8. *Use pavement markings, signage, other prompts and enforcement to promote the safety of pedestrians and bicyclists in areas where busses and cars are operating on school grounds.*

Treatment: Signing and Marking the School Zone

Description/Purpose

Signs and pavement markings that provide important information to drivers to improve road safety. Examples include retroreflective yellow/green school advance warning signs and SPEED LIMIT 25 MPH WHEN FLASHING signs.

Marked crosswalks help guide children to the best routes to school.

Expected Effectiveness

The limited empirical evidence suggests that signs and pavement markings help educate drivers and improve driving behaviors in school zones.

Costs

Costs depend on the school zone treatment selected and the intensity of application. The cost for signs generally ranges from \$50 to \$150 per sign plus installation costs (PEDSAFE, 2004). Pavement marking costs vary by type of paint chosen and marking design.

Keys to Success

- Schools should develop "safe routes to school" traffic control plans which include sign and marking recommendations.
- Traffic signs and pavement markings used on public streets and property must comply with the Manual on Uniform Traffic Control Devices. [See Chapter 7 of the MUTCD for traffic control used in school areas.](#)

Key Factors to Consider

- Signs should be used judiciously, as overuse may breed driver noncompliance and excessive signs may create visual clutter.

Evaluation Measures

- Pedestrian and bicyclist conflicts in School Zone.

Figure 15⁵¹

In light of feedback from security staff regarding the apparent lack of attention paid to signage and road markings by drivers in the school zones and on school property – a discussion with local law enforcement about intermittent enforcement is warranted. Town planning and the school district should work together with law enforcement officers improve strategies to improve speed compliance and therefore improve the safety and efficiency of school zones.⁴⁰

9. *Minimize number of private vehicles near school grounds by supporting bussing, walking, biking, carpooling, remote drop off, etc.*

The most obvious way to achieve this is to encourage students to walk or bike to school. As infrastructure, enforcement and safety concerns are addressed active transportation will become a more viable option to students through-out the district. Until that time the following strategies may be employed to reduce traffic congestion and increase safety in the school zone.

Grant Priority Dismissal for Walkers/Bicyclists

Strategies for Success

Several schools worked with local police department traffic units to increase enforcement around the school during peak hours and to conduct presentations on pedestrian safety to the students. One school incorporated pedestrian safety into physical education classes.

EYLER, AMY A., ET AL. "POLICIES RELATED TO ACTIVE TRANSPORT TO AND FROM SCHOOL: A MULTISITE CASE STUDY." *HEALTH EDUCATION RESEARCH* 23.6 (2008): 963-975.

Staggered dismissal times allow students who walk and bicycle to leave the parking lot before vehicles begin arriving/exiting. This is an incentive for students to walk and bike as well as a way to help them exit the parking lot before the possibility of potential vehicle conflicts.

Establish Remote Drop-Off

Designate a location within walking distance from school where students can be dropped off and walk the rest of the way to school. School buses can also drop students off at a remote location a prescribed distance from the school to allow them to walk as well. Walkability and bikeability would need to be assessed from these points. There are a number of resources that could be employed to assess this. Town planners, the Regional Planning Commission and Health Department staff can assist in this effort.⁵²

“There are one or two points in Westford, like the Village green where a bus stopped would be good.” - **Student**

Monitoring

Monitoring involves tracking how this HIA affects the decision-making process, the actual decision, and the effects of the decision on health.⁵³ Firstly, we are interested in monitoring the usefulness of this assessment to the unified school board in making implementation decisions regarding school transportation. To achieve this goal, we will conduct an evaluation of the HIA which will include interviewing members of the school board on the impact of the Assessment.

To monitor the actual decision on school transportation policy, we will capitalize on our existing relationships and system of technical support provided to schools and communities. The Burlington District Office has dedicated staff members who provide support and assistance to schools and communities to promote physical activity, safety, and positive social and emotional health outcomes. This support includes planning and evaluating safe routes to schools programming, performing walk and bike audits to point to specific infrastructure improvements for safe, active transport, and improving the school climate to promote positive behaviors. Through this body of work, we will be closely connected to efforts to implement the recommendations in this report.

Improvement in overall health outcomes will be monitored long term through changes in the Youth Risk Behavior Survey. While it will not be possible to make direct causal relationships between recommendations in improvement in health outcomes such increased physical activity or improved mental health, correlations can be made due to the recommendations grounding in research and best practice. We recommend continued monitoring of trends over time.

Appendix A – Parent Survey

Which community do you live in?

- Essex Town
- Essex Junction
- Westford
- Other

How many school-age children (5-18 years of age) live with you? _____

What are their ages? _____yrs. _____yrs. _____yrs. _____yrs. _____yrs.

Which school(s) do children in your household attend? (choose all that apply)

- Albert D. Lawton Intermediate School
- Center for Technology, Essex
- Essex Elementary School
- Essex High School
- Essex Middle School
- Founders Memorial School
- Hiawatha Elementary School
- Other
- Summit Street Elementary School
- Thomas Fleming Elementary School
- Westford Elementary School

What is the primary way your children get to school?

- Walk
- School bus
- I drive them or another family member drives them
- They drive themselves
- Carpooling
- Other

If the primary mode of transportation is not possible/available, what is the next most common way your child gets to school?

- Walk
- School bus
- I drive them
- Another family member drives them
- Carpooling
- Other

When using the primary mode of transportation selected above, how long does it usually take your child to travel to school?

- Less than 5 minutes
- 5 – 15 minutes
- 16-30 minutes
- More than 30 minutes
- Unsure

Is bussing currently available for you children?

- Yes
- No

If **no**, would your children use bussing if it were made available?

- Yes No Maybe

If you answered **no** above, choose the reasons you would not allow your children to be bussed (choose all that apply).

- Safety concerns
 Bullying/other negative behaviors
 Bus schedule doesn't fit household schedule
 Ride is too long
 My child goes to child-care or afterschool activities
 My child doesn't like it
 Bus service is not currently provided
 Other: _____

How many available drivers live in your household?

- 1 2 3 4 or more

How many cars do members of your family have access to?

- 1 2 3 4 or more

If you live within a half-mile of the school your child attends, Consider the most likely route your child might use to walk/bike to school. What if any concerns would you have? (choose all that apply)

- Lack of sidewalks
 Dangerous intersection(s)
 No crossing guards at major roads
 Walking doesn't work with our household schedule
 Weather concerns

Which term best describes your household?

- Two parent
 Single parent
 Multi-generational

Please share other comments:

Appendix B – Youth Focus Group Guide

Introduction – 10 minutes

Hi, I'm Mallory and this is Ryan and Ed.

We want to thank you for agreeing to be part of this discussion. I want to start by telling you a little about why we wanted to talk with you. With the recent merging of the Essex and Westford school districts, the Department of Health is doing a Health Impact Assessment on student transportation to and from school. **A Health Impact Assessment, or HIA, is a tool that uses data, research, and community input to determine a policy's impact on the health of people in a community. HIAs provide recommendations to address any issues that may affect health before a final decision is made.** Today we want to get your perspectives and experiences on how you get to school as well as get some feedback on our draft recommendations around student transportation.

Since this HIA is about how students get to school, your thoughts on the topic are very important. We have a few ground rules to make sure everyone has a chance to share their opinion and enjoy the discussion.

- Everything shared today **will be kept confidential and please know that your participation is completely voluntary.** Ryan and Ed will be taking notes and we will be recording the discussion in case we miss something in our notes.
- There are **no right or wrong answers.** Please share what you honestly think or feel. We expect that you will have different opinions and that is great! We want to hear different views, so feel free to disagree with someone but please respect that they have a different opinion.
- You do not need to talk in a specific order, so speak up at any time. We ask that you talk one at a time so we can capture everyone's thoughts.
- Please speak loud enough for everyone to hear and share your thoughts with the whole group.

The discussion should take about an hour and a half. Ryan or Ed– do you have anything to add? Does anyone have any questions?

Okay, let's take a few minutes to introduce ourselves. I would like us to go around the table and tell us your **first name, grade, how you get to school and from school.**

Now that we've introduced ourselves, let's get started.

Attitude/Background questions – 25 minutes

1. How do most kids your age get to school? Why that type of transportation?
2. How long do kids wait at school before and after the school day?
 - i. **Probe – waiting for busses, getting dropped off early**
3. Does how a student gets to or from school ever effect their ability to succeed in their classes?

i. Probe – tardiness, less time to do homework

4. Do you think getting to and from school-based afterschool activities impacts whether someone participates? How?
5. Do you think how a student gets to and from school has an impact on their health? How?
 - a. Do you think it has an impact on the community?

Transportation questions – 30 minutes

The next couple of questions specifically refer to the different ways kids get to and from school.

6. Let's think about how kids get to school – why, or why don't, kids your age walk or bike to school?
 - a. What about younger kids – in middle school or elementary school – why would or wouldn't they walk or bike to school?
 - b. What are some of the benefits of walking or biking?
7. Now let's think about the students who ride the bus – How do students act on the bus?
 - a. How is riding the bus different for younger kids and students your age?

i. Probe: bullying/acting out

8. Okay, now driving – do students ever get to or from school by carpooling?
 - i. Probe: crowding**
 - b. Think about the parking lot here – have you seen any close calls or accidents?

Recommendations Activity – 20 minutes

Great, thanks for everyone's thoughts on how students get to and from school. Now we are going to take a **look at some recommendations** we have come up with so far. We want to get your feedback and suggestions on these recommendations before we finalize them. These recommendations will be published in the HIA as suggestions on how to address any health issues with changing bussing availability for students.

(Pass out recommendations and read aloud)

We are going to break into three groups and talk about what you like and what you don't like about each of the recommendations. You will have 15 minutes to go through the recommendations. For each, write what you like on the green post its and what you don't like on the red ones. For things you don't like, write down how you would change them. Each of the recommendations is on the wall – once you have written on the post-its you can stick them on the recommendations on the wall.

Questions?

(If time ask groups to share 1 think they would change or add)

Closing – 5 minutes

(After activity regroup for closing question.)

Thank you, these comments will be really helpful as we refine the recommendations.

9. After reading the recommendations and giving us your feedback, do you think there is anything we have missed here?

Thanks again for everyone's input – like I said earlier your opinions are really important in getting a full understanding of how and why students get to school the way they do!

If there is anything you want us to know that didn't get the opportunity to talk about today, please write it on an index card.

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