

Washington State Student Travel Survey State Report

Washington State Department of Transportation
Local Programs Division

Washington State Department of Health
Office of Healthy Communities

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Washington State Student Travel Survey State Report

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Washington State Student Travel Survey

State Report

Executive Summary

The purpose of Washington State Student Travel survey was to obtain information that will improve student transportation services, and create a more efficient and cost effective transportation system. The survey, conducted in the spring of 2014, asked parents how children, in kindergarten through 8th grade get to and from school and possible barriers to walking, biking, or riding the bus.

Overall, 44 percent of children in kindergarten through 8th grade ride the school bus, 38 percent get to school by family vehicle, 15 percent walk and less than one percent ride their bikes. About a third of students live within one mile of school, and over half live within two miles of school. Those children that live within one mile of school are more likely to walk (39%) or bike (3%) than those who live further away. When asked, what were some barriers to their children walking or biking to or from school, more than 50 percent of parents cited the following reasons: distance, child too young, unsafe road crossings, convenience of driving, poor weather, speed or traffic along the route, time, and lack of sidewalks. Excluding those students who live less than one mile from school, the most common reasons parents cited that their children didn't ride the bus was that the bus was not available (46%) and the bus was not available at the right time (30%).

Student Transportation Background

Every school day a little over one million students in Washington State make the trip to and from elementary, middle, and high school. That's about 20 percent of our total population and until now we had limited information about how most of them were getting there. On the national level, there have been reports that indicate student transportation patterns have changed dramatically. In 1969, 48 percent of K-8th grade students walked or biked to school and about 38 percent rode the school bus. By 2009, walking and biking in the nation had dropped to 13 percent, the percent riding the bus was about the same and the percent being driven to school by a parent or guardian made up the difference. While school bus ridership has been monitored in Washington State, other modes of transportation have not. It has been assumed that changes in walking, biking, and being driven to school were similar to national numbers.

Transportation to school is not a small matter for our younger community members, for parents, schools/school districts, law enforcement, and city/county officials. It involves the

consideration of costs (both financial and time), infrastructure, traffic congestion, safety, and potential health issues.

Riding the school bus is the safest mode of transportation for the trip to school. It is however costly. In the 2013/2014 school year, the state expenditures for school bus service totaled approximately \$318 million. The Office of Superintendent of Public Instruction (OSPI) is working in partnership with schools and school districts to make the school bus program as efficient as possible. They are targeting services toward children that are not able to walk or bike to school, and who need them the most.

Private vehicles used to transport students to school increase the number of vehicles on the road which results in traffic congestion near schools. A byproduct of traffic congestion, idling and driving in general is air pollution. Vehicle emissions increase atmospheric greenhouse gases which are substances that contribute to climate change. About 40 percent of greenhouse gas emissions in Washington State are from transportation sources.

Walking and biking to school is inexpensive and one way for children to get regular physical activity. Physical activity is positively linked with a reduction in chronic diseases, readiness to learn, academic achievement, and a reduction in behavior problems. According to the [Washington State Department of Health 2012 Healthy Youth Survey](#) about 50 percent of Washington, students are not getting the 60 minutes of daily exercise recommended for long-term health.

Children that do walk and bike to school can be vulnerable to collisions with other road users. In 2014 there was a total of 71 fatal and serious injury bicycle and pedestrian related collisions involving school aged children. Twenty four of them occurred on school days during arrival and departure times. The Safe Routes to School Program provides funding for local agencies to improve walking and biking conditions near schools to help make it safer. The goal of the program is to increase the number of children walking and biking to school safely.

Washington State Student Travel Survey

Understanding how children get to and from school and the barriers to walking, biking, and riding the school bus is a part of providing safe and efficient transportation for all of Washington. The Washington State Student Travel survey is a study of how children, in kindergarten through 8th grade get to and from school and possible barriers to walking, biking, or riding the bus. The Washington State Department of Transportation and Department of Health (with support from the Office of Superintendent for Public Instruction) developed the survey, funded by the State Legislature, to improve student transportation safety and efficiency. The purpose of the survey and this report is to help improve student transportation services, and to create a more efficient and cost effective

transportation system, which also provides opportunities to improve student health and safety. The results provide a baseline for performance measures and insight to better support our children and achieve our transportation goals. They will be used to evaluate and improve activities aimed at increasing walking, biking, and riding the school bus to school.

Methodology

Two groups of schools were selected for inclusion in the Washington State Student Travel Survey. The first group was schools that received Safe Routes to School funding between 2006 and 2011 and a second randomly selected group of schools from the Washington State public school system that had not received funding. Of the 130 schools that had received Safe Routes to School funding (we excluded schools that had received an award for education-only projects), we recruited 109 schools. We randomly contacted 97 schools that had not received funding and recruited 69 schools to participate. Public schools that were not eligible to participate in the survey included those that were online, alternative schools, schools with kindergarten or preschool only, or those with less than 15 students in each grade, from kindergarten through 8th. A total of 178 schools were included in the final survey sample, covering 66 school districts across the state. Superintendents from the selected school districts were notified by email and phone call follow-up of the survey and asked to provide parent/guardian phone numbers by student grade. No other identifying information was requested. School district participation was voluntary. Phone numbers were randomly sampled by grade from participating schools and parent/guardian participation in the telephone survey was voluntary. The survey was conducted in the spring of 2014, by telephone through a contractor with the Department of Health. The survey questions are attached in appendix A. Overall, the survey took about five to seven minutes to complete. The final sample size was 9656 parents and/or guardians.

Results

How do children get to school?

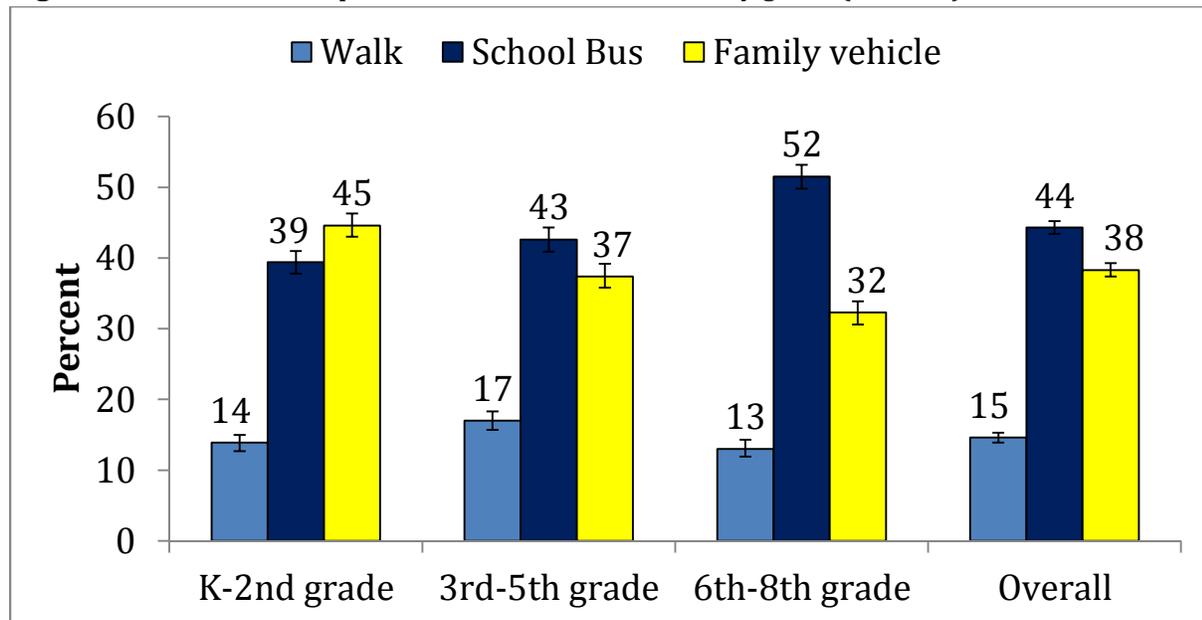
Overall about 16 percent of students get to school using active transport (i.e, walking or biking) (Table 1). A slightly higher percentage of students (18.5%) use active transport to get home from school. (Table not shown). The most frequently cited method of transportation to school for children in grades kindergarten through 8th was the school bus (44%), followed by family vehicle (38%), and finally walking (about 15%). Biking was reported by less than one percent of students and was the least cited method of transportation for students in kindergarten through 8th grade.

Table 1. Method of transportation from home to school (N¹ =9321)

Physical Transport				Motarized					
Walk		Bike		School Bus		Family vehicle		Carpool	
N	% (SE ²)	N	% (SE)	N	% (SE)	N	% (SE)	N	% (SE)
1361	14.6 (13.9, 15.3)	84	0.9 (0.7, 1.1)	4128	44.3 (43.4, 45.2)	3572	38.3 (37.4, 39.3)	111	1.2 (1.0, 1.4)

Students in 3rd through 5th grade reported a higher percentage of walking to school (17%) than other grades (Figure 1). As grade increased, the percent of students who were driven by family car decreased and the percent of students riding the school bus increased.

Figure 1. Method of transportation from home to school by grade (N=9321)



Overall, female students were more likely to be driven to school in the family car than males. (Table 2) There were no statistically significant differences by sex on walking or taking the bus to school, although males did have a higher prevalence of walking to school than females.

Table 2. Method of transportation from home to school by sex (N=9190)

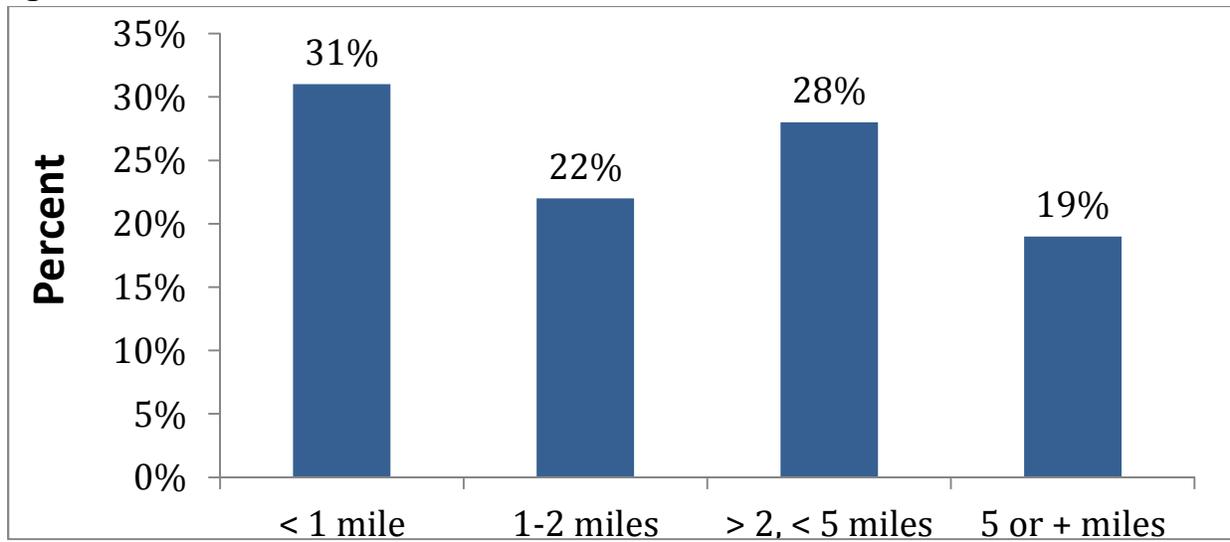
	Walk		School Bus		Family vehicle	
	N	% (SE)	N	% (SE)	N	% (SE)
Males (N=4857)	748	15.4 (14.4, 16.4)	2199	45.3 (43.9, 46.6)	1766	36.4 (35.0, 37.7)
Females (N=4333)	585	13.5 (12.5, 14.5)	1875	43.3 (41.9, 44.7)	1760	40.6 (39.1, 42.1)

¹ N is equal to the number of respondents.

² SE is the standard error.

Distance from school greatly affects the mode of transportation chosen by many students. In answer to the question about how far students live from school, parents reported, 31 percent of students live less than one mile from school, 22 percent of students live one to two miles from school, 28 percent of students live more than two but less than five miles from school, and 19 percent live five or more miles from school (Figure 2). A little over 50 percent of children live within two miles of school; an easy walk or bike for most children.

Figure 2. Distance Students Live from School



Of parents with students who live less than one mile from school, 39 percent reported that their children walk to school. That is about the same percentage as those being driven to school in the family vehicle. (Table 3) The farther away from school students live, the higher the percentage of those riding the bus to school.

Table 3 Method of transportation to school by distance the student lives from school (N=8871)

	Physical Transport				Motorized					
	Walk		Bike		School Bus		Family vehicle		Carpool	
	N	% (SE)	N	% (SE)	N	% (SE)	N	% (SE)	N	% (SE)
Less than 1 mile (N=2768)	108 9	39.3 (37.6, 41.2)	52	1.9 (1.4, 2.5)	498	18.0 (16.7, 19.4)	10 79	39.0 (37.2, 40.8)	42	1.5 (1.1, 2.1)
1-2 miles (N=1950)	152	7.8 (6.7, 9.1)	22	1.1 (0.8, 1.7)	906	46.5 (44.3, 48.7)	83 5	42.8 (40.7, 45.0)	27	1.4 (1.0, 2.0)
More than 2 miles less than 5 miles (N=2440)	51	2.1 (1.6, 2.7)	5	0.2 (0.1, 0.5)	148 9	61.0 (59.1, 62.9)	86 1	35.3 (33.4, 37.2)	21	0.9 (0.6, 1.3)
5 or more miles (N=1713)	9	0.5 (0.3, 1.0)	2	0.1 (0.0, 0.5)	996	58.1 (55.9, 60.4)	66 0	38.5 (36.3, 40.8)	18	1.1 (0.7, 1.7)

Younger students (kindergarten through 2nd grade) who live less than one mile from school reported the lowest percent of walking to school (34%), than children in other grades who also live less than one mile from school (Table 4). The youngest students reported a higher percentage of being driven to school (46%) than students in 3rd through 5th grade (35%), or children in 6th through 8th grade (32%).

Table 4. Method of transportation for students who live less than 1 mile from school by grade

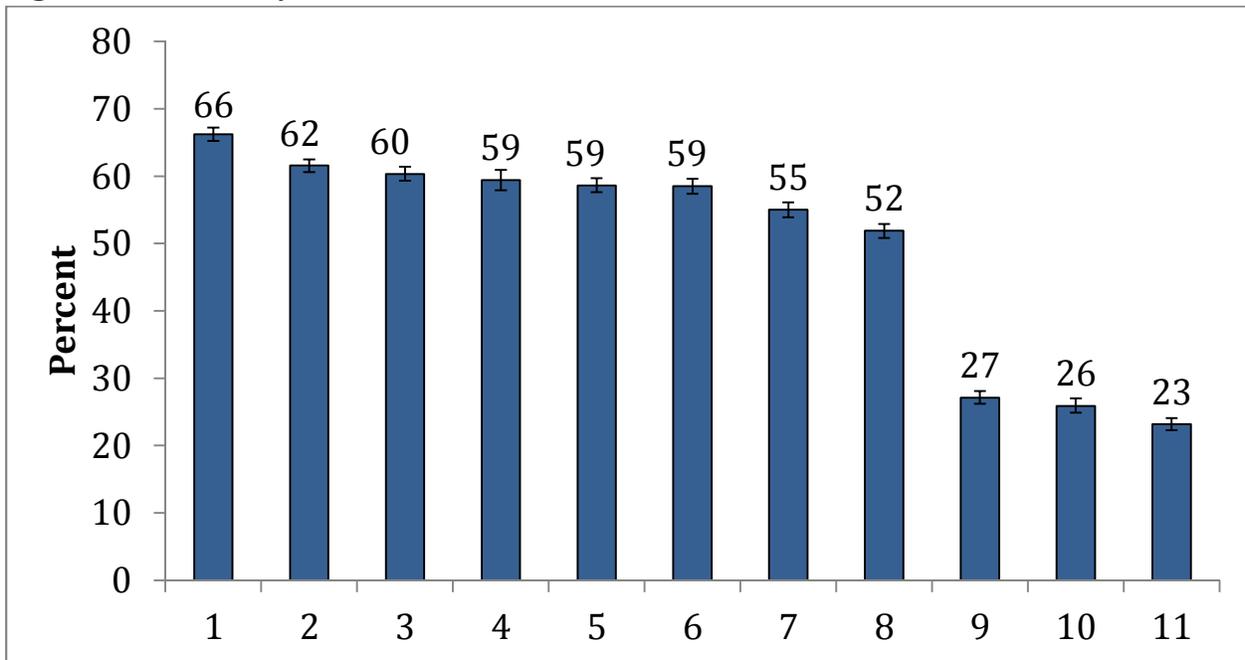
	Walk		School Bus		Family vehicle	
	<i>N</i>	% (<i>SE</i>)	<i>N</i>	% (<i>SE</i>)	<i>N</i>	% (<i>SE</i>)
K-2nd grades (N=3168)	387	33.5 (30.8, 36.2)	209	18.1 (16.0, 20.4)	526	45.5 (42.7, 48.4)
3rd-5th grades (N=2878)	430	42.3 (39.3, 45.3)	190	18.7 (16.4, 21.2)	360	35.4 (32.5, 38.4)
6th-8th grades (N=1730)	272	45.7 (41.8, 49.7)	99	16.6 (13.9, 19.8)	193	32.4 (28.8, 36.3)

On average, parents reported that it took between 10 to 20 minutes for children to get to school, with over 83 percent reporting 20 minutes or less.

Why don't children walk or ride a bike to school?

When asked, what were some barriers to their children walking or biking to or from school, more than 50 percent of parents cited the following reasons: distance, child too young, unsafe road crossings, convenience of driving, poor weather, speed or traffic along the route, time, and lack of sidewalks (Figure 3). Less than 30 percent of parents reported bullying or crime, child didn't want to, or child's after or before school activities.

Figure 3. Reasons why children don't walk or ride their bike to or from school



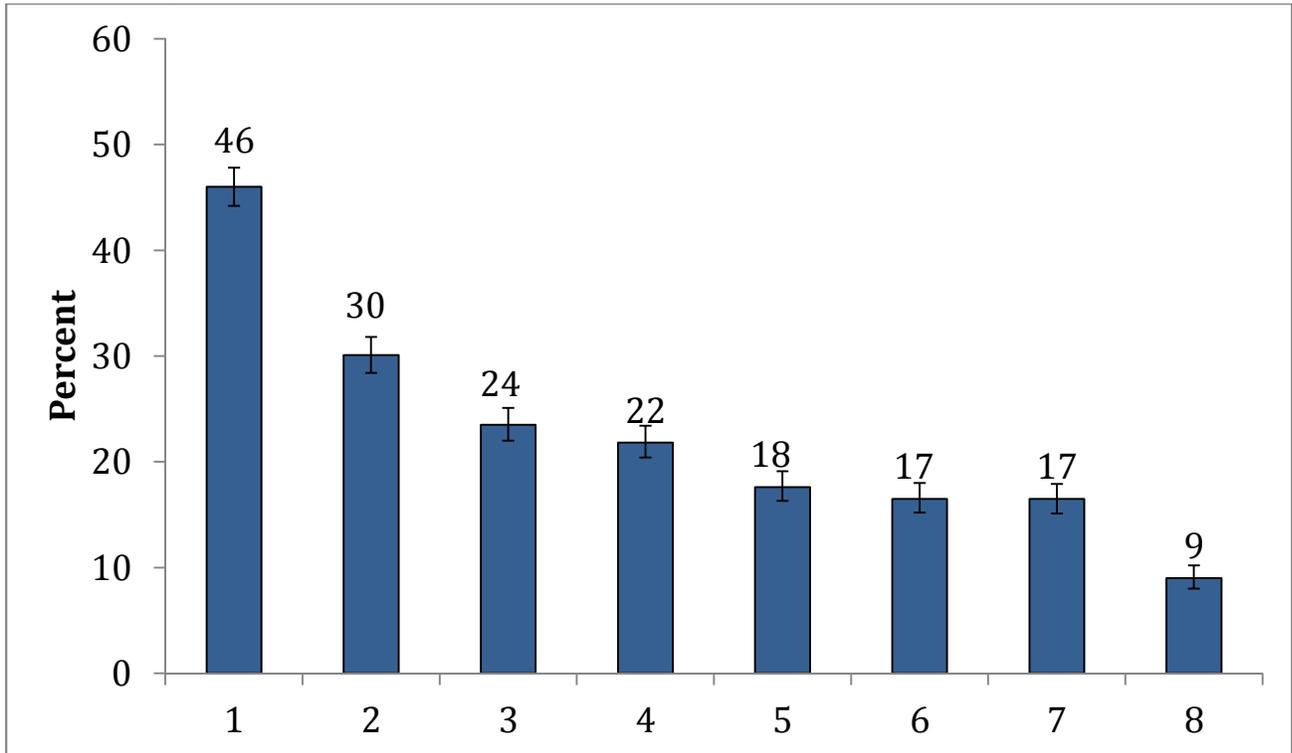
1. Distance
2. Child is too young
3. Unsafe road crossings
4. Convenience of driving
5. Poor weather
6. Speed or traffic
7. Time
8. Lack of sidewalks
9. Child does not want to
10. Bullying, crime
11. Child's after/before school activities

When breaking down the information included in Figure 3 to *only* those students who live less than one mile from school, the three most common reasons cited for not walking or biking to school was convenience of driving (64%), child too young (62%), and poor weather (59%). Two other reasons reported by close to half of the parents with students who live less than one mile from school included unsafe road crossings (reported by 48% of parents) and speed or traffic along the route (reported by 47% of parents).

Why don't children ride the school bus?

Excluding those students who live less than one mile from school, the most common reasons parents cited that their children didn't ride the bus was that the bus was not available (46%) and the bus was not available at the right time (30%). More than 20 percent of parents cited the amount of time it takes on the bus to get to school and their child's before or after school activities (Figure 4).

Figure 4. Reasons why children don't ride the bus (of students who live one mile or further from school)

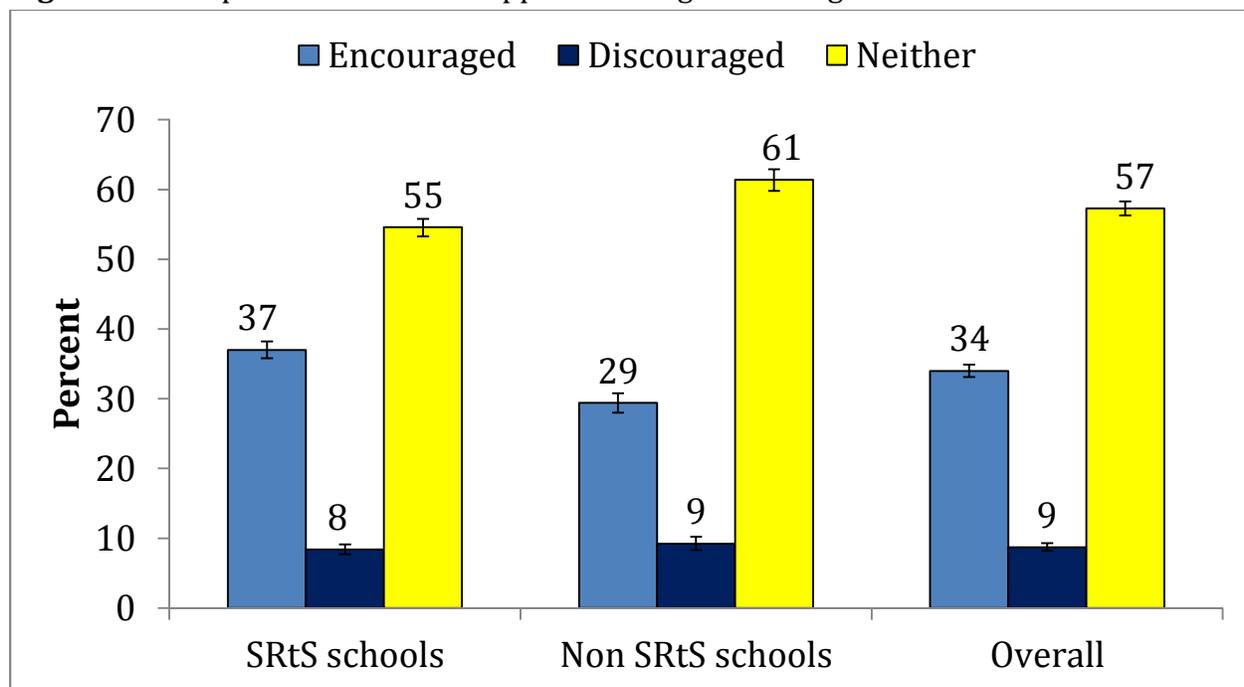


- | | |
|--|--|
| 1. Bus not available | 5. Distance to school bus stop |
| 2. Bus not available at right time | 6. Concern with bullying on the bus |
| 3. Amount of time on bus | 7. Child doesn't want to for other reasons |
| 4. Child's before or after school activities | 8. Bus doesn't have seatbelts |

What is the perception of parents about schools encouraging walking and biking?

Parents of students in schools that participated in the Safe Routes to School program reported a higher percentage of their schools encouraging walking and biking to schools compared with parents of students in schools that did not participate in the Safe Routes to School program (Figure 5). Overall, over half (57%) of all parents (regardless of whether their schools had participated in the Safe Routes to School program) reported that they didn't feel their child's school either encouraged or discouraged walking or biking to school.

Figure 5. Perception that schools support walking and biking to school



Safe Routes to School Evaluation

For most of the survey questions, the study analysis was not able to show statistically significant differences in responses between parents of students in schools that participated in the Safe Routes to Schools program, versus schools that did not. A further analysis of the data, which was not within the scope of this report, may provide limited evaluation results for previously completed Safe Routes to School projects. See the limitations and next steps below for more information.

Limitations and Next Steps

The results from the Safe Routes to School evaluation are subject to several limitations. The study used cross-sectional data and it is not clear if patterns of student travel to and from school differ or change based on time of year (the survey was administered in late spring).

Participation in the study was voluntary for both school districts and parents. There may be bias in the results due to differences between those schools and parents that participated in the survey and those that did not. We do not have additional data to make such a comparison.

Another limitation was specific to the combination of schools participating in the Safe Routes to Schools program, compared with schools that did not participate in the program. Schools listed as part of the Safe Routes to Schools program could be different from each other depending on activities they pursued under the grant, their baseline of students

walking and biking to school, the change in walking and biking as a result of participating in the program, and other factors not collected as part of this study. Implementation timing of the Safe Routes to School program activities varied greatly and would also affect result findings.

Future analysis of walking and biking rates in schools that participate in the Safe Routes to Schools program, versus those that did not, should include information about the percent of students walking and biking before the Safe Routes to School activities were implemented. Individual school assessments specific to the barriers of walking, biking, and riding the school bus could yield a more targeted understanding of potential needs associated with the barriers.

Discussion/Conclusions

Overall, 15 percent of children walk to school and less than one percent ride their bikes. About a third of students live within one mile of school, and over half live within two miles of school. Those children that live within one mile of school are more likely to walk (39%) or bike (3%) than those who live further away. About 39 percent of students who live less than one mile from school are driven in a family vehicle and 18 percent go by bus. Typically bus services are not targeted to students who live within one mile of school, with an adequate walk route that does not have hazardous conditions.

There are many opportunities to increase walking and biking to school especially for students that live less than one or two miles from school. Safe Routes to Schools programs can help with problems associated with unsafe road crossings, availability of sidewalks, and speed or traffic along routes. Encouragement of parents to view walking and biking to school as healthy behaviors (and encouraging parents to walk or bike with students) could help decrease the percent of students who are driven. The student travel survey results indicate that 57 percent of respondents reported that their school district neither encouraged nor discouraged walking and biking to school. There is considerable opportunity to increase awareness of walk and bike to school encouragement efforts.

Other resources available to help school districts, parents, and communities increase the numbers of children walking and biking to school include the "[School Walk and Bike Routes: Guide for Planning & Improving Walk and Bike to School Options for Students](#)". It provides information to help develop, maintain, and improve school walk routes and address bicycle and pedestrian safety. The [National Center for Safe Routes to School](#) is also an excellent resource with information about Walk to School Day, Walking School Bus, etc.

According to the survey 44 percent of students in kindergarten through 8th grade ride the school bus. Potential barriers to riding the bus included, that the bus was not available or available at the right time, and amount of time kids spent on the bus traveling to and from

school. To increase the number of children that ride the bus, school districts can assess their school bus programs and determine ways to make them more efficient and available to more students who want to ride.

The purpose of the survey and this report is to provide information to help improve student transportation services, and create a more efficient and cost effective transportation system, which also provides opportunities to improve student health and safety. The results of the survey will be used to support that work at the local and state level. School District specific results will be sent to the participating districts to help them better understand transportation patterns. It will provide information to plan activities to promote walking, biking or riding the school bus that will be better targeted to the needs of their students. In partnership with local agencies they will be able to use the data to apply for Safe Routes to School funding and justify the need for other student transportation funding opportunities. At the state level, the information will help with planning efforts to optimize the distribution of funding for improvements where they will be most efficient. It also provides a state baseline to track changes over time and evaluate progress towards a more effective transportation system.

APPENDIX A

Washington State Student Travel Survey

MAIN SURVEY QUESTIONS

QUESTION 1. "How far does your child live from school?"

- A. < ¼ mile
- B. ¼ mile to < ½ mile
- C. ½ mile to < 1 mile
- D. 1 mile to < 2 miles
- E. 2 miles to < 3 miles
- F. 3 miles to < 4 miles
- G. 4 miles to < 5 miles
- H. 5 or more miles from school
- I. Refused
- J. Don't know

QUESTION 2. "On most school days, how does he/she usually get to school?"

- A. Walk
- B. Bike
- C. Skateboard, roller skates, roller blades, non-motorized scooter
- D. School bus
- E. Family vehicle, including motorcycle (only children in your family)
- F. Carpool (Children from other families)
- G. Transit (city bus, ferry, other public transportation)
- H. Motorized scooter, moped
- I. Other, specify _____

QUESTION 3. "On most school days, how does he/she usually leave school?"

- A. Walk
- B. Bike
- C. Skateboard, roller skates, roller blades, non-motorized scooter
- D. School bus
- E. Family vehicle, including motorcycle (only children in your family)
- F. Carpool (Children from other families)
- G. Transit (city bus, ferry, other public transportation)
- H. Motorized scooter, moped
- I. Other, specify _____

QUESTION 4. "How long does it normally take your child to get to school? "

- A. 0-10 minutes
- B. 11-20 minutes
- C. 21-30 minutes
- D. 31-40 minutes
- E. 41-50 minutes
- F. 51-60 minutes
- G. More than one hour
- H. Refused
- I. Don't know

QUESTION 5. "How long does it normally take your child to get home from school? "

- A. 0-10 minutes
- B. 11-20 minutes
- C. 21-30 minutes
- D. 31-40 minutes
- E. 41-50 minutes
- F. 51-60 minutes
- G. More than one hour
- H. Refused
- I. Don't know

QUESTION 6. "Which of the following affects why he/she does not walk or bike to/from school?" [CHECK ALL THAT APPLY]

- A. Distance between home and school
- B. Convenience of driving
- C. Amount of time needed to walk or bike
- D. Child's BEFORE/AFTER school activities
- E. Amount or speed of traffic along route
- F. Lack of sidewalks or pathways
- G. Bullying, violence or crime
- H. Poor weather
- I. Child does not want to
- J. Child is too young.
- K. Unsafe road crossing
- L. Other _____
- M. DON'T KNOW
- N. REFUSED

QUESTION 7. "Which of the following affects why he/she does not ride the school bus to/from school?" [CHECK ALL THAT APPLY]

- A. Bus is not available
- B. Bus not available at the time they need
- C. Amount of time on the bus
- D. Child's BEFORE/AFTER school activities
- E. Concern with bullying on the bus
- F. Child does not want to ride the bus for reasons other than bullying
- G. Distance to school bus stop
- H. Bus doesn't have seat belts
- I. Other: Specify _____
- J. DON'T KNOW
- K. REFUSED

QUESTION 8. "In your opinion, has your child's school encouraged or discouraged walking or biking to and from school? Would you say that they encouraged, discouraged, or neither?"

- A. Encouraged
- B. Discouraged
- C. Neither
- D. Don't know
- E. Refused

QUESTION 9. "What is your zip code?"

- A. _ _ _ _ _
- B. Don't know
- C. Refused