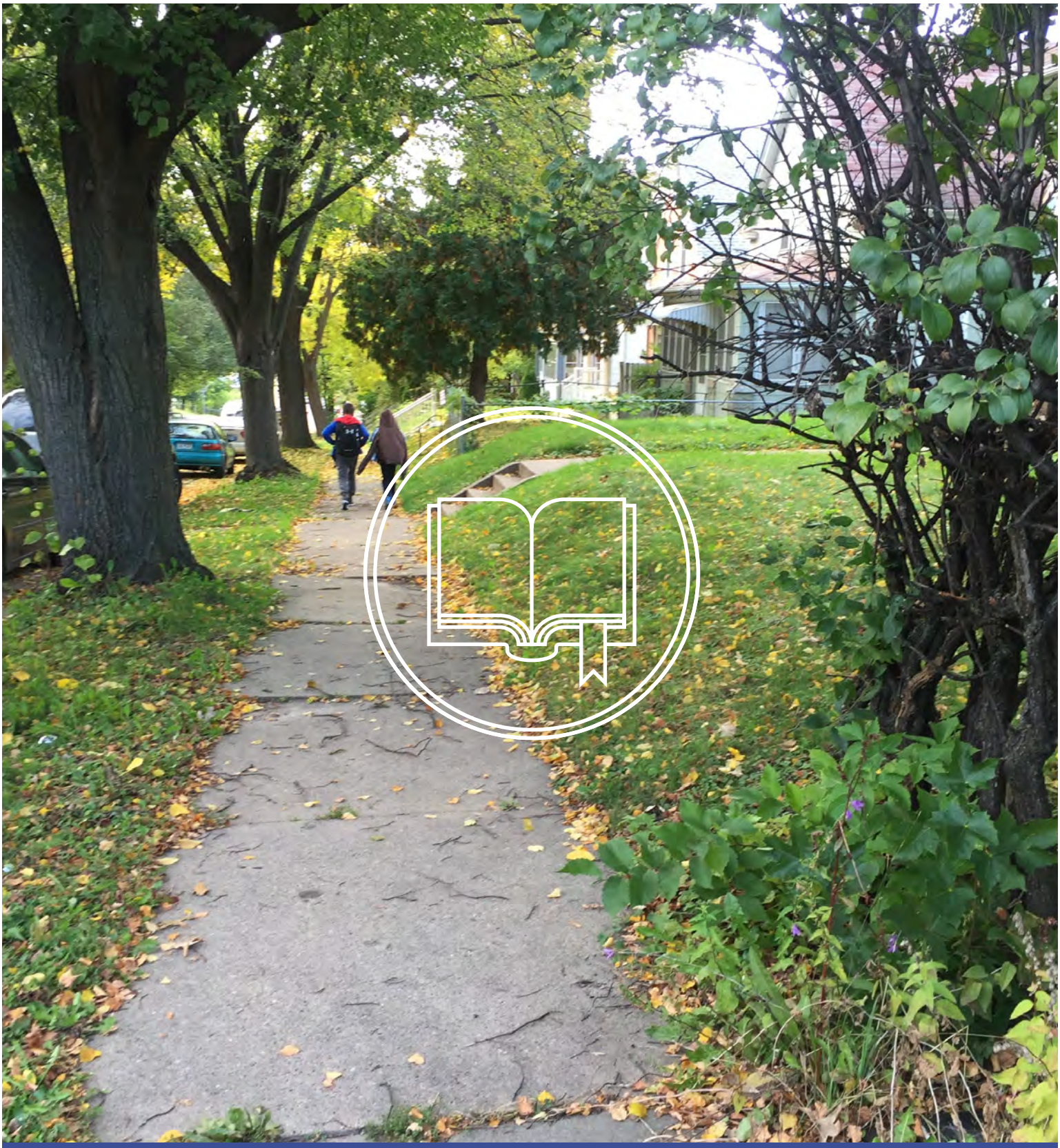

A APPENDICES

FARNSWORTH AEROSPACE

Saint Paul Public Schools, Saint Paul, MN

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Appendix A. For More Information

This appendix provides contact information for local, state, and national SRTS program resources as well as school partners.

NATIONAL RESOURCES

Safe Routes to School Data Collection System
http://www.saferoutesinfo.org/data-central

Pedestrian and Bicycle Information Center
http://www.pedbikeinfo.com/

National Center for Safe Routes to School
http://www.saferoutesinfo.org/

Safe Routes to School Policy Guide
http://www.saferoutespartnership.org/sites/default/files/pdf/Local_Policy_Guide_2011.pdf

School District Policy Workbook Tool
http://www.changelabsolutions.org/safe-routes/welcome

Safe Routes to School National Partnership State Network Project
http://www.saferoutespartnership.org/state/network

Bike Train Planning Guide
http://guide.saferoutesinfo.org/walking_school_bus/bicycle_trains.cfm

10 Tips for SRTS Programs and Liability
http://www.saferoutesinfo.org/sites/default/files/liabilitytipsheet.pdf

Tactical Urbanism and Safe Routes to School
http://www.saferoutespartnership.org/resources/fact-sheet/tactical-urbanism-and-safe-routes-school

STATE RESOURCES

Dave Cowan, Minnesota SRTS Coordinator
395 John Ireland Blvd
St. Paul, MN 55155
651-366-4180
dave.cowan@state.mn.us

Mao Yang, State Aid for Local Transportation
395 John Ireland Blvd
St. Paul, MN 55155
651-366-3827
mao.yang@state.mn.us

MnDOT Safe Routes to School Resource Website
http://www.dot.state.mn.us/saferoutes/

Minnesota Safe Routes to School Facebook page
https://www.facebook.com/MinnesotaSafeRoutestoSchool

Walk!Bike!Fun! Pedestrian and Bicycle Safety Curriculum
http://www.bikemn.org/education/walk-bike-fun

School Siting and School Site Design
http://www.dot.state.mn.us/mnsaferoutes/planning/school_siting.html

LOCAL RESOURCES

Samantha Henningson
Legislative Aide to Councilmember Stark, City of Saint Paul
samantha.henningson@ci.stpaul.mn.us

Mary Yackley
Student Health and Wellness, SPPS
mary.yackley@spps.org

Carol Grady
SHIP Grant Coordinator, SPPS
carol.grady@spps.org

Tom Burr
Transportation Director, SPPS
tom.burr@spps.org

Hamilton Bell
Principal, Farnsworth Aerospace
hamilton.bell@spps.org

Renee Combs
Teacher, Farnsworth Aerospace
renee.combs@spps.org

Appendix B. SRTS Facts for School Communication

The following facts and statistics have been collected from national sources. They are intended to be submitted for use in individual school newsletters, emails or other communication with parents and the broader school community.

Except where otherwise noted, the following are based on research summarized by the National Center for Safe Routes to School. More information, including primary sources, can be found at http://guide.saferoutesinfo.org.

TRAFFIC: COSTS, CONGESTION, AND SAFETY

- In 1969, half of all US schoolchildren walked or biked to school; by 2009, that number had dropped to just 13 percent.
- In the United States, 31 percent of children in grades K–8 live within one mile of school; 38 percent of these children walk or bike to school. You can travel one mile in about 20 minutes by foot or six minutes by bicycle.
- In 2009, school travel by private family vehicle for students in grades K through 12 accounted for 10 to 14 percent of all automobile trips made during the morning peak travel and two to three percent of the total annual trips made by family vehicle in the United States.
- Among parents who drove their children to school, approximately 40 percent returned home immediately after dropping their children at school. If more children walked or bicycled to school, it would reduce the number of cars near the school at pick-up and drop-off times, making it safer for walkers and bicyclists through reduced traffic congestion and improved air quality.
- Over the past few decades, many school districts have moved away from smaller, centrally located schools and have instead built schools on the edge of communities where land costs are lower and acreage has been more available. As a result, the percentage of students in grades K through 8 who live less than one mile from school has declined from 41 percent in 1969 to 31 percent in 2009.
- Personal vehicles taking students to school accounted for 10 to 14 percent of all personal vehicle trips made during the morning peak commute times. Walking, bicycling, and carpooling to school reduces the numbers of cars dropping students off, reducing traffic safety conflicts with other students and creates a positive cycle—as the community sees more people walking and biking, more people feel comfortable walking and bicycling.
- Conservatively assuming that 5% of today's school busing costs are for hazard busing, making it safe for those children to walk or bicycle instead could save approximately $1 billion per year in busing costs.
- 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.
- Reducing the miles parents drive to school by just 1% would reduce 300 million miles of vehicle travel and save an estimated $50 million in fuel costs each year.
- Did you know that as more people bicycle and walk, biking and walking crash rates decrease? This is also known as the 'safety in numbers' principle. As more families walk and bike to school, streets and school zones become safer for everyone.

HEALTH: PHYSICAL ACTIVITY AND OBESITY

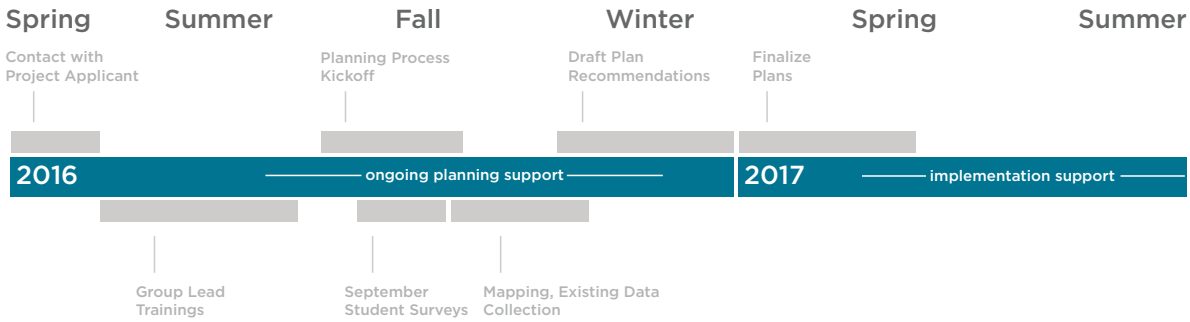
- The U.S. Department of Health and Human Services recommends that children do one hour or more of physical activity each day. Walking just one mile each way to and from school would meet two-thirds of this goal.
- Studies have found that children who get regularly physical activity benefit from healthy hearts, lungs, bones and muscles, reduced risk of developing obesity and chronic diseases, and reduced feelings of depression and anxiety. Teachers also report that students who walk or bike to school arrive at school alert and "ready to learn."
- Researchers have found that people who start to include walking and biking at part of everyday life (such as the school commute trip) are more successful at sticking with their increased physical activity in the long term than people who join a gym.
- One recent study showed that children who joined a "walking school bus" ended up getting more physical activity than their peers. In fact, 65% of obese students who participated in the walking program were no longer obese at the end of the school year.
- Childhood obesity has increased among children ages 6 to 11 from 4% in 1969 to 19.6% in 2007.Now 23 million children and teens—nearly one-third of all young people in the U.S.—are overweight or obese.
- The 2010 Shape of the Nation report from the National Association for Sport and Physical Education found that, nationwide, less than one-third of all children ages 6 to 17 participate in physical activity for at least 20 minutes that made the child sweat and breathe hard.
- Children aren't exercising enough AND 78% of children aren't getting the 30 to 60 minutes a day of regular exercise plus 20 minutes of more vigorous exercise that doctors recommend.
- Children are increasingly overweight. 20% of children and 33% of teens are overweight or at risk of becoming overweight. This is a 50% to 100% increase from 10 years ago.
- According to a Spanish study of 1,700 boys and girls aged between 13 and 18 years, cognitive performance of adolescent girls who walk to school is better than that of girls who travel by bus or car. Moreover, cognitive performance is also better in girls who take more than 15 minutes than in those who live closer and have a shorter walk to school.
- One hundred calories can power a cyclist for three miles, but it would only power a car 280 feet. If you have a bowl of oatmeal with banana and milk for breakfast, you could bike more than nine miles. How far is the trip to school from your house?
- A 2004 study in the American Journal of Preventive Medicine found that, for every hour people spend in their cars, they are 6% more likely to be obese.
- Because of the health benefits, the cost of walking is actually negative.
- Childhood obesity rates have more than tripled in the past 30 years, while the number of children walking and biking to school has declined. According to the 2009 National Household Travel Survey, 13 percent of students between the ages of 5 and 14 walked or biked to or from school, compared to 48 percent in 1969.

ENVIRONMENT: AIR QUALITY, CLIMATE CHANGE AND RESOURCE USE

- Did you know? When you walk, bike, or carpool, you're reducing auto emissions near schools. Students and adults with asthma are particularly sensitive to poor air quality. Approximately 5 million students in the U.S. suffer from asthma, and nearly 13 million school days per year are lost due to asthma-related illnesses.
- Did you know that modern cars don't need to idle? In fact, idling near schools exposes children and vehicle occupants to air pollution (including particulates and noxious emissions), wastes fuel and money, and increases unnecessary wear and tear on car engines. If you are waiting in your car for your child, please don't idle – you'll be doing your part to keep young lungs healthy!
- Families that walk two miles a day instead of driving will, in one year, prevent 730 pounds of carbon dioxide from entering the atmosphere.
- The United States moved into the 21st century with less than 30% of its original oil supply remaining.
- Americans drive more than 2 trillion vehicle miles per year.
- Short motor-vehicle trips contribute significant amounts of air pollution because they typically occur while an engine's pollution control system is cold and ineffective. Thus, shifting 1% of short automobile trips to walking or biking decreases emissions by 2 to 4%.
- There is more pollution inside a stationary car on a congested road than outside on the pavement.
- From 30% to 60% of urban America is given over to the car; two-thirds in Los Angeles.
- The transportation sector is the second largest source of CO2 emissions in the U.S. Automobiles and light-duty trucks account for almost two-thirds of emissions from the transportation sector. Emissions have steadily grown since 1990.
- In a year, a typical North American car will add close to five tons of CO2 into the atmosphere. Cars account for an estimated 15% to 25% of U.S. CO2 emissions.
- Transportation is the largest single source of air pollution in the United States. In 2006 it created over half of the carbon monoxide, over a third of the nitrogen oxides, and almost a quarter of the hydrocarbons in our atmosphere.
- Disposal of used motor oil sends more oil into the water each year than even the largest tanker spill.
- Going by bus instead of car cuts nitrogen oxide pollution by 25%, carbon monoxide by 80% and hydrocarbons by 90% per passenger mile.
- Eight bicycles can be parked in the space required for just one car.

Appendix C. Summary of Planning Process

The following is a brief summary of the planning process completed for the formation of this plan. The timeline below accompanies the narrative.



Planning for the SRTS plans began in the spring of 2016, after the City of Saint Paul and SPPS successfully applied and was awarded a planning assistance grant from MnDOT. On June 14, 2016, consultant staff met at SPPS headquarters to informally kick off the SRTS planning process with District and City staff. Early objectives and history of SRTS planning in Saint Paul were discussed. City spatial and District enrollment data were collected by the consultants in the weeks following the June meeting.

In September of 2016, data collection of student travel patterns and parent perceptions of walking and biking was completed by the local team. Farnsworth Aerospace sent home surveys to parents asking how comfortable they were with their children walking and biking to school. The survey also asked the distance from school families live, whether they feel like their school promotes biking and walking, and what changes would make them feel more confident about allowing their children to walk or bike. In addition to the surveys sent home to parents, students were asked by school staff about their travel patterns to and from school. This student tally collected data on travel to and from school during three weekdays in September. Both the student tally and parent survey were designed by the National Center for Safe Routes to School. Results from both were uploaded to the National Data Collection System, which allows for comparison when future surveys and tallies are completed. The results of the parent survey and student tally are provided in Appendices F and G, respectively.

RAPID PLANNING SESSION

In October of 2016, a broad group of stakeholders met for an intensive day long meeting called a Rapid Planning Session. This charrette-style event brought together school, district, and city and county staff to

discuss the challenges and opportunities for walking and biking to school in the neighborhoods surrounding Farnsworth. Broadly, the Rapid Planning Session was made up of two parts. In the morning, attendees learned about SRTS, discussed upcoming projects and existing conditions that may affect biking and walking, and brainstormed potential programs that could help make biking and walking to school more appealing to students and families.

In the afternoon, consultant staff led stakeholders on a walk assessment - the process of walking the streets of an area and evaluating the experiences a pedestrian would have. It allowed for the group to understand what walking to school is like.

Following the walk assessment, meeting participants split up and observed the dismissal of students at Farnsworth. During this time, one member of the consultant team set up maps and informational materials outside school in order to engage parents and students. Finally, after dismissal was observed, all stakeholders recon-

vened and discussed what was observed during the walk assessment and dismissal. Walking and bicycling routes, bus loading, parent pick up, issues and opportunities were recorded on large format maps and later were referenced by the consultant team when making recommendations.

ENGINEERING MEETING

The consultant team then took information gathered at the Rapid Planning Session and met with City and District staff in January of 2017. Infrastructure recommendations were presented, and integration with other capital projects programmed for the area was discussed. The feedback received was critical in finalizing the infrastructure recommendations shown in this plan.

Appendix D. Existing Conditions

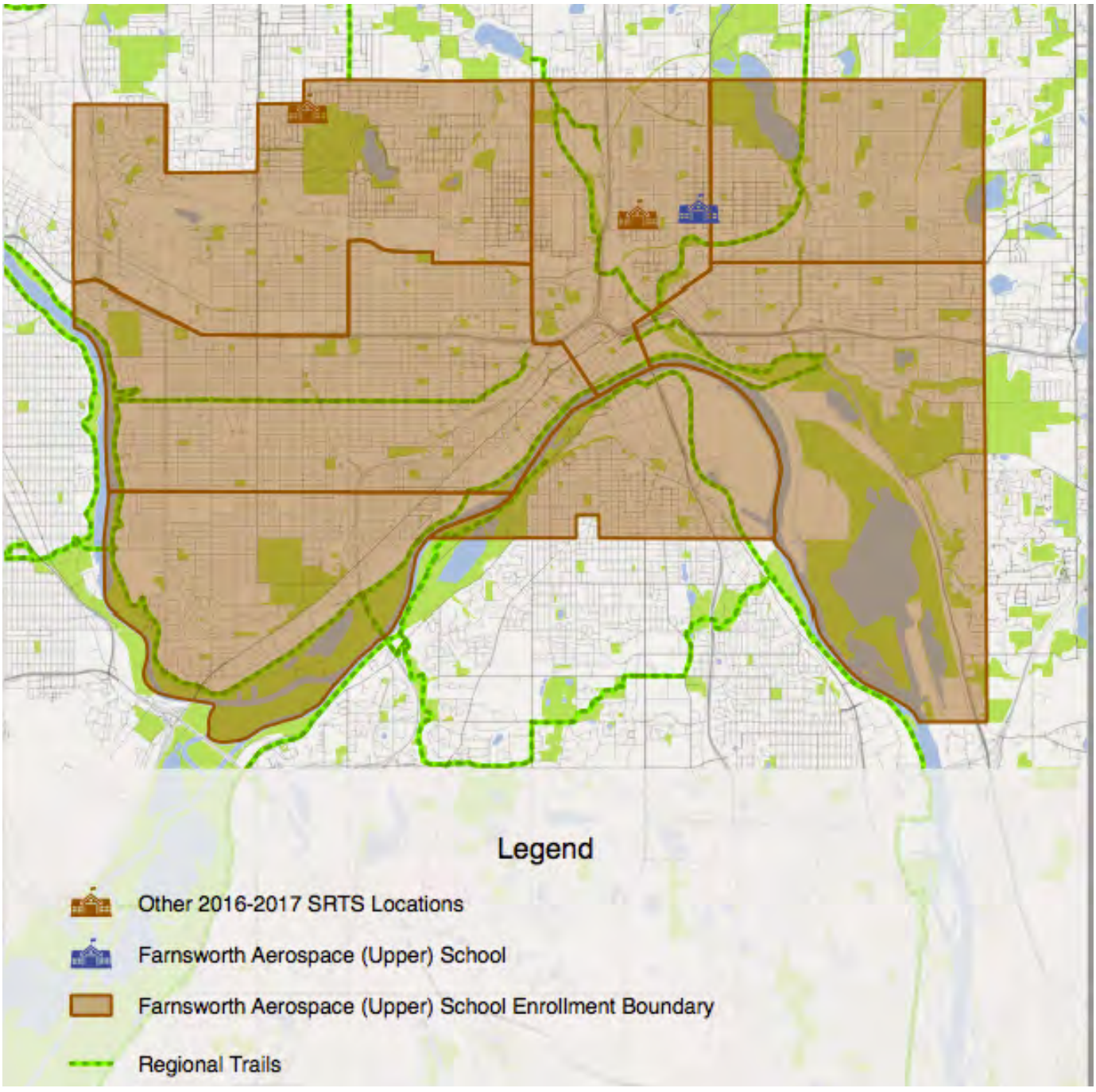
The following is a brief summary of the existing conditions in the area of Farnsworth Aerospace.

SCHOOL CONTEXT

Basic Information

Principal: Hamilton Bell
Grades: 5-8
Number of Students: 620
Arrival Time: 9:30 AM
Dismissal Time: 4:00 PM

School Enrollment Boundary



Surrounding Land Use

Farnsworth Aerospace Upper Campus is bound by a strip of commercial development and religious uses on Arcade Street on the east, Jenks Avenue East on the south, Walsh Street on the west, and Lawson Avenue E on the north. The campus is located on an urban grid system. All bordering streets have direct pedestrian to the school property. The Lower Campus is located a half-mile north along Arcade Street.

The school is located within a two-family residential development zoning district. single-family residential neighborhoods can be found a quarter-mile east and west of the school. There is a YMCA and a grocery store about a quarter-mile south of the school along Arcade Street.

Infrastructure/Existing Conditions for Walking and Biking

Sidewalks are located along all boundaries of the school, with the exception of the eastern border of campus. Pedestrian paths connect the middle school to adjacent residential streets. Wide streets provide space for biking along the northern, eastern, and western sides of the school.

Facilitated Crossing Locations

There are no marked crosswalks at any intersection immediately adjacent to campus. There is one north-south marked crosswalk at Case Avenue E and Walsh Street one block south of campus.

SCHOOL/CAMPUS LAYOUT

Farnsworth Aerospace Upper has one parking lot on the southside of campus with one driveway on Jenks Avenue E. Buses load and unload students on the east side of Walsh Street. Parents drop off and pick up students on Jenks Avenue E.

SCHOOL TRAVEL PATTERNS

Current Mode Share (Hand Tallies)

Seventeen classrooms submitted walk and bike numbers during the month of September 2016. From the numbers submitted by participating classrooms, it was determined that 7% of students walk to school and 10% of students walk home from school. No students ride bicycles to school and from school. Most students (93%) arrive to campus by school bus (80%) or by family vehicle (13%) and depart from campus by school bus (75%) or family vehicle (14%).

Parent Survey Summary

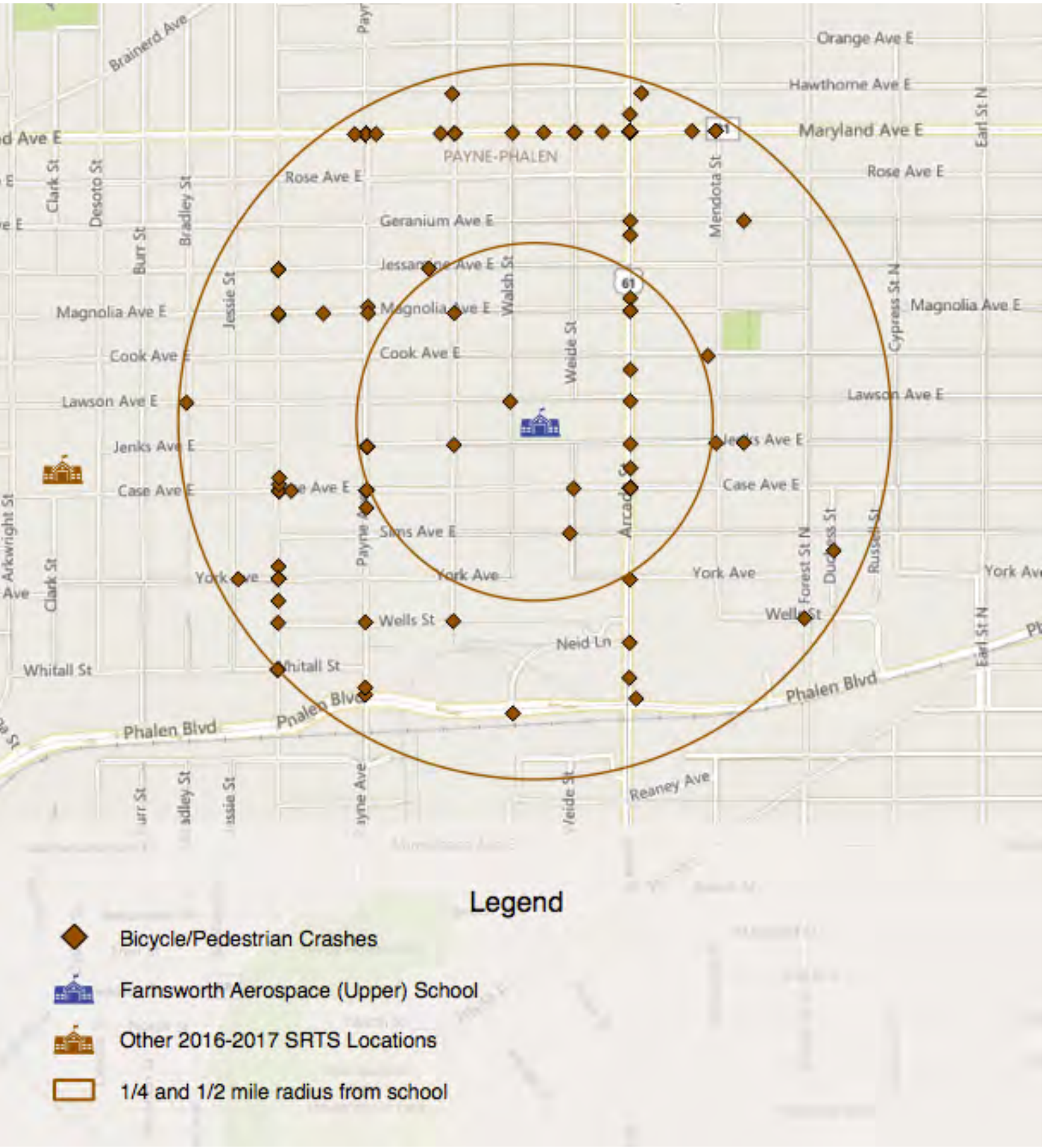
Sixty-two parent survey questionnaires were returned. According to the responses received, 59% of survey respondents reported that their students reside within an estimated two miles of campus with the greatest proportion of students residing more than one mile from campus (82%). Most survey respondents reported that their students arrive (90%) and depart (92%) campus by bus while of 3% of students arrive and 2% depart campus by family vehicle. More students walk to school (6%) and walk home from school (7%) than students who travel by family vehicle.

In general, only students residing within one mile of campus walk to and from school. According to survey respondents, 100% of students residing beyond one mile from campus bus to and from school. Additionally, parents of students residing at all distances from the school have reported that only 16% of students have asked permission to walk or bike to school.

Survey respondents of students who do not currently walk or bike to school cited distance, violence or crime, weather, safety of intersections and crossings, and speed of traffic along route as the reasons that affect their decision to not allow their students to walk or bike to and from school. Survey respondents of students who do walk to school cited the safety of intersections and crossings, violence or crime, and speed or amount of traffic along route as reasons that affect their decision to allow their students to walk or bike.

Few parent comments were received via the survey, although parents indicated a range of comfortability or discomfort with letting their students walk to and from school. Parents are generally happy with the busing that is provided and believe that buses are provided for the purpose of eliminating the need for students to walk to and from school.

Crash Locations 2006-2015



ASSETS AND CHALLENGES

Assets

- Proximity to commercial areas and community assets, including the YMCA, recreation centers, library, parks, and other school campuses
- Existing programming with Flipside to educate students about safe walking practices
- Nearby existing and planned bike lane and bikeway infrastructure projects

Infrastructure Challenges

- Lack of marked crosswalks at intersections immediately adjacent to school
- Lack of marked and/or signalized crossings at Arcade Avenue
- Hill along Walsh Street
- Condition of sidewalks within surrounding neighborhood
- Speed and amount of traffic along Arcade Avenue, Maryland Avenue, and Payne Avenue

WALK AUDIT SUMMARY

Walk Audit Conditions

Date: 10/10/2016
Day of the Week: Monday
Time: 2:30pm
Weather Conditions: Sunny, Clear, Warm
Participants: Carol Grady, Elizabeth Stiffler, Bob Huntley, Samantha Henningson, Anton Jerve, Carissa Glatt, Renee Combs, Luke Hanson, Paul St. Martin

Walk Audit Summary

Pedestrian Circulation

Students were observed walking along Maryland Avenue E, Arcade, Walsh Street, and Case Avenue E. Students were observed crossing Maryland to continue along Walsh Street or Arcade. Students were also observed crossing at Jenks Avenue E and N Weide Street.

Bike Circulation

Students were observed biking along N Weide Street and Case Avenue E and even as far south as Phalen Boulevard to the Bruce Vento Trail. Although two bike racks are provided on campus, they were observed unused at the time of the walk audit.

Crossing Guards and Patrols

There is one marked crosswalk at Case Avenue E and Walsh Street to facilitate north-south pedestrians. Many walk audit participants noted a lack of crossing guards and/or patrols.

Bus Circulation

School buses drop off and load students on Walsh Street and on Lawson Avenue E. Nine buses were observed on Lawson Avenue E and four school buses were observed on Walsh Street for school departure. There are several public transit stops along Maryland Avenue and Arcade Avenue.

Car Circulation

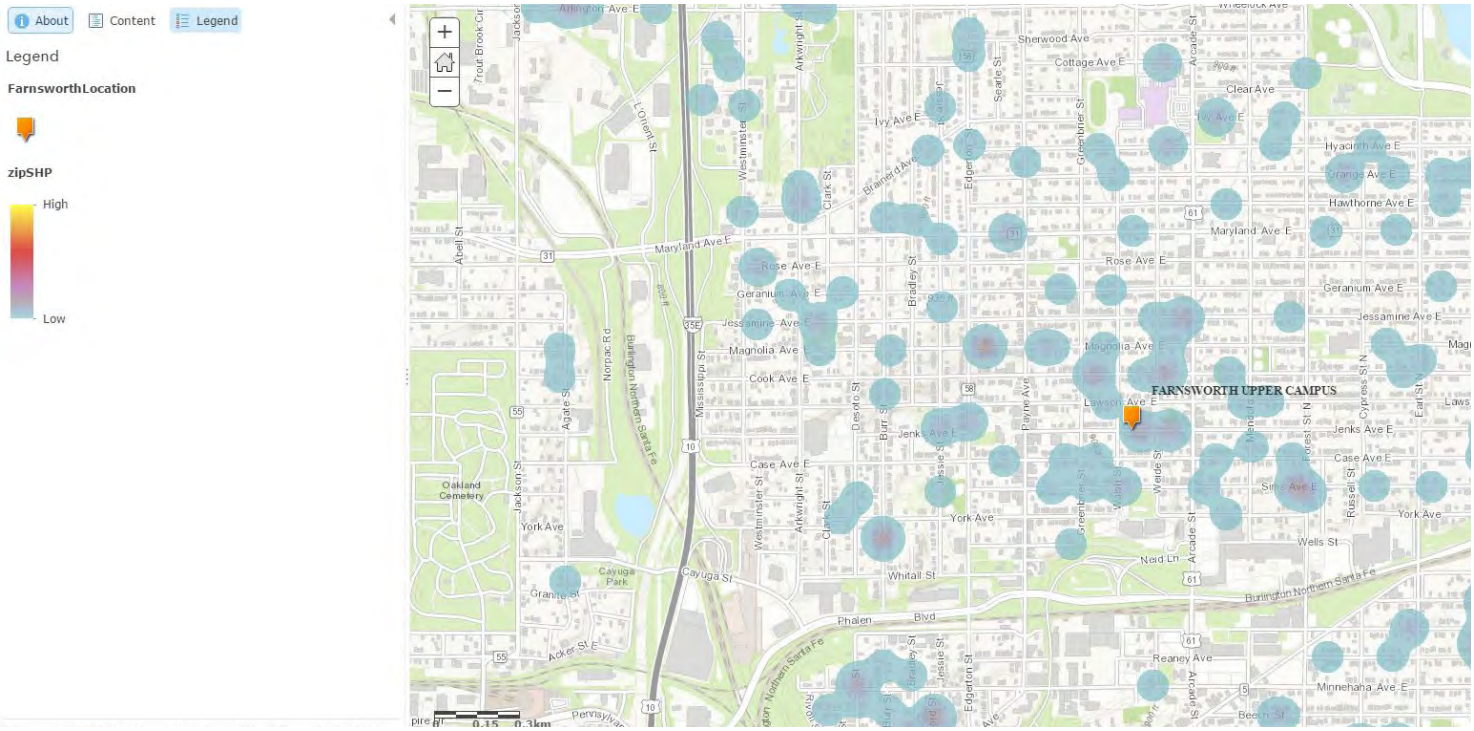
Parent drop-off and pick-up is located along Jenks Avenue E. Some double parking occurred along Jenks Avenue E just south of the baseball field. However, some parents park along the west side of Walsh Street to pick up students. Many vehicles parked on both sides of Jenks Avenue E within 30' of stop signs and 10' of fire hydrants, with some cars observed parking in such a way that blocked safe north-south crossing of Jenks Avenue E at Walsh Street.

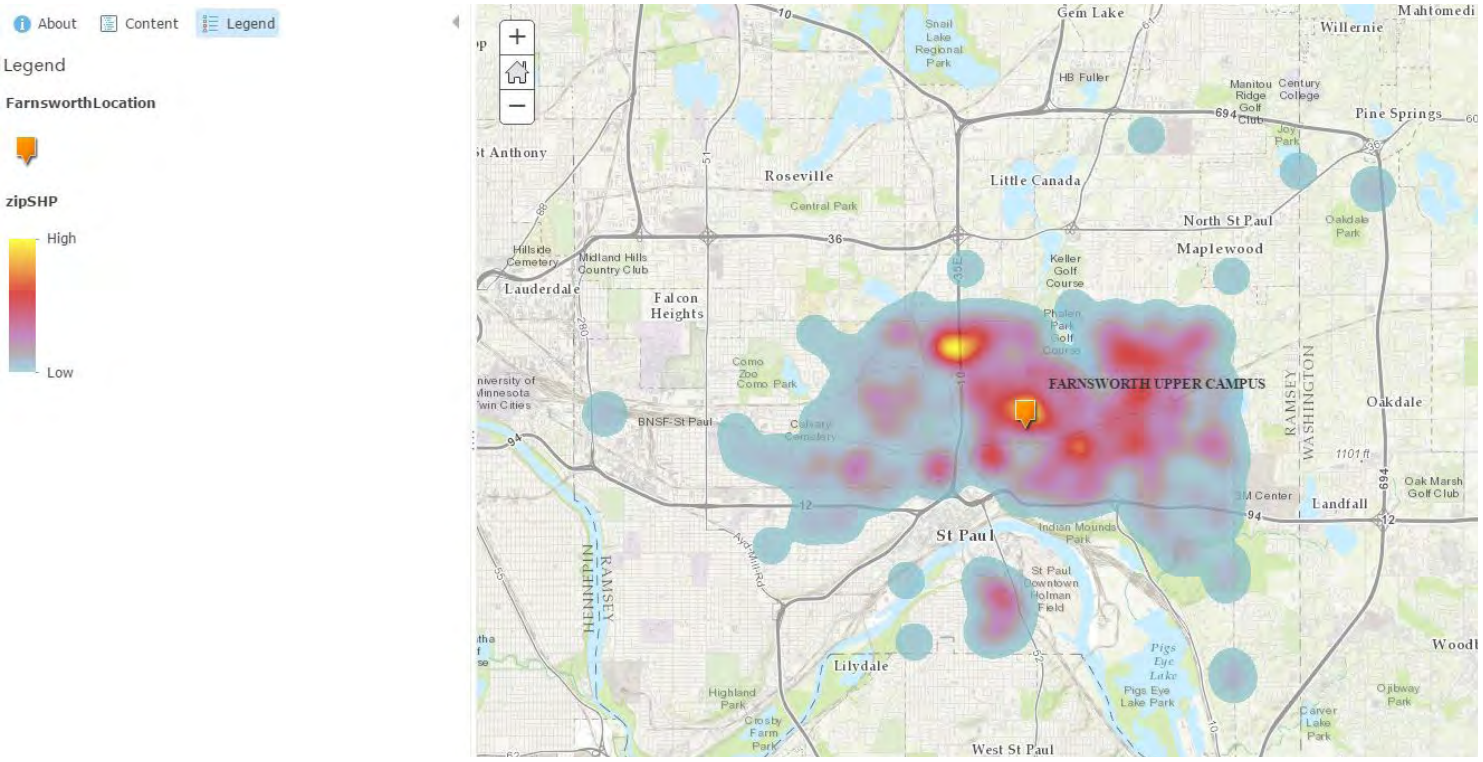
Other Observations

Walking conditions and sidewalks on Arcade Avenue should be improved, with added marked and signaled crosswalks to facilitate east-west pedestrian movement.

Appendix E. Student Residences

The two maps below show the location of students attending Farnsworth Aerospace in the 2016-2017 school year. The bubbles of color on the map show the location of students, where a warmer color (yellow, red) represents more students and a cooler color (blue) represents fewer. The school location is shown as a orange marker. The top map shows the neighborhoods immediately surrounding school, while the lower map shows the greater St. Paul area. There may be additional students outside the extent of the lower map.





Appendix F. Parent Survey

The following is a summary of a survey sent home to parents of children attending Farnsworth Aerospace in the fall of 2016. It asks parents their feelings about walking and biking and is a direct export from the National Safe Routes to School Data Collection System, which processed the survey responses and generated this report.

Parent Survey Report: One School in One Data Collection Period

School Name: Aerospace At Farnsworth

School Group: Saint Paul Safe Routes to School Steering Committee

School Enrollment: 0

% Range of Students Involved in SRTS: Don't Know

Number of Questionnaires Distributed: 0

Set ID: 15524

Month and Year Collected: October 2016

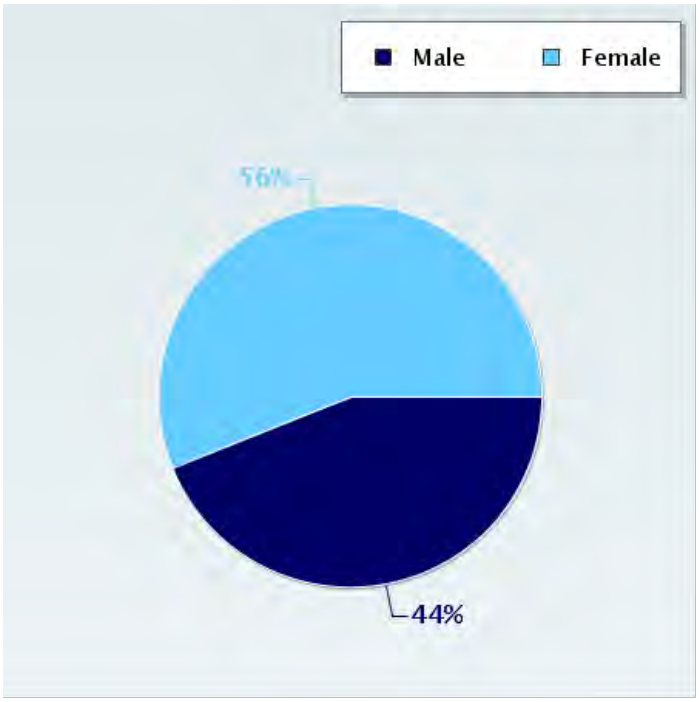
Date Report Generated: 12/07/2016

Tags:

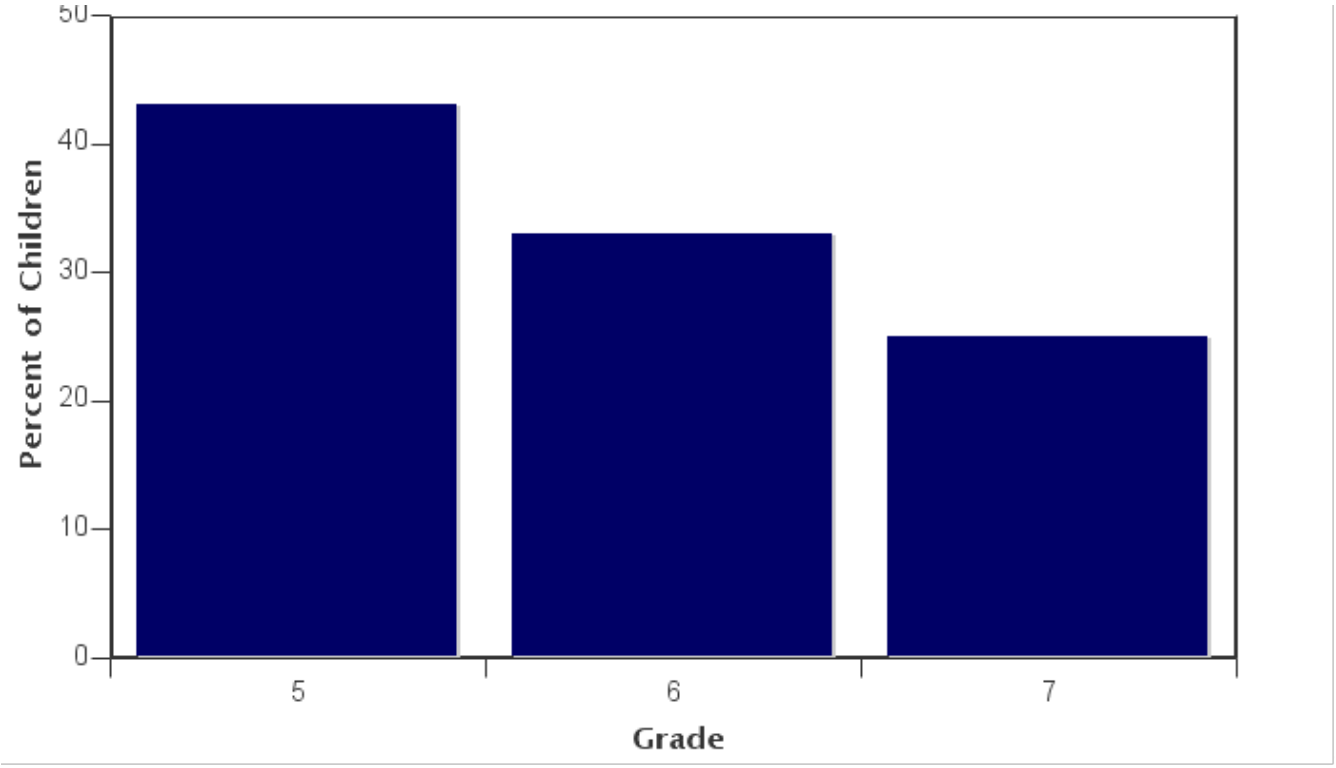
Number of Questionnaires Analyzed for Report: 62

This report contains information from parents about their children's trip to and from school. The report also reflects parents' perceptions regarding whether walking and bicycling to school is appropriate for their child. The data used in this report were collected using the Survey about Walking and Biking to School for Parents form from the National Center for Safe Routes to School.

Sex of children for parents that provided information



Grade levels of children represented in survey

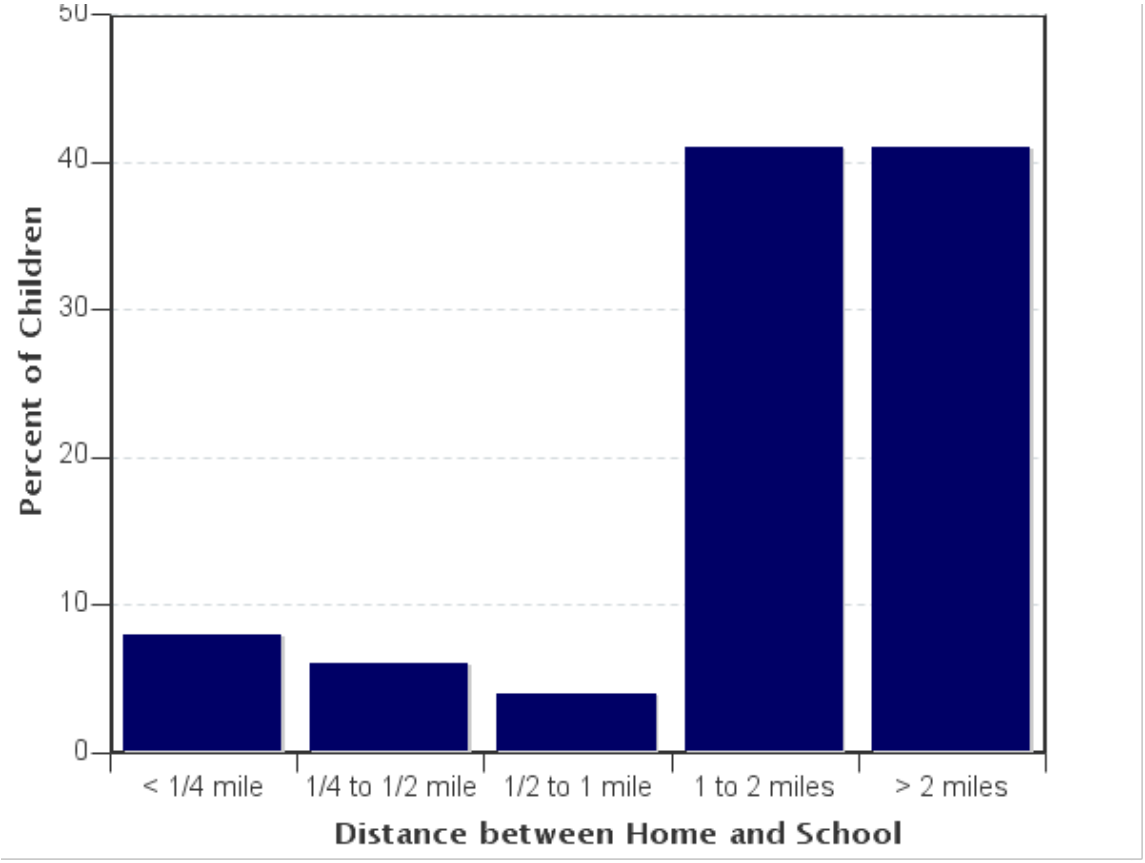


Grade levels of children represented in survey

Grade in School	Responses per grade	
	Number	Percent
5	26	43%
6	20	33%
7	15	25%

No response: 1
Percentages may not total 100% due to rounding.

Parent estimate of distance from child's home to school

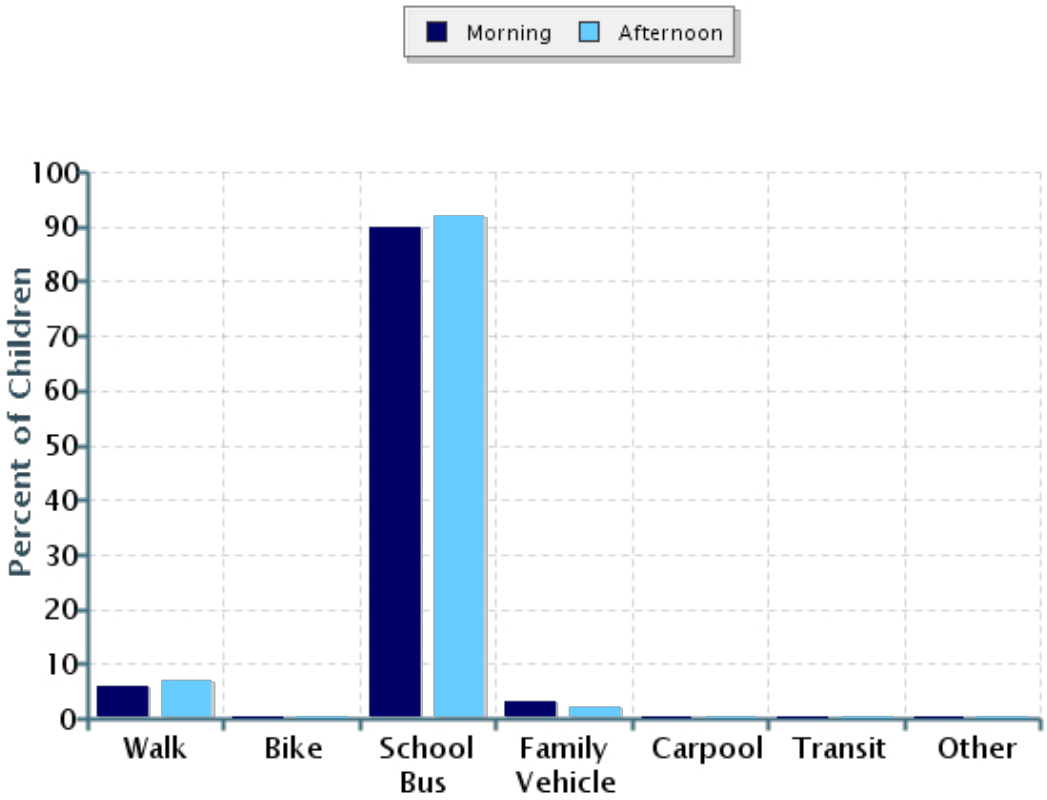


Parent estimate of distance from child's home to school

Distance between home and school	Number of children	Percent
Less than 1/4 mile	4	8%
1/4 mile up to 1/2 mile	3	6%
1/2 mile up to 1 mile	2	4%
1 mile up to 2 miles	20	41%
More than 2 miles	20	41%

Don't know or No response: 13
Percentages may not total 100% due to rounding.

Typical mode of arrival at and departure from school

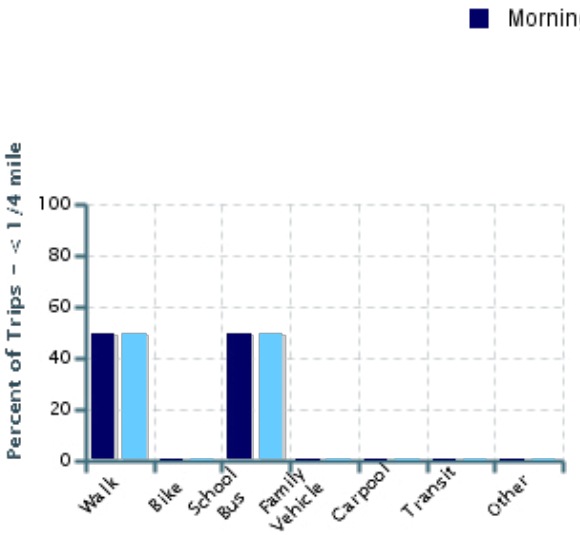


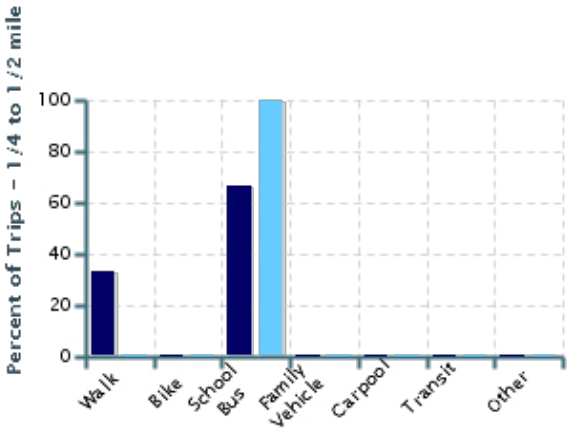
Typical mode of arrival at and departure from school

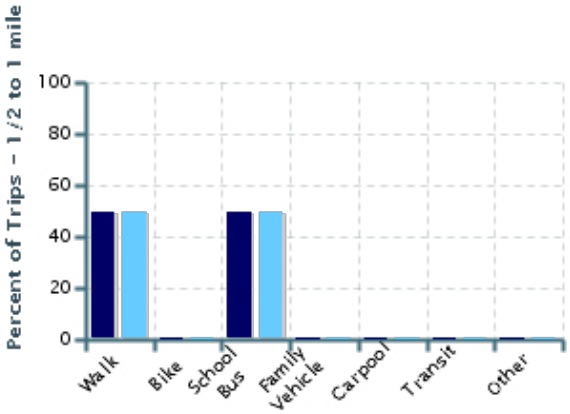
Time of Trip	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	62	6%	0%	90%	3%	0%	0%	0%
Afternoon	60	7%	0%	92%	2%	0%	0%	0%

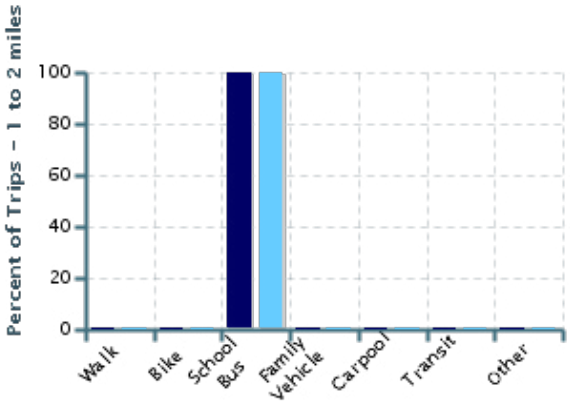
No Response Morning: 0
No Response Afternoon: 2
Percentages may not total 100% due to rounding.

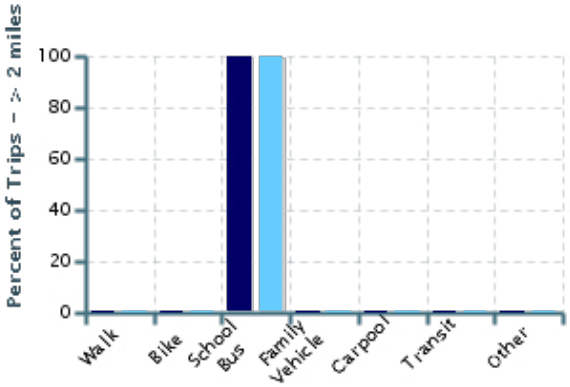
Typical mode of school arrival and departure by distance child lives from school











Typical mode of school arrival and departure by distance child lives from school

School Arrival

Distance	Number within Distance	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Less than 1/4 mile	4	50%	0%	50%	0%	0%	0%	0%
1/4 mile up to 1/2 mile	3	33%	0%	67%	0%	0%	0%	0%
1/2 mile up to 1 mile	2	50%	0%	50%	0%	0%	0%	0%
1 mile up to 2 miles	20	0%	0%	100%	0%	0%	0%	0%
More than 2 miles	20	0%	0%	100%	0%	0%	0%	0%

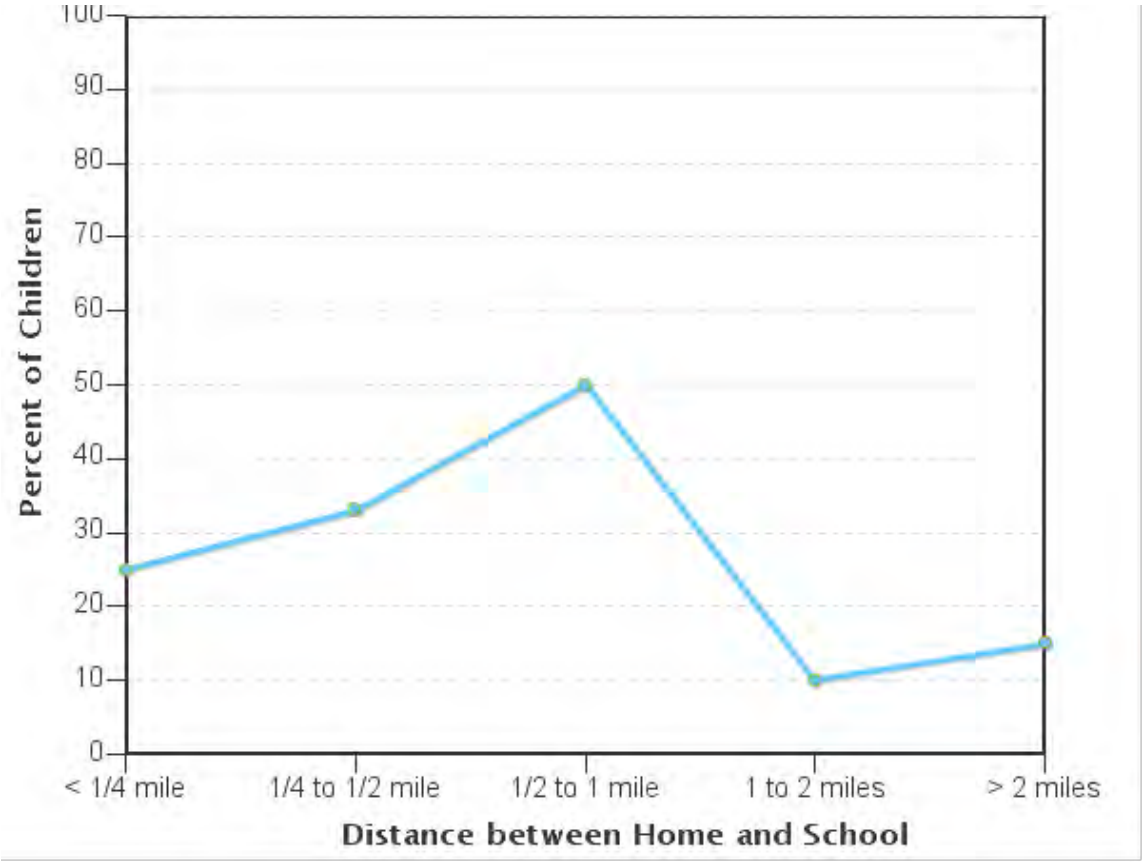
Don't know or No response: 13
Percentages may not total 100% due to rounding.

School Departure

Distance	Number within Distance	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Less than 1/4 mile	4	50%	0%	50%	0%	0%	0%	0%
1/4 mile up to 1/2 mile	2	0%	0%	100%	0%	0%	0%	0%
1/2 mile up to 1 mile	2	50%	0%	50%	0%	0%	0%	0%
1 mile up to 2 miles	19	0%	0%	100%	0%	0%	0%	0%
More than 2 miles	20	0%	0%	100%	0%	0%	0%	0%

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

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

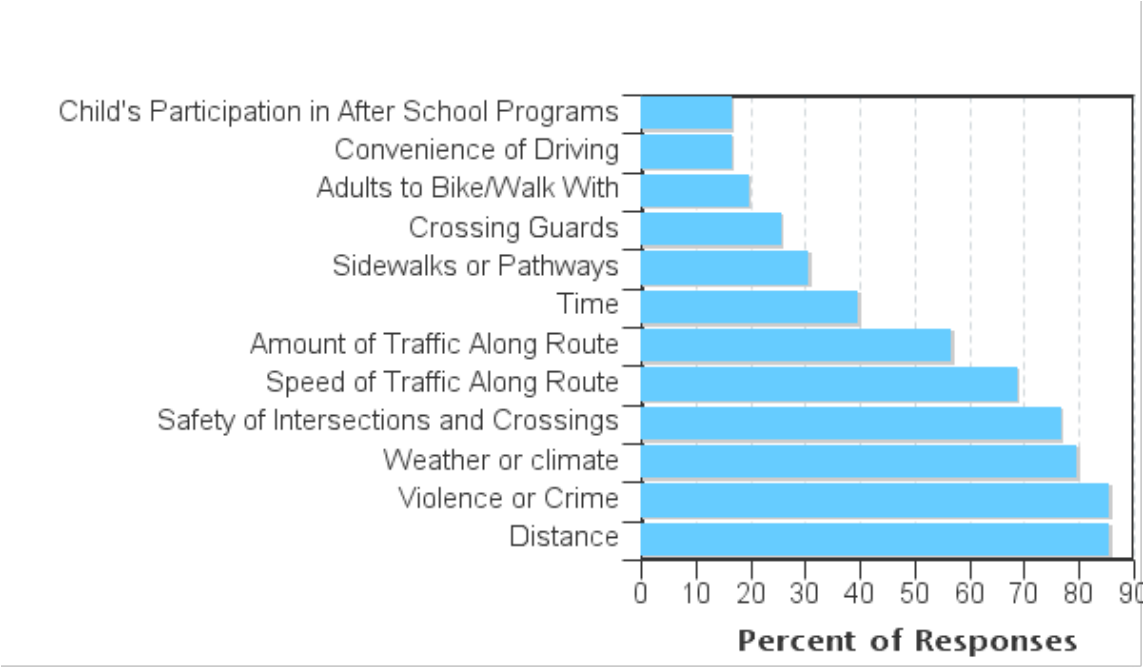


Percent of children who have asked for permission to walk or bike to/from school by distance they live from school

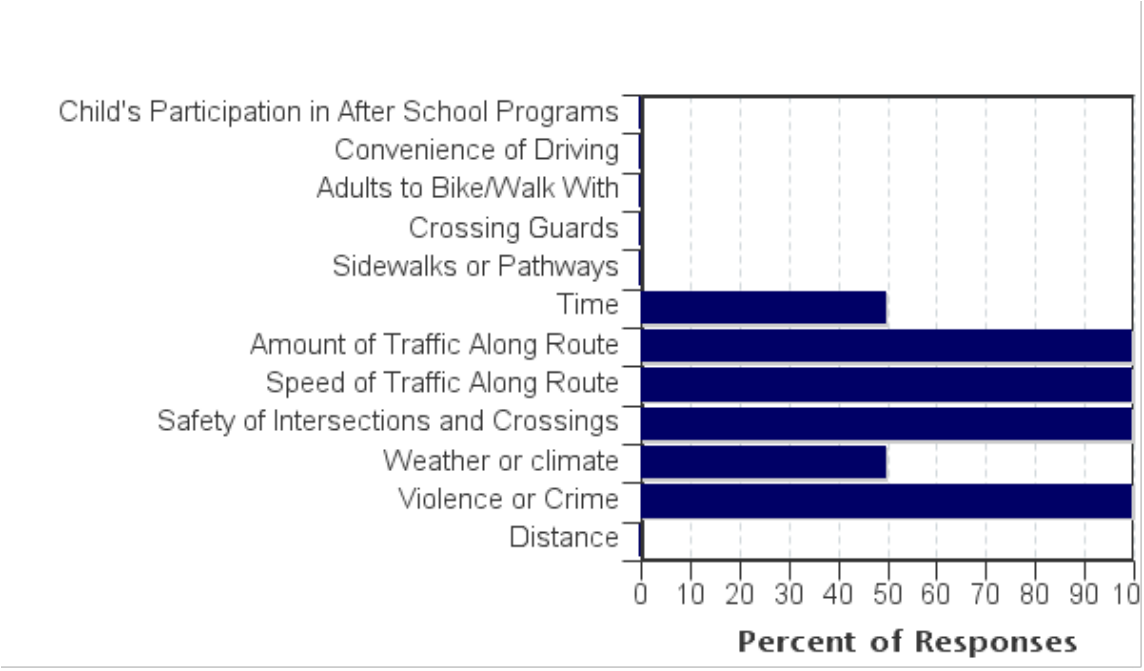
Asked Permission?	Number of Children	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles
Yes	8	25%	33%	50%	10%	15%
No	41	75%	67%	50%	90%	85%

Don't know or No response: 13
Percentages may not total 100% due to rounding.

Issues reported to affect the decision to not allow a child to walk or bike to/from school by parents of children who do not walk or bike to/from school



Issues reported to affect the decision to allow a child to walk or bike to/from school by parents of children who already walk or bike to/from school

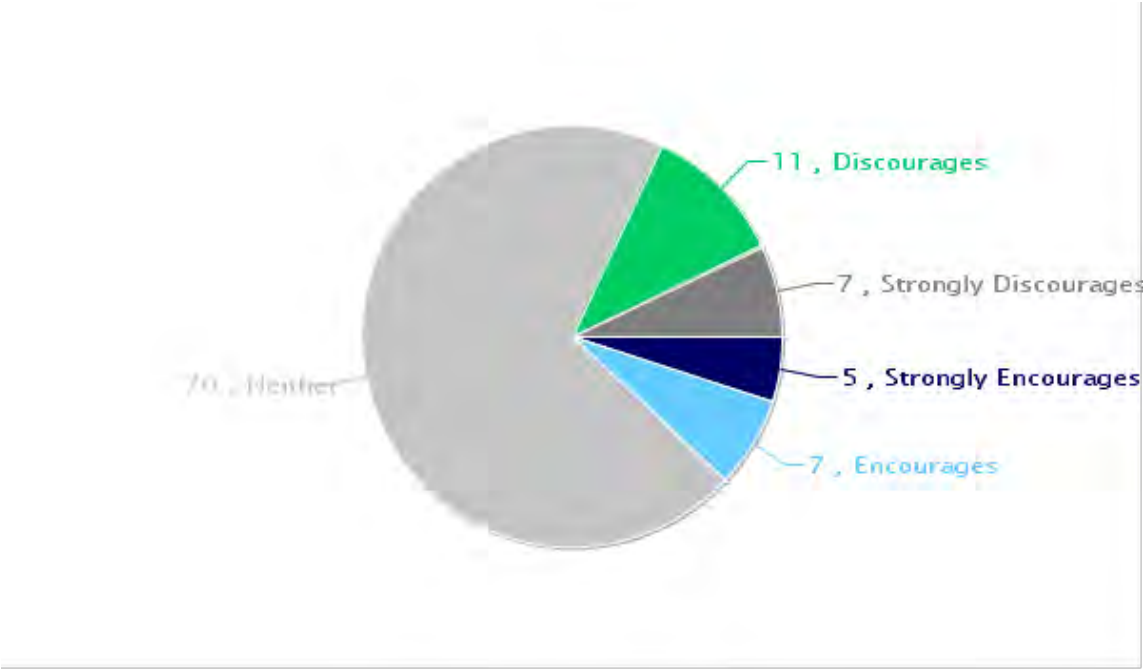


Issues reported to affect the decision to allow a child to walk or bike to/from school by parents of children who already walk or bike to/from school

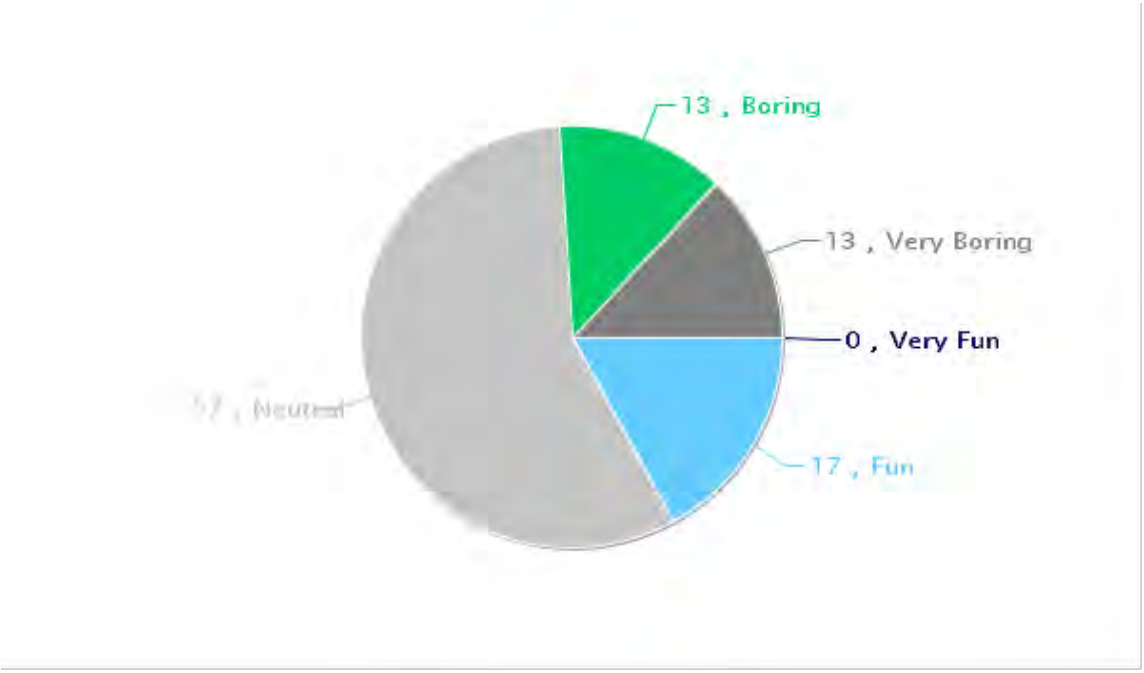
Issue	Child does not walk/bike to school	Child walks/bikes to school
Distance	86%	0%
Violence or Crime	86%	100%
Weather or climate	80%	50%
Safety of Intersections and Crossings	77%	100%
Speed of Traffic Along Route	69%	100%
Amount of Traffic Along Route	57%	100%
Time	40%	50%
Sidewalks or Pathways	31%	0%
Crossing Guards	26%	0%
Adults to Bike/Walk With	20%	0%
Convenience of Driving	17%	0%
Child's Participation in After School Programs	17%	0%
Number of Respondents per Category	**35**	**2**

No response: 25
Note:
--Factors are listed from most to least influential for the 'Child does not walk/bike to school' group.
--Each column may sum to > 100% because respondent could select more than issue
--The calculation used to determine the percentage for each issue is based on the 'Number of Respondents per Category' within the respective columns (Child does not walk/bike to school and Child walks/bikes to school.) If comparing percentages between the two columns, please pay particular attention to each column's number of respondents because the two numbers can differ dramatically.

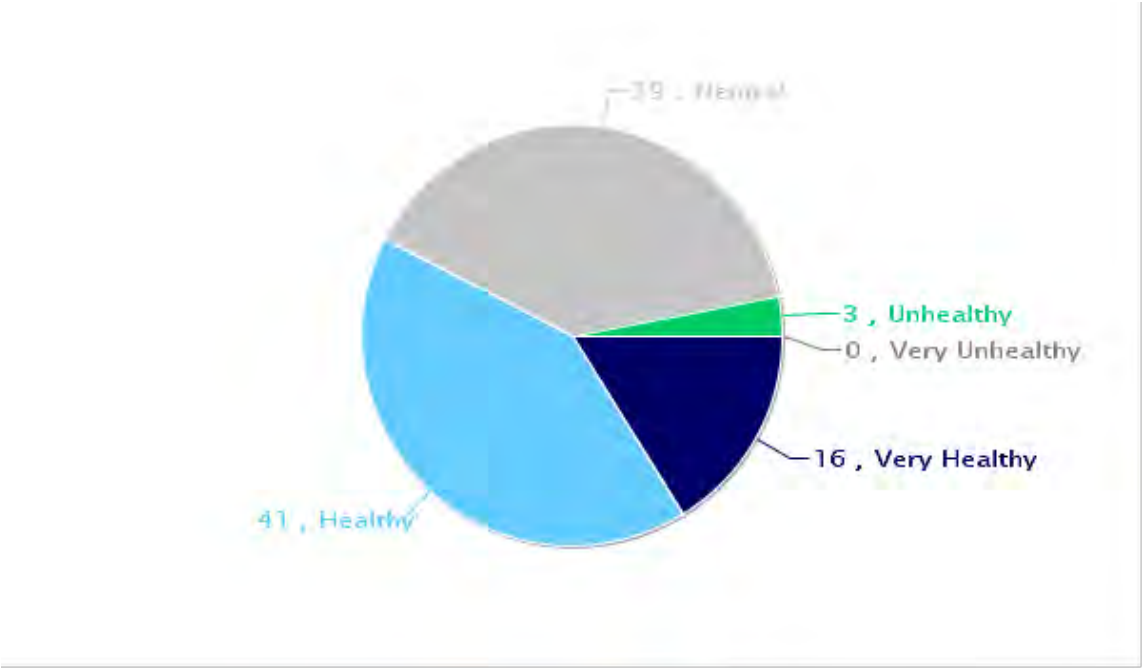
Parents' opinions about how much their child's school encourages or discourages walking and biking to/from school



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



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



Comments Section

SurveyID	Comment
1479671	WE ONLY GO TO SCHOOLS THAT PROVIDE TRANSPORTATION.
1479631	I HAVEN NO ISSUES EFFECTED MY KIDS TO WALK TO SCHOOL.
1479640	I DON'T FEEL IT'S SAFE FOR MY CHILDREN TO WALK TO/FROM SCHOOL. CRIME AND TRAFFIC ARE THE BIGGEST FACTORS.
1479649	**WRITE IN ANSWER FOR QUESTION 15: NEVER ATTENDED SCHOOL BEFORE
1477351	My son walked to school up until he was in 5th grade because we live close to the elementary school.
1477354	For the safety of my child and more crimes lately, I don't recommend riding a bike to and from school for my child. It's a common sense thing for any parents to think about.
1477417	I like the bus.
1479663	I'M VERY COMFORTABLE WITH THE SCHOOL BUS. PLEASE DON'T CHANGE THAT!
1479667	LETTING KIDS WALK TO SCHOOL IS UNNECESSARY. WHAT ARE SCHOOL BUSES FOR THEN?
1477346	My child has other medical reasons keeping him from walking to school.
1479662	MY KIDS USE TO WALK WHEN WE LIVED ONE BLOCK AWAY FROM SCHOOL BUT SINCE WE MOVED BUSING WAS BETTER FOR THEM.
1479661	THERE ARE SCHOOL BUS FOR A REASON

Appendix G. Student Hand Tally

The following is a summary of a hand tally of student transportation behavior. In the fall of 2016, students at Farnsworth Aerospace were asked how they traveled to and from school on a number of midweek school days. This report is a direct export from the National Safe Routes to School Data Collection System, which processed the tallies and generated this report.

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

School Name: Aerospace At Farnsworth

School Group: Saint Paul Safe Routes to School Steering Committee

School Enrollment: 620

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

Number of Classrooms Included in Report: 28

Set ID: 21456

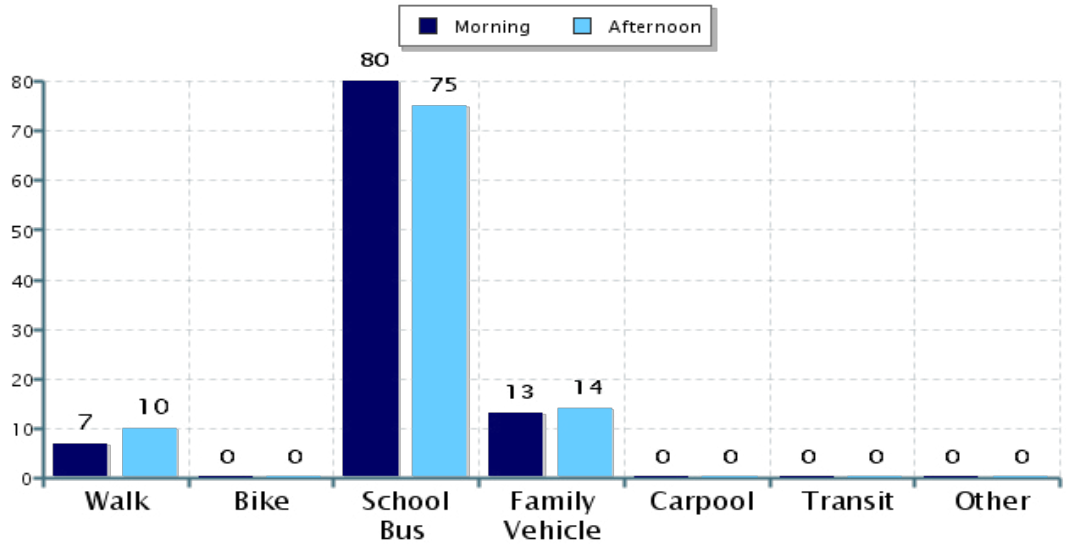
Month and Year Collected: September 2016

Date Report Generated: 10/06/2016

Tags:

This report contains information from your school's classrooms about students' trip to and from school. The data used in this report were collected using the in-class Student Travel Tally questionnaire from the National Center for Safe Routes to School.

Morning and Afternoon Travel Mode Comparison

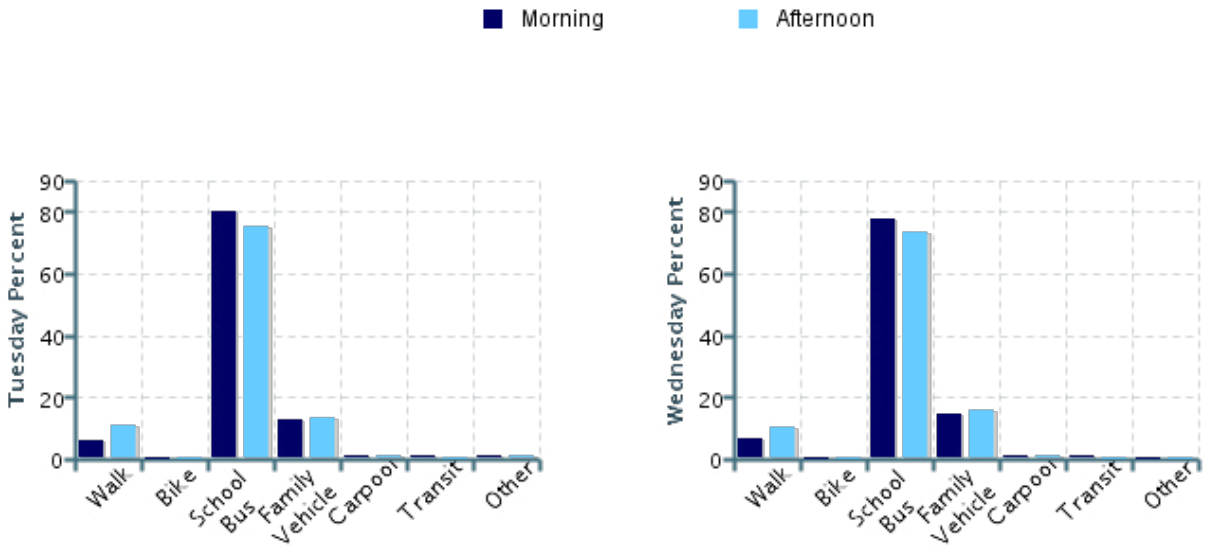


Morning and Afternoon Travel Mode Comparison

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	1478	7%	0.1%	80%	13%	0.1%	0.4%	0.1%
Afternoon	1402	10%	0%	75%	14%	0.4%	0%	0.1%

Percentages may not total 100% due to rounding.

Morning and Afternoon Travel Mode Comparison by Day

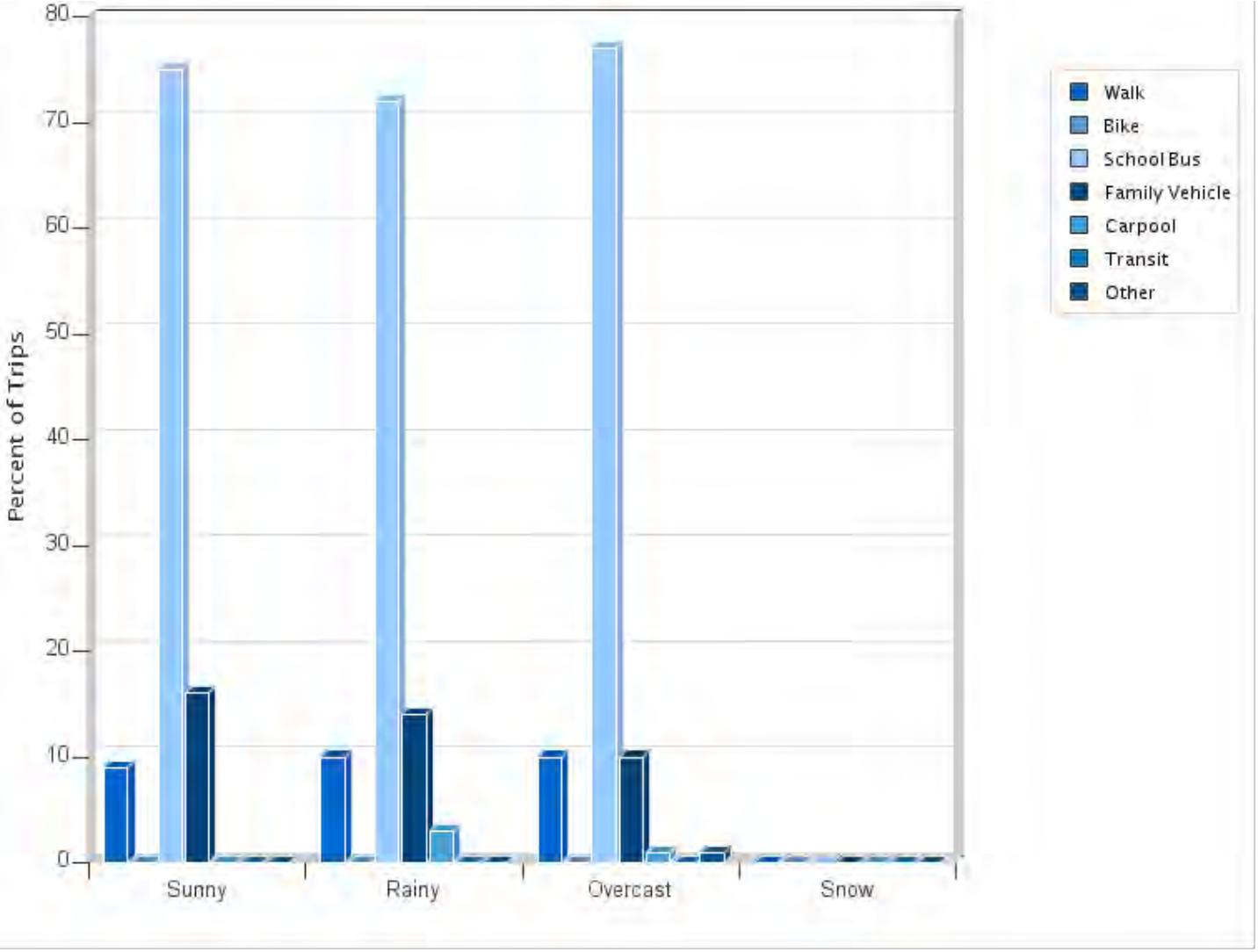


Morning and Afternoon Travel Mode Comparison by Day

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Tuesday AM	508	6%	0%	80%	13%	0.2%	0.4%	0.2%
Tuesday PM	487	11%	0%	75%	14%	0.2%	0%	0.2%
Wednesday AM	481	7%	0%	78%	15%	0.2%	0.4%	0%
Wednesday PM	460	10%	0%	73%	16%	0.4%	0%	0%
Thursday AM	489	7%	0.2%	81%	11%	0%	0.4%	0%
Thursday PM	455	10%	0%	75%	14%	0.4%	0%	0.2%

Percentages may not total 100% due to rounding.

Travel Mode by Weather Conditions



Travel Mode by Weather Condition

Weather Condition	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Sunny	2093	9%	0.0%	75%	16%	0.1%	0.3%	0.0%
Rainy	29	10%	0%	72%	14%	3%	0%	0%
Overcast	230	10%	0%	77%	10%	1%	0%	0.9%
Snow	0	0%	0%	0%	0%	0%	0%	0%

Percentages may not total 100% due to rounding.

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Appendix H. Infrastructure Toolbox

This infrastructure toolbox provides an overview of different infrastructure projects. Each infrastructure project includes a pictorial representation, a brief description, a typical and estimated cost, and a list of resources for more specific engineering guidelines. References are shown at the end of this section.

ADVANCED STOP BAR

Description

An advanced stop bar is a solid white line painted ahead of crosswalks on multi-lane approaches to alert drivers where to stop to let pedestrians cross. It is recommended that advanced stop bars be placed twenty to fifty feet before a crosswalk. This encourages drivers to stop back far enough for a pedestrian to see if a second motor vehicle is approaching, reducing the risk of a hidden-threat collision. Advanced stop bars can also be used with smaller turning radii to create a larger effective turning radius to accommodate infrequent (but large) vehicles.

Estimated Costs[A,E]

- $8.50 per linear foot; $85 for a ten foot travel lane

Resources

- Reducing Conflicts Between Motor Vehicles and Pedestrians: The Separate and Combined Effects of Pavement Markings and a Sign Prompt
- FHWA Signalized Intersections: Informational Guide – Pages: 192- 193
- MN MUTCD: Part 3. Markings – Page: 3B-32
- NACTO Urban Street Design Guide – Pages: 109-116, 144

CROSSING GUARD

Description

Facilitated crossings are marked crossing locations along student routes where adult crossing guards or trained student patrols are stationed to assist students with safely crossing the street. Facilitated crossings may be located on or off campus. Determining whether a location is more appropriate for an adult crossing guard or student patrol may be based on location including distance from school, visibility, and traffic characteristics. Adult crossing guards and student patrols receive special training, and are equipped with high-visibility traffic vests and flags when on duty.

Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Pages: 25-26
- MnDOT Minnesota Safe Routes to School: School Crossing Guard Brief Guide
- MN MUTCD: Part 7. Traffic Controls for School Areas – Pages: 7D-1-2

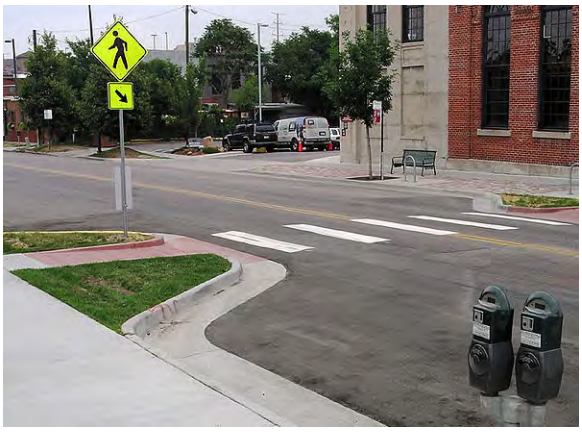
Estimated Costs[D]

- $14.00 per hour average wage for a crossing guard

CURB EXTENSION/BULB OUT

Description

Curb extensions extend the sidewalk and curb into the motor-vehicle parking lanes at intersection locations. Also called bump-outs, these facilities improve safety and convenience for people crossing the street by shortening the crossing distance and increasing visibility of people walking or biking to those driving.



Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Pages: 11-12
- FHWA Effects of Traffic Calming Measures on Pedestrian and Motorist Behavior – Pages: 6-11
- FHWA Signalized Intersections: Informational Guide – Pages: 190-192
- NACTO Urban Street Design Guide – Pages: 45-59

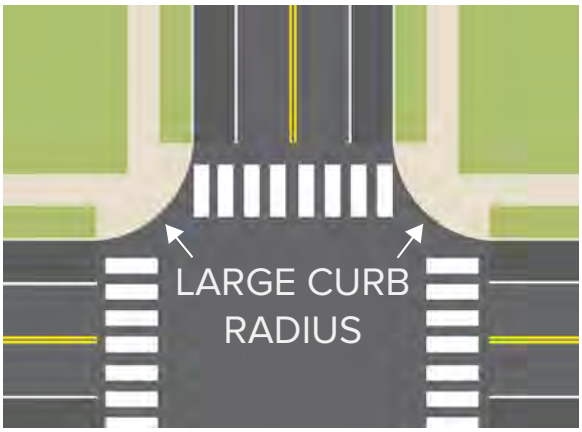
Estimated Costs[E]

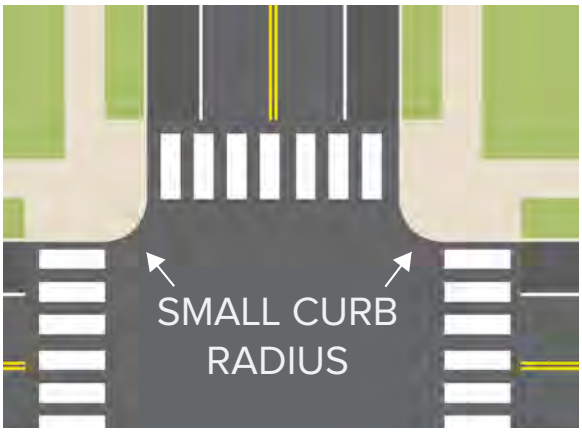
- $13,000 for a single corner

CURB RADIUS REDUCTION

Description

Curb radii designs are determined based on the design vehicle of the roadway. In general, vehicles are able to take turns more quickly around corners with larger curb radii. Minimizing curb radii forces drivers to take turns at slower speeds, making it easier and safer for people walking or biking to cross the street. An actual curb radius of five to ten feet should be used wherever possible, while appropriate effective turning radii range from 15 to 30 feet, depending on the roadway and land use context.





Resources

- FHWA Signalized Intersections: Informational Guide – Pages: 187-189
- NACTO Urban Street Design Guide – Pages: 117-120, 144-146

Estimated Costs[F, H]

- $2,000-$40,000, depending on need for utility relocation and drainage

CURB RAMPS

Description

Curb ramps provide access for people between roadways and sidewalks for people using wheelchairs, strollers, walkers, crutches, bicycles or who have mobility restrictions that make it difficult to step up or down from curbs. Curb ramps must be installed at intersections and mid-block crossings where pedestrian crossings are located, as mandated by federal law. Separate curb ramps should be provided for each direction of travel across the street.

Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Pages: 1-2
- FHWA Signalized Intersections: Informational Guide – Pages: 47-50
- United States Access Board Proposed Accessibility Guidelines for Pedestrian Facilities in Public Right-of-Way – Pages: 66-67, 78-83

Estimated Costs[G, H]

- $800-$1,500, depending on size and if new or retrofitted

HAWK SIGNALS

Description

The High-Intensity Activated Crosswalk Beacon (HAWK), also referred to as a Pedestrian Hybrid Beacon System by MnDOT, remains dark until activated by pressing the crossing button. Once activated, the signal responds immediately with a flashing yellow pattern which transitions to a solid red light, providing unequivocal 'stop' guidance to motorists. HAWK signals have been shown to elicit high rates of motorist compliance.

Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Pages: 13-15
- FHWA Safety Effectiveness of the HAWK Pedestrian Crossing Treatment
- FHWA Evaluation of Pedestrian and Bicycle Engineering Countermeasures: Rectangular Rapid-Flashing Beacons, HAWKs, Sharrows, Crosswalk Markings, and the Development of an Evaluation Methods Report – Pages: 19-28

Estimated Costs[I]

- $80,000. Includes one HAWK signal in each direction

HIGH-VISIBILITY CROSSWALK

Description

High-visibility crosswalks help to create a continuous route network for people walking and biking by alerting motorists to their potential presence at crossings and intersections. Crosswalks should be used at fully controlled intersections where sidewalks or shared-use paths exist.

Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Pages: 3-8
- MnDOT Guidance for Installation of Pedestrian Crosswalks on Minnesota State Highways – Page: 3
- MN MUTCD: Part 3. Markings – Pages: 3B-34-38
- MN MUTCD: Part 7. Traffic Controls for School Areas – Pages: 7A-1-3, 7B-5-8, 7C-1
- NACTO Urban Street Design Guide – Pages: 109-116

Estimated Costs[E]

- $25,000 each, depending on materials: paint vs. thermoplastic

LEADING PEDESTRIAN INTERVAL

Description

A Leading Pedestrian Interval (LPI) provides pedestrians with a three to seven second head start when entering an intersection with a corresponding green signal in the same direction of travel. LPIs enhance the visibility of pedestrians in the crosswalk, and reinforce their right-of-way over turning vehicles. LPIs are most useful in areas where pedestrian travel and turning vehicle volumes are both high.

Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Pages: 20-22
- NACTO Urban Street Design Guide – Page: 128

Estimated Costs[A]

- $0-$3,500, depending on the need for new hardware vs. revising existing signal timing

MEDIAN REFUGE ISLAND

Description

Median refuge islands (also known as median crossing islands) make crossings safer and easier by dividing them into two stages so that pedestrians and bicyclists only have to cross one direction of traffic at a time. Median refuges can be especially beneficial for slower walkers including children or the elderly. Crossing medians may also provide traffic calming benefits by visually narrowing the roadway.

Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Pages: 9-10, 43-44
- FHWA Effects of Traffic Calming Measures on Pedestrian and Motorist Behavior – Pages: 17-20
- FHWA Proven Safety Countermeasures: Medians and Pedestrian Crossing Islands in Urban and Suburban Areas
- MN MUTCD: Part 3. Markings – Page: 3I-2
- NACTO Urban Street Design Guide – Page: 116

Estimated Costs[E]

- $13,500, $10 per square foot

RAISED CROSSWALKS

Description

Raised crosswalks are wide and gradual speed humps placed at pedestrian and bicyclist crossings. They are typically as high as the curb on either side of the street, eliminating grade changes for people crossing the street. Raised crosswalks help to calm approaching traffic and improve visibility of people crossing.

Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Pages: 3-4
- FHWA Effects of Traffic Calming Measures on Pedestrian and Motorist Behavior – Pages: 12-15
- MN MUTCD: Part 3. Markings – Pages: 3B-46-49
- NACTO Urban Street Design Guide – Page: 54

Estimated Costs[E]

- $8,170 each

RECTANGULAR RAPID FLASHING BEACON (RRFB)

Description

An RRFB uses an irregular stutter flash pattern with bright amber lights (similar to those on emergency vehicles) to alert drivers to yield to people waiting to cross. The RRFB offers a higher level of driver compliance than other flashing yellow beacons, but lower than the HAWK signal.

Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Pages: 16-17
- FHWA Effects of Yellow Rectangular Rapid-Flashing Beacon on Yielding at Multi-lane Uncontrolled Crosswalks
- FHWA Evaluation of Pedestrian and Bicycle Engineering Countermeasures: Rectangular Rapid-Flashing Beacons, HAWKs, Sharrows, Crosswalk Markings, and the Development of an Evaluation Methods Report – Pages: 13-18

Estimated Costs[B]

- $36,000 for two assemblies on poles

ROAD DIET

Description

A classic road diet converts an existing four-lane roadway to a three-lane cross-section consisting of two through lanes and a center two-way left turn lane. Road diets improve safety by including a protected left-turn lane, calming traffic, reducing conflict points, and reducing crossing distance for pedestrians. In addition, road diets provide an opportunity to allocate excess roadway for alternative uses such as bike facilities, parking, transit lanes, and pedestrian or landscaping improvements.

Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Pages: 29-31
- FHWA Road Diet Desk Reference
- FHWA Road Diet Informational Guide
- NACTO Urban Street Design Guide – Page: 14

Estimated Costs[E]

- $120,680 per mile, assuming 8 blocks in a mile. Estimate includes 16 symbols, 16 signs, 6 curb extensions, 1 mini traffic circle

SCHOOL SPEED ZONE

Description

School speed zones reduce speed limits near schools, and alert motorists that they are driving near a school. School speed zones are defined as the section of road adjacent to school grounds, or where an established school crossing with advance school signs is present. Each road authority may establish school speed zone limits on roads under their jurisdiction. In general, school speed limits shall not be more than 30 mph below the established speed limit, and may not be lower than 15 mph. Speed violations within school speed zones are subject to a double fine.

Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Pages: 48-51
- MnDOT School Zone Speed Limits
- MN MUTCD: Part 7. Traffic Controls for School Areas – Section: 7E

Estimated Costs[A, C]

- $600 for sign and post in each direction

SHARED USE PATH

Description

Shared-use paths provide off-road connections for people walking and biking. Paths are often located along waterways, abandoned or active railroad corridors, limited access highways, or parks and open spaces. Shared-use paths may also be located along high-speed, high-volume roads as an alternative to sidewalks and on-street bikeways; however, intersections with roadways should be minimal. Shared-use paths are generally very comfortable for users of all ages and abilities.

Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Page: 2
- MnDOT Bikeway Facility Design Manual – Pages: 123-168
- AASHTO Guide for the Development of Bicycle Facilities – Chapter 5

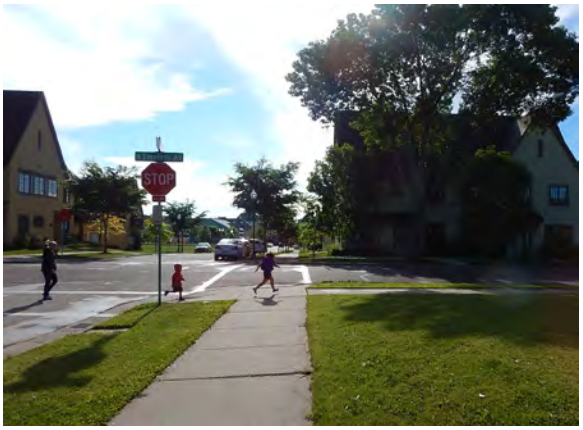
Estimated Costs[B]

- $55 per linear foot, 10 ft trail with aggregate base and associated costs

SIDEWALKS

Description

A well-connected sidewalk network is the foundation of pedestrian mobility and accessibility. Sidewalks provide people walking with space to travel within the public right-of-way that is separated from roadway vehicles. Sidewalks are associated with significant reductions in motor vehicle / pedestrian collisions.



Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Pages: 1-2
- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities
- NACTO Urban Street Design Guide – Pages: 37-44
- United States Access Board Proposed Guidelines for Pedestrian Facilities in Public Right-of-Way

Estimated Costs[A, B]

- $84 per linear foot of 6 ft sidewalk with aggregate base

TRAFFIC CIRCLES (MINI ROUNDABOUTS)

Description

Traffic circles are raised circular islands constructed in the center of residential intersections. They may take the place of a signal or four-way stop sign, and calm vehicle traffic speeds by forcing motorists to navigate around them without requiring a complete stop. Signage should be installed with traffic circles directing motorists to proceed around the right side of the circle before passing through or making a left turn.

Resources

- MnDOT Minnesota's Best Practice for Pedestrian and Bicycle Safety – Pages: 43-44
- FHWA Technical Summary: Mini-Roundabouts
- FHWA Technical Summary: Roundabouts – Page: 7 (mention of school area siting)
- MN MUTCD: Part 3. Markings – Pages: 3C1-15
- NACTO Urban Street Design Guide – Page: 99

Estimated Costs[E]

- $35,000-$50,000 each

Sources

A: http://www.dot.state.mn.us/bidlet/avgPrice/AVGPR162015.pdf
B: http://www.hennepin.us/~/media/hennepinus/residents/transportation/bottineau-documents-mpls-gv/estimated-infrastructure-costs-and-funding.pdf?la=en
C: http://www.trafficsign.us/signcost.html
D: https://www.bls.gov/oes/current/oes339091.htm
E: http://www.pedbikeinfo.org/cms/downloads/Countermeasure%20Costs_Report_Nov2013.pdf
F: http://guide.saferoutesinfo.org/engineering/reduced_corner_radii.cfm
G: http://safety.transportation.org/htmlguides/peds/assets/App07.pdf
H: http://www.pedbikeinfo.org/cms/downloads/Countermeasure_Costs_Summary_Oct2013.pdf
I: http://www2.ku.edu/~kutc/pdffiles/LTAPFS11-Mid-Block.pdf

Appendix J. Bike Parking for Schools

Bicycle parking at schools does more than just provide space for storage during the school day. Depending on design, bicycle parking can actually encourage students and staff to choose to ride their bikes to school. Here are some things to think about when planning bicycle parking at school.

HOW MUCH PARKING SHOULD BE PROVIDED?

The amount of bike parking needed will depend on the capacity of your school, the ages of students, and the number of staff. But remember: be aspirational! Provide parking for the number of students and staff you'd like to see biking! The following are some guidelines:

- 25 percent of the maximum student capacity of the school.
- Additional parking to encourage staff and faculty to bike to school

For example, if each classroom has a max capacity of 20 students and there are 10 classrooms, space for 50 bicycles should be provided. Don't forget to add some for faculty and staff!

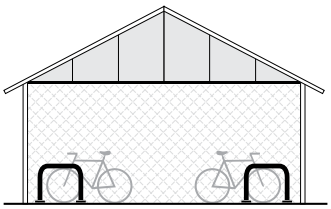
WHERE SHOULD PARKING BE LOCATED?

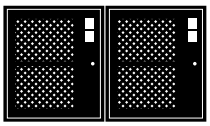
Well-located bike parking will be:

- visible to students, staff, and visitors
- near the primary school entrance/exit
- easily accessed without dismounting
- clear of obstructions which might limit the circulation of users and their bikes
- easily accessed without making a rider cross bus and car circulation
- installed on a hard, stable surface that is unaffected by weather
- often found near kindergarten and daycare entrance, which allows parents to conveniently pick up their children on their bikes

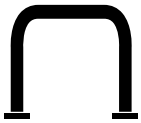
CAN MY SCHOOL PROVIDE ADDITIONAL AMENITIES?

Bike parking shelters and lockers provide extra comfort and security for those choosing to ride to school. They're also a great project for a shop class. Both can be very simple in construction and go a long way towards making biking attractive and prioritized!





WHICH RACKS ARE BEST?



INVERTED U

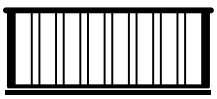
POST & RING

WHEELWELL SECURE

These racks provide two points of contact with the bicycle, accommodate varying styles of bike, allow for at least one wheel to be U-locked, and are intuitive to use!

WHICH RACKS ARE NOT RECOMMENDED?

WAVE



COMB

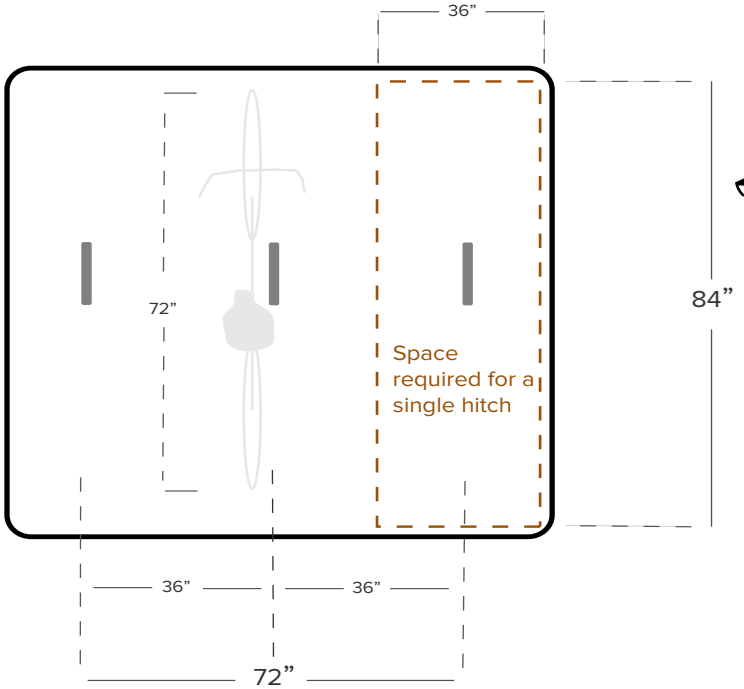
SPIRAL

WHEELWELL

These racks do not provide support at two places on the bike, can damage the wheel, do not provide adequate security, and are not intuitive to use!

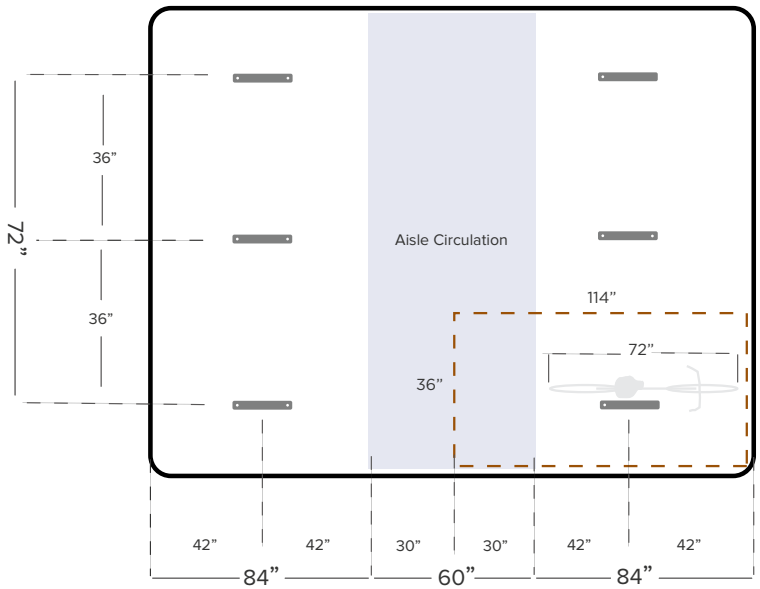
Graphics courtesy of Association of Pedestrian and Bicycle Professionals Essentials of Bike Parking report (2015).

SPACE REQUIREMENTS



The space requirements shown here assume a person parking their bike would have open access forward and from behind.

The space requirements shown here assume the area is confined on either side (left and right). Access is located at the top and bottom of the image, requiring a center aisle for circulation.



Space required for a single hitch

RESOURCES FOR EQUIPMENT

Dero
Sportworks
Urban Racks

MORE INFORMATION

APBP Essentials of Bike Parking
Bike Shelter Development Guide -Portland Public Schools

Appendix K. Maintenance Planning

ANNUAL MAINTENANCE

School routes and crosswalks should be prioritized for maintenance. To ensure high visibility crosswalks maintain their effectiveness, review all crosswalks within one block of the school each year. If there is notable deterioration, crosswalks should be repainted annually. In addition, crosswalks on key school walk routes should be evaluated annually and repainted every other year or more often as needed.

SEASONAL PLANNING AND MAINTENANCE

Walking and cycling generally diminish during the cold winter months as poorly maintained infrastructure and unpleasant weather conditions create barriers for pedestrians and bicyclists. However, maintaining infrastructure and planning inviting winterscapes for students can facilitate the convenience of biking and walking as well as provide new opportunities to encourage students to be outside more.

Snow removal and maintenance of school routes should be prioritized. Snow removal is a critical component of pedestrian and bicycle safety. The presence of snow or ice on sidewalks, curb ramps, or bikeways will deter pedestrian and cyclist use of those facilities to a much higher degree than cold temperature alone. Families with children will avoid walking in locations where ice or snow accumulation creates slippery conditions that may cause a fall. Curb ramps that are blocked by ice or snow effectively sever access to pedestrian facilities. Additionally, inadequately maintained facilities may force pedestrians and bicyclists into the street. Identified routes to school should be given priority for snow removal and ongoing maintenance.

While it is important to prioritize maintenance, additional planning should be employed to create new opportunities to encourage students to be outside more through design. According to the City of Edmonton's Winter Design Guidelines, the five main design principles for designing cities that are inviting and functional for outdoor public life year-round include blocking wind, capturing sunshine, using color, lighting, and providing infrastructure that supports desired winter activities.

Strategies to block wind in the winter include grading land that blocks cold winds from the north and northwest. Other strategies include planting trees and/or piling snow along the north and west sides of streets, properties, parks, and trails to provide shielding from the wind. Buildings along streets can also use canopies, colonnades, and setbacks to block wind and create more inviting street-level walking conditions.

Another way to create an inviting pedestrian and bicycle environment is to employ strategies that maximize limited winter sunshine. Deciduous trees that drop their leaves in winter allow sunshine to filter down to streets and sidewalks. Building setbacks can also allow more sunshine to reach pedestrian areas in the form of wider sidewalks. Creative public art can also capture and reflect sunlight that also provides fun and engaging elements on walks and bicycle trips for students to enjoy their travel.

Using warm colors and warm building materials can also contribute to a sense of warmth for the winter pedestrian or bicyclist. When people feel warmer, their attitude improves and they have a greater resilience for being outside in temperatures that they may not normally consider as comfortable. For students with creative imaginations or who need extra stimuli to engage their interest in biking or walking, colorful building facades, public art elements, and wayfinding may encourage them to walk or bike not only in the winter, but year-round.

Lighting is also an element that is important year-round, but becomes increasingly important in the winter for creating more inviting winterscapes for pedestrians and bicyclists. Lighting can contribute to inducing a sense of warmth and safety, as well as be used for wayfinding and as passive public art displays.

Lastly, providing infrastructure that supports desired winter activities can also encourage more active transportation. Some particularly encouraging strategies beyond providing ice skating rinks that have been employed in Edmonton, Canada include harnessing plowed snow piles and stored snow to create new play opportunities for students. These snow piles can be strategically placed in parks along walking routes and mounded into winter slides. Other practices have included regularly compacting snow to make it malleable enough for students to construct their own snow house structures, with maintenance crews compacting the snow every few days to prevent it from forming into denser ice.

Resources

Winter Design Guidelines: Transforming Edmonton into a Great Winter City
https://www.edmonton.ca/city_government/documents/PDF/WinterCityDesignGuidelines_draft.pdf

Appendix L. Equity in SRTS Planning

When planning and implementing your SRTS programming, it is important to design events and activities that are inclusive of students of all backgrounds and abilities. The population of the City of Saint Paul is approximately 54% Caucasian with 46% of the population identifying as people of color. Poverty levels are nearly double the national rate. This appendix identifies potential obstacles to participation and suggests creative outreach, low-cost solutions, and flexible program implementation to address language barriers, students with disabilities, personal safety concerns, and barriers related to school distance.

LANGUAGE AND/OR CULTURAL BARRIERS

To encourage families that do not speak English, are learning English, or have recently immigrated to participate in Safe Routes to School programs, it is important to communicate how the program can benefit families and address parental concerns. Hiring a bilingual staff person is the best way to communicate and form relationships with a community.

Provide Materials in Multiple Languages

Some concepts can lose their meaning and be confusing when translated literally. Also, words may have different meanings depending on the regional dialect.

- Ask families with native speakers to help communicate the message to others.
- Use images to supplement words so that handouts are easy to read and understand.

Use a Variety of Media

In schools where families speak different languages, it can be a good idea to present information in multiple ways.

- Use a variety of mechanisms to communicate the benefits of walking and bicycling to parents.
- Have students perform to their parents, such as through a school play.
- Encourage youth-produced PSAs to educate parents on why biking and walking are fun and healthy events.
- Provide emails, print materials, etc., in multiple languages.
- Use a phone tree, PTA, or events to reach parents.
- Engage an assistant who speaks multiple languages to reach out to parents at events.
- Employ staff from similar ethnic backgrounds to parents at the school.
- Parents increasingly use texting more than emails. Find out how parents communicate with each other and use their methods.

Meet People Where They Are

Some families may not feel comfortable coming to your events or participating in formal PTA and organizations.

- Attend established meetings to reach groups who may not participate in school PTAs or other formal meetings.
- State required English Learner Advisory Committees (ELACs) are good partners.
- Conduct outreach or table at school events (such as: Movie nights, family dance nights, Back to School nights, etc.).

Residents are often aware of traffic and personal safety issues in their neighborhoods, but don't know how to address them.

- Provide a safe place for parents to voice concerns to start the conversation about making improvements. Listen to their concerns, help parents prioritize, and connect them with the responsible agency to address the concerns.
- Encourage staff or parent volunteers to host house meetings, in which a small group gathers at the home of someone they know to voice concerns and brainstorm solutions.
- Seek common goals for community improvement that can be addressed through collaborative efforts with all parent groups.
- Consider inviting law enforcement or public works staff to build a better relationship between officers and residents so they feel comfortable voicing future concerns. Note that some groups may have complex relationships of police mistrust, such as among undocumented communities. Again, asking for police representatives who are from the community works best.
- When looking for volunteers, start by looking to friends and neighbors to build your base group.
- Be creative; consider going to community events like Farmer's Markets and neighborhood gathering spots to recruit. Try different ways of engaging with participants; the City as Play Design Workshops have creative ideas

for asking attendees to build their visions.
- Look for small victories: adding a crossing guard, signage and paint gives parents confidence that their issues can be addressed.

Host Parent Workshops

All parents desire for their children to be successful. Workshops are a good opportunity to articulate how services and programs can reduce barriers to students' success and help them be successful.

- Create simple ways for parents to get involved and help put on events and activities with their children, who can often help navigate the situation.
- Hold a "Parent University," or workshops where parents can voice their concerns.
- Listen to and act on parents' suggestions to build trust in the community and address concerns.
- Include an icebreaker activity to introduce yourself and to make the participants more comfortable sharing their thoughts and opinions.

Establish Flexible Programs

Create a trusting and welcoming environment by not requiring participants to provide information about themselves, which could be a deterrent to undocumented immigrants.

- Establish a training program for volunteers that does not require background checks or fingerprints since some parents who would like to volunteer may not be able to pass background checks.

Often working parents have limited time to volunteer with their children's schools. The hours and benefits associated with many jobs can make it challenging for parents to be available for school activities and take paid time off.

- Host meetings and events at varying times to accommodate differing work schedules.
- Make specific requests and delegate so no single person has to do the majority of the work.

Communicate Health Benefits

Families who are less well-connected to the school community may not be as aware of the benefits of SRTS programming.

- Publicize to parents that walking and biking to school is exercise and to children that it is fun, like an additional recess.
- Health fairs can highlight biking and walking to create an association between those commute options and their benefits. Encouragement competitions such as the Golden Sneaker Award and Pollution Punch Card can show how many calories students have burned.

STUDENTS WITH DISABILITIES

Some students may not be able to walk or bike to school because of physical or mental disabilities, but they can still be included in SRTS programs.

- Invite children with physical disabilities to participate in school infrastructure audits to learn how to improve school access for all.
- Students with mental disabilities may have differing capacities for retaining personal and traffic safety information, but programs like neighborhood cleanups and after-school programs can be fun ways to socialize and participate with other students.
- Involve special education instructors and parents of disabled students in the planning and implementation of these programs to better determine the needs of children with disabilities.
- Create SRTS materials that recognize students with disabilities. Include pictures of students with disabilities in program messaging to highlight that SRTS programs are suitable for all students.

Additional Resources

- National Center for SRTS's Involving Students with Disabilities
- SRTS National Partnership's: Serving Students with Disabilities

PERSONAL SAFETY CONCERNS

In some communities, personal safety concerns associated with crime activity is a significant barrier to walking and bicycling. These can include issues of violence, dogs, drug use, and other deterrents that can take precedence over SRTS activities in communities. These neighborhoods may lack sidewalks or other facilities that offer

safe access to school, and major roads may be barriers.

Neighborhood Watch Programs

Establishing neighborhood crime watches, parent patrols, and safety zones can involve the community in addressing personal safety concerns as supervision reduces the risk of bullying, crime, and other unsafe behavior.

- Set up parent patrols to roam areas of concern. Safe Passages or Corner Captain programs station parent or community volunteers on designated key street corners to increase adult presence to watch over children as they walk and bicycle to school.
- Issue special hats, vests, or jackets to give the volunteers legitimacy and identify them as patrol leaders.
- Walkie-talkies allow parents to radio for help if they are confronting a situation they have not been able to resolve.
- Work to identify "safe places" like a home along the route where children can go to in the event of an emergency, or create a formal program with mapped safe places all children can go to if a situation feels dangerous.

SchoolPool with a Group

SchoolPool, or commuting to school with other families and trusted adults, can address personal safety concerns about traveling alone.

- Form Walking School Buses, Bike Trains, or carpools. For information about how to set up a SchoolPool at your school, read the Spare the Air Youth SchoolPool guidebook. http://www.sparetheairyouth.org/schoolpool-guidebook
- SchoolPools are a great way of building community. See resources online at http://www.sparetheairyouth.org/walking-school-buses-bike-trains for more information.

Sponsor Neighborhood Beautification Projects

Clean neighborhoods free of trash and graffiti can create a sense of safety and help reduce crime rates.

- Host neighborhood beautification projects around schools, such as clean-up days, graffiti removal, and tree planting to help make families feel more comfortable and increase safety for walking or biking to school.
- Host a community dialogue about positive and negative uses of public space.

Education Programs

Teach students and their families about appropriate safety issues. Parents may not want students to walk or bike if they are not confident in their child's abilities.

Safety Information for Students

- Use time at school, such as during recess, PE, or no-cost after school programs, to teach children how to bike and walk safely.
- Utilize either existing curricula or bring in volunteer instructors from local advocacy groups and non-profit organizations.
- Teach children what to do in the event of an emergency and where to report suspicious activity or bullying.
- Provide helmets and bikes during the trainings will allow all students to participate regardless of whether or not they have access to these items.
- Open Streets events such as San Francisco's Sunday Streets, Oakland's Oaklavia, and others are also a great way of creating safe zones to teach new skills in the street.

Safety Information for Parents

- Provide information about how to get to around safely.
- Develop and distribute suggested routes to school maps that highlight streets with amenities like sidewalks, lighting, low speeds, and less traffic.
- Identify informal shortcuts and cutthroughs that students may take to reduce travel time. Consider whether these routes may put students at risk (for example, by cutting through a fence, across a field, or near railroad tracks) and work with your city planners to improve the route.
- Provide flyers for parents about how to find other families groups to commute with or what to do in the event of an emergency to educate themselves and their children.
- Offer pedestrian safety training walks. Make these fun and interactive and address parents' safety concerns as well as provide tips for them to teach their children to be safe while walking.

Resources

- SRTS National Partnership's Implementing Safe Routes to School in Low-Income Schools and Communities http://www.saferoutespartnership.org/sites/default/files/pdf/LowIncomeGuide.pdf

BARRIERS RELATED TO SCHOOL DISTANCE

Some students simply live too far from school to reasonably walk or bike. However, there are programs that may be implemented to include these students in healthy physical activities, such as walking or biking.

Remote Drop-off

- Suggest remote drop-offs for parents to drop their children off a couple blocks from the school so they can walk the rest of the way. Volunteers wait at the drop-off and walk with students at a designated time to ensure they arrive to school safely and on time
- Remote drop-off sites can be underutilized parking lots at churches or grocery stores that give permission for their property to be used this way.
- Identify potential park and walk areas on route maps.

Walk to School Bus Stops

- Incorporate physical activity into students' morning schedule by encouraging them to walk to bus stops.
- Utilize walking school bus programming to organize nearby students to walk in groups to a more centrally located bus stop, which may translate into fewer bus stops because more students will be boarding at each stop.

Frequent Walker Programs

- Students who still arrive to school by bus and parent vehicle do not have to miss out on the physical benefits provided by walking if programming is implemented
- Implement programs that identify walking opportunities on campus, which can be defined in terms of routes or by amount of time spent walking.

Additional Resources

- Safe Routes to School National Partnership Rural Communities: Making Safe Routes Work
- Safe Routes to School National Partnership Rural Communities: Best Practices and Promising Approaches for Safe Routes
- Safe Routes to School National Partnership Rural Communities: A Two Pronged Approach for Improving Walking and Bicycling

Appendix M. Traffic Data

The following is a map of existing traffic data collected by the St. Paul Department of Public Works.