

JUNE 2018



# Safe Routes to School

*A plan to make walking and biking to school a safe, fun activity*

**MEADOWVIEW ELEMENTARY SCHOOL**

FARMINGTON AREA PUBLIC SCHOOLS

## ACKNOWLEDGEMENTS

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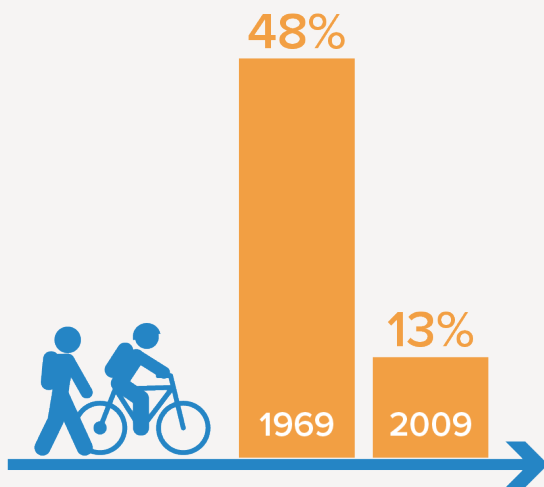


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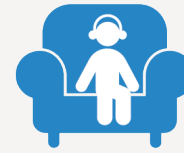
INTRODUCTION + CONTEXT



# Why Safe Routes To School?



THE PERCENTAGE OF CHILDREN WALKING OR BIKING TO SCHOOL HAS DROPPED PRECIPITOUSLY WITHIN ONE GENERATION



MOST KIDS ARE NOT GETTING ENOUGH PHYSICAL ACTIVITY



ROADS NEAR SCHOOLS ARE CONGESTED, DECREASING SAFETY AND AIR QUALITY FOR CHILDREN

## KIDS WHO WALK OR BIKE TO SCHOOL:



Arrive alert and able to focus on school



Get most of the recommended 60 minutes of daily physical activity during the trip to and from school



Are more likely to be a healthy body weight



Demonstrate improved test scores and better school performance\*



Are less likely to suffer from depression and anxiety

## THE VICIOUS CYCLE OF INCREASED TRAFFIC LEADING TO REDUCED WALKING AND BICYCLING:



Fewer students walking & biking to school

More parents driving children to school

Rising concern about safety of walking & biking

Increased traffic at and around school

\*More information, including primary sources, can be found at <http://guide.saferoutesinfo.org>

# The Six E's

Safe Routes to School (SRTS) programs use a variety of strategies to make it easy, fun and safe for children to walk and bike to school. These strategies are often called the "Five E's." Equity, the 6th E, is an overarching part of this plan.

## EQUITY

Equity is an overarching concept that applies to all of the E's. Equity in SRTS means that the SRTS program is inclusive, celebrates the diversity of students, allocates resources to overcome inequities, and supports a community where walking and biking is safe, comfortable, and convenient for every student.



### EDUCATION

Programs designed to teach children about traffic safety, bicycle and pedestrian skills, and traffic decision-making.



### ENFORCEMENT

Law enforcement strategies aimed at improving driver behavior near schools and ensuring safe roads for all users.



### ENCOURAGEMENT

Programs that make it fun for kids to walk and bike, including incentive programs, regular events, or classroom activities.



### EVALUATION

Strategies to help understand program effectiveness, identify improvements, and ensure program sustainability.



### ENGINEERING

Physical projects that are built to improve walking and bicycling conditions.

## Navigating this Plan

Below is a road map for navigating the way through this plan. Use it to find all the information you need for helping students be safer and more active!



### PROGRAMS

Getting kids to walk and bike to school requires fun and engaging programs for schools and families. Turn to this section for recommended events, activities, and strategies that will get students moving.



### HOW TO GET INVOLVED

As more people get involved in Safe Routes to School programs, the more successful they are. Use this section to find out how you can be a part of this important initiative.



### INFRASTRUCTURE

Ensuring the safety of students on their trips to and from school means upgrading the streets. See this section for suggestions to improve the safety, comfort, and convenience of walking and biking, including paint, signage, and signals.



### APPENDICES

There is more information available than could fit in this plan. For additional resources, turn to this section.



## The Vision

This plan provides recommendations to make walking and biking to and around school a safe, comfortable, and fun activity for all students and families at Meadowview Elementary School.

This plan was made possible with support from the Statewide Health Improvement Partnership and Dakota County Public Health and was developed in coordination with the city, school district, and school community. It is the product of workshops, discussion, and site visits involving city and county representatives, teachers, school staff, students, and law enforcement.

This report offers program and infrastructure recommendations based on the 6 E's model. Some recommendations may be implemented almost immediately while others will take more planning, analysis, and funding. While not all of recommendations can be implemented immediately, it is important to achieve short-term successes to build momentum and lay the groundwork for more complex projects.

### EQUITY HIGHLIGHT

#### EQUITY IN SRTS

Equity in SRTS means that walking and biking to school is safe, comfortable, and convenient for every student, regardless of race, cultural identity, immigrant or refugee status, language, gender or sexual identity, income, religion, and whether or not a student receives special education, has a physical or mental disability, or is homeless or highly mobile.

An equitable SRTS program celebrates differences, and recognizes and overcomes avoidable inequities in opportunities for students to walk or bike to school.





## Meadowview in Context

Meadowview Elementary School is located in the City of Farmington. The campus is bound by 195th Street W on the north, which provides sole vehicular access to the school campus. Campus is bound by residential development to the east, though access between the neighborhood and school campus is limited. Land directly south, west, and north of campus is largely agricultural and very low density.

There are multiuse trails on both sides of 195th Street W and a grade-separated tunnel connecting Meadowview to the trail on the north side of the street. A shared-use path on the south side of the school connects into the adjacent neighborhood about one-third of a mile south of Meadowview.

During the 2017-2018 school year, 710 students grades K-5 attended Meadowview Elementary. The school's enrollment boundary includes the northwest portion of the City of Farmington.

As per Farmington Area Public School District's transportation policy, elementary students must live more than one mile from school to be eligible for District-provided transportation.

In response to a survey about walking and biking sent home in the spring of 2018, parents of students at Meadowview indicated that 49 percent of students live more than one mile away from school and typically travel to and from school by family vehicle or school bus. Only four percent of parents reported their child walking home from school. None reported their child walking to school and none reported their child biking to or from school. Of the children who live under one-quarter of a mile from school, 60 percent have reportedly asked permission to walk or bike to school. One hundred percent of students living between one quarter and one half mile from school asked for permission. This number decreases dramatically as distance from school increases.





According to the survey, parents of Meadowview students most often reported distance, weather, the amount and speed of traffic, and the safety of intersections as reasons to not allow their children to walk or bike to school. Seventy-eight percent of parents thought walking and biking to school was "healthy" or "very healthy".

In May, Meadowview Elementary staff conducted student travel tallies to get a broader sense of how students travel to and from school. Tallies were taken for three consecutive days. Between 417 and 468 students participated each day. Most students reported traveling to or from school by bus (54 percent in the morning and 56 percent in the afternoon). Thirty-six percent of students reported arriving by family vehicle, six percent reported walking home, two percent reported biking, two percent carpool, and four percent reported traveling by some other mode.



## APPENDIX

### FURTHER READING

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The summary on this page takes information from more detailed existing conditions reports, which can be found in Appendix D. There you'll find a report that discusses surrounding land use, travel patterns, and a map illustrating where Meadowview students live. This information helped planners and community stakeholders develop the best strategies for increasing safety and comfort for students walking and biking to school.





## Introduction to Programs

*The Safe Routes to School movement acknowledges that infrastructure changes are necessary for shifting school travel behavior, but are insufficient on their own. Programs are a necessary component of any successful SRTS plan.*

While engineering improvements such as sidewalks, crosswalks, and bikeways are important, equally important are education programs to give children and families basic safety skills, encouragement programs to highlight walking and bicycling to school as fun and normal, enforcement against unsafe and illegal motorist behavior, and evaluation of the impact of investments and non-infrastructure efforts. Often, programs that help to get more kids walking and biking lead to increased public support for infrastructure projects - they can be an important first step towards building out the physical elements that make walking and biking safer and more comfortable. And relative to certain infrastructure projects, most programs are very low cost.

### EQUITY HIGHLIGHT

#### EQUITY IN PROGRAMMING

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. Language and cultural barriers, physical abilities, personal safety concerns, and infrastructure barriers can all create potential obstacles to participation. Creative outreach, low-cost solutions, and flexible implementation can help overcome obstacles and enable more students and families to participate.

For more information about equity in SRTS planning, see Appendix J.



## Existing Programs

Meadowview Elementary School, Farmington Area School District, and the City of Farmington have been actively working to provide safe and inviting spaces around school for students. This foundation of encouraging student travel safety is valuable for expanding programs to encourage more students to walk and bike. Here are a few programs that already exist for students attending Meadowview Elementary School:

### Programs already active at Meadowview

- Participate in Health and Wellness Committee: School staff participate in a district-wide health and wellness committee that supports students and staff by creating an environment that encourages healthy eating and active living.
- Student safety patrols: Student safety patrols are stationed at multiple locations on the Meadowview campus including across the bus loop in the northeast parking lot and at the raised crossing near the Community Education Center doors.
- Evaluation tallies: School administration conduct ongoing staff evaluation and tallies of how students travel to / from school.
- 4th Grade Pollution Prevention partnership with the City of Farmington: Meadowview students participate in this annual event which focuses on taking care of the earth for future generations. Students could use the event to help promote or support SRTS initiatives by sharing the health and environmental benefits of active transportation.
- School events including Spring Fling, Science Night, and assessment days: These events bring families together and are used to share information and materials with parents. Existing events could be used to promote SRTS initiatives and educate families about transportation options.





## Program Recommendations

The following programs were identified as priority programs by the Meadowview SRTS team during the planning process: These programs were selected to meet the needs and interests of the school community in the near term (one to five years). Some were recommended to build on existing support and resources from the school and school district. During the planning process, programs were discussed with stakeholders to determine compatibility with Meadowview Elementary School.

### Recommended program list

- 195th Street Safety Forum
- Walking/Biking route maps
- Walking School Bus
- Bicycle Rodeo or safety training
- Walk and Bike to School Day
- School communication

- Parent workshop
- Safety campaign
- Walk! Bike! Fun!
- Paint the Pavement

Programs have been prioritized into implementation timelines based on stakeholder feedback, existing programs already at the school, and the readiness of the school to launch the program:

- Immediate implementation
- Short-term (1-2 years)
- Medium term (2-3 years)

Additional details about each recommended program including a brief description, suggested leads, and an explanation of why the program is being recommended are provided on the following pages.



Credit: Maricopa Unified School District

**TIPS FOR KIDS**  
**WALK & SKATE SAFE!**

**USE A CROSSWALK & THE CROSSING GUARDS:**  
 Always cross at corners or at a marked crosswalk where drivers expect to see you. Cross with the crossing guard if your school has one.

**LOOK BEFORE YOU CROSS:**  
 Look left, right, and left again before crossing a street. Make eye contact with drivers before stepping off of the sidewalk.

**BE VISIBLE:**  
 If possible, wear reflective or bright-colored clothing and walk with one or more walking buddies.

**WALK WITH CARE:**  
 If there is no sidewalk, walk facing traffic as far to the side of the road as possible, but do not weave in and out of parked cars.

**TIPS FOR KIDS**  
**BIKE SAFE!**

**WEAR YOUR HELMET:**  
 It models good behavior. Helmets should fit snug, be level on your head and should always be buckled firmly under your chin.

**RIDE PREDICTABLY:**  
 Look for vehicles and signal to drivers which direction you plan to go before making turns. Ride in a straight line. Avoid the door zone, about five feet away from parked cars.

**RIDE WITH TRAFFIC:**  
 Ride on the right, in the direction of traffic. Obey all signs and signals.

**LOCK YOUR BIKE:**  
 When you get to school, lock your bike to a bike rack inside the campus. Lock both your front wheel and the bike frame to the rack.

Logos for Minnesota Department of Transportation, Dakota County, and Saint Paul Public Schools are at the bottom.

## 195TH STREET SAFETY FORUM

A forum is a meeting during which issues and ideas related to a specific topic can be discussed and explored. A safety forum for 195th Street would provide an opportunity for key stakeholders including parents, school administration, and county staff to meet and speak directly about traffic safety concerns, potential solutions, and engineering constraints associated with the corridor. An outside facilitator could help to moderate and mediate the conversation.

**Program Lead:** Dakota County, school administration

**Timeline:** Immediate

**Why we recommend it:** 195th Street is the sole route to school for most Meadowview families. Despite having trails on both sides of the street and a grade separated crossing to Meadowview, parents do not feel comfortable with their students walking along 195th Street to access the school. Over the last several years, school administration has repeatedly relayed messages between the parent community and county staff. Overcoming barriers associated with 195th Street is key to future SRTS initiatives at Meadowview.

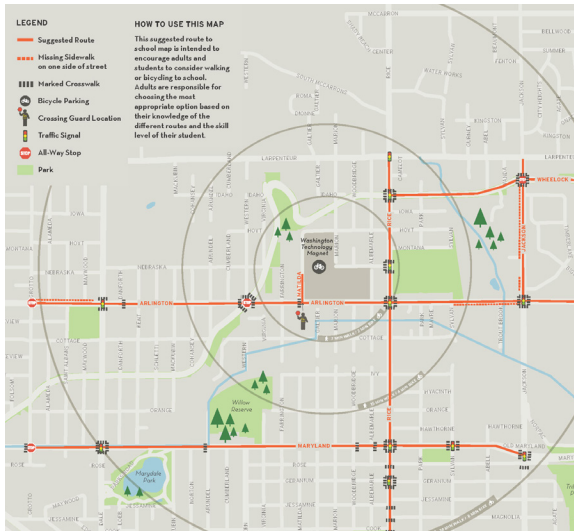
## SCHOOL COMMUNICATION

Communication could come as a paper or electronic newsletter or school social media blast describing safe transportation practices in and around school, making sure to elevate walking and biking as an option. Communication can inform parents of safe crossings and how to dress appropriately for weather. Information could describe where bike parking and other resources are located at each school. Communication can also highlight SRTS news and efforts and advertise upcoming events related to walking and biking.

**Program Lead:** School staff and administrators, Farmington Area Public Schools

**Timeline:** Immediate

**Why we recommend it:** School staff attending the workshop expressed interest in general communication flyers or pamphlets sent home that educate students and parents on safe walking, biking, and driving behavior. School communication could also be used to share safe walking and biking route maps with families. This communication could also describe the benefits of walking and biking to school. Communication channels may include Facebook, print and online school newsletters, or relevant school websites such as the Farmington's Fit as Tigers! Wellness webpage.



## WALKING/BIKING ROUTE MAPS

Route maps show signs, signals, crosswalks, sidewalks, paths, crossing guard locations, and hazardous locations around a school. They identify the best way to walk or bike to school and highlight the time it takes to walk from certain locations in the area. Liability concerns are sometimes cited as reasons not to publish maps; while no route will be completely free of safety concerns, a well-defined route should provide the greatest physical separation between students and traffic, expose students to the lowest traffic speeds, and use the fewest and safest crossings. More information about SRTS routes and maps is available at the Minnesota SRTS Resource Center: <https://www.dot.state.mn.us/mnsaferoutes/resources/mapping.html>.

**Program Lead:** Farmington Area Public Schools, City of Farmington

**Timeline:** Short (1-2 years)

**Why we recommend it:** According to the parent surveys, parents expressed interest in their children walking to school, but had major safety concerns with 195th Street. At the workshop, school staff discussed that it might help to convince some parents to try walking to school if they knew the safest routes and the time it takes from certain neighborhoods. Routes shown on maps could be updated once infrastructure improvements have been made.



### EVALUATION

## PARENT SURVEYS AND STUDENT TRAVEL TALLIES

There are two great tools to evaluate all the SRTS work in the community:

**Parent Surveys:** Recommended once every 2-3 years. A hard copy survey or link to an online version can be sent to parents to gather their perceptions of walking and biking to school. Surveys can be distributed through newsletters, school websites, or at conferences.

**Student Travel Tally:** Recommended in fall and spring of every year. In-class tallies ask students how they traveled to and from school on a given day.





## WALKING SCHOOL BUS

A Walking School Bus is a group of children walking to school, often with one or more adults. Parents can take turns leading the bus, which follows the same route each day and picks up children from their homes or designated bus stops at designated times. Ideally, buses run every day or on a regular schedule so families can count on it, but they often begin as a one-time pilot event. Older students or “walking buddies” could also be used once a safe route has been established with the help of a trusted adult.

**Program Lead:** Meadowview PTP

**Timeline:** Short (1-2 years)

**Why we recommend it:** Many students live within walking distance of Meadowview and near one another. Comments from the parent survey expressed willingness to allow children to walk if there was another parent accompanying students along the way. With such an active parent community, a Walking School Bus is a potential possibility. A Walking School Bus can be part of a larger annual event like Walk to School Day or occur on a monthly or weekly basis such as Walking Wednesdays.



## WALK AND BIKE TO SCHOOL DAY

Walk and Bike to School Day is an international event that attracts millions of participants in over 30 countries in October. In addition, Minnesota celebrates Bike to School Day in May and Winter Walk to School Day in February. These events encourage students and their families to try walking or bicycling to school. Parents and other adults accompany students and staging areas can be designated along the route to school where groups can gather and walk or bike together. These events are often promoted through press releases, backpack/folder/electronic mail, newsletter articles, and posters. Students can earn incentives for participating or there is a celebration at school following the morning event.

**Program Lead:** School staff and administrators, Meadowview PTP

**Timeline:** Short (1-2 years)

**Why we recommend it:** Publicizing Walk and Bike to School Days are a great way to keep the SRTS momentum going. Consider asking parents to volunteer their time to lead a walking school bus or to greet students at pit stops and hand out treats or prizes. Partner with the Farmington Police Department to encourage safe walking, biking, and driving behavior during this special event.





## PARENT WORKSHOP

Since parents are usually the ones deciding whether their children walk or bike to school, a workshop designed for them can provide the tools, resources, and support needed to begin walking or biking for transportation. Topics could include starting a Walking School Bus, carpool matching, launching a safety campaign, how to be a responsible driver, or organizing an event such as Walk and Bike to School Day.

**Program Lead:** School staff and administrators, Meadowview PTP

**Timeline:** Short (1-2 years)

**Why we recommend it:** Meadowview has an active PTP. Leveraging their resources and communication channels would help connect parents to each other. A Meadowview parent expressed interest in something similar to a Walking School Bus in the comment section of the parent surveys. A workshop at the beginning of the year could discuss busing, but also include conversations about walking and biking events. Walking and biking information could also be integrated into other existing parent events including conferences.



## SAFETY CAMPAIGN

A safety campaign is an effective way to build awareness around students walking and biking to school and to encourage safe driving behavior among parents and passersby. A School Traffic Safety Campaign can use media at or near schools such as posters, business window stickers, yard signs, and/or street banners to remind drivers to slow down and use caution in school zones.

**Program Lead:** Meadowview PTP, students, school staff, Farmington Police Department

**Timeline:** Short (1-2 years)

**Why we recommend it:** Dozens of parents line up in their cars before and after school. This is a great audience to target for messaging about safe driving behavior. Posters or banners could be held by students at the pick up queue in the afternoon. Lawn signs could be posted on 195th Street that say "PLEASE SLOW DOWN," "STUDENTS WALK HERE," or other messages that advertise upcoming Walk to School Day events.



## WALK! BIKE! FUN! CURRICULUM AND AMBASSADOR TRAINING

Walk! Bike! Fun! (WBF) Pedestrian and Bicycle Safety Curriculum is a two-part curriculum designed specifically for Minnesota’s schools. It is structured to meet Minnesota education standards and is an important part of the Safe Routes to School Program in Minnesota. Walk! Bike! Fun! helps children ages five to 13 learn traffic rules and regulations, potential hazards to traveling, and handling skills needed to bike and walk safely through their community.

**Program Lead:** School staff and administrators, Farmington Area Public Schools

**Timeline:** Short (1-2 years)

**Why we recommend it:** Although WBF Curriculum may not be appropriate for PE classes at Meadowview, there are opportunities to train staff members or parent volunteers in the curriculum and partner with North Trail Elementary and Community Education to offer lessons at certain times throughout the school year or during summer. Farmington Kid Connect could be a potential audience.

Staff or parent volunteers could also take Bike MN’s Walk! Bike! Fun! Ambassador’s training to learn how to implement other safe biking and walking programs at Meadowview such as a Walking School Bus.

## PAINT THE PAVEMENT

Working together with the district and parent volunteers, school communities can use paint and plantings to create a “gateway” on school grounds. Colorful paint can be applied to the pavement to mimic the shape of curb extensions and act to narrow the roadway and decrease speeds. The painted areas could share a theme with the school community. Students, parents, and staff can help design and implement the paintings.

**Program Lead:** Farmington Area Public Schools and facilities group, Meadowview PTP

**Timeline:** Short (1-2 years)

**Why we recommend it:** While painting the pavement may not be appropriate on 195th Street, school staff expressed interest in an application like this in the parent loop, main parking lot, or on the trail south of school. Art classes could be involved in designing and installing pavement mural projects to directly involve students. Parents expressed concern about parking lot safety for students walking to school. Using brightly colored paint could further highlight these crossings or conflict points and help alleviate some concerns expressed in the parent survey.



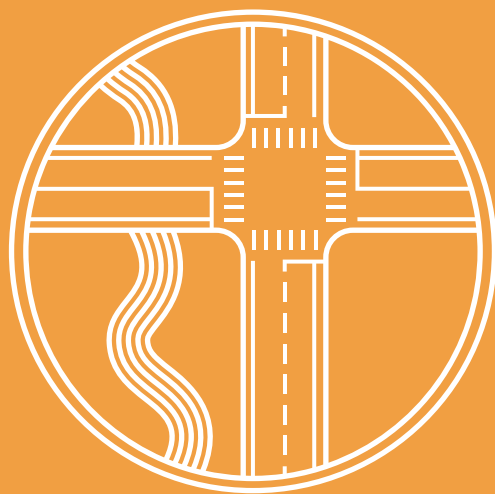
## BICYCLE RODEO OR SAFETY TRAINING

Bicycle Rodeos are events that offer bicycle skills and safety stations for children and parents (e.g., obstacle course, bicycle safety check, helmet fitting, instruction about the rules of the road, etc.). Bicycle rodeos can be held as part of a larger event or on their own, and either during the school day or outside of school. Adult volunteers can administer rodeos or they may be offered through the local police or fire department.

**Program Lead:** Farmington Police Department, Farmington Area Public Schools

**Timeline:** Medium (2-3 years)

**Why we recommend it:** In the past, the Farmington Police Department held annual bicycle safety trainings where youth participated in obstacle courses and other skills training activities. This same event could be held District-wide to teach bicycle skills and safety lessons and build positive community relationships with law enforcement.







# Introduction to Infrastructure

*In addition to program recommendations, changes to the streetscape are essential to making walking and biking to school safer and more comfortable.*

The initial field review and subsequent meetings yielded specific recommendations to address the key identified barriers to walking and bicycling at Meadowview Elementary School.

This plan does not represent a comprehensive list of every project that could improve conditions for walking and bicycling in the neighborhood. Instead, it calls attention to key conflict point: the highest priority infrastructure improvements to improve walking and biking access to school. Recommendations range from simple striping changes and signing to more significant changes to the streets, intersections, and school infrastructure.

Engineering recommendations are shown on the Recommended Infrastructure Map on page 23 and described in the table on the following page. It should be noted that funding is limited and all recommendations are planning level concepts only. Additional planning and engineering study will be needed to confirm feasibility and costs for all projects.

## EQUITY HIGHLIGHT

### EQUITY IN INFRASTRUCTURE

A complete, well-maintained sidewalk and bikeway network can make walking and bicycling to school safe, comfortable, and convenient. Likewise, sidewalk gaps, busy intersections, and physical barriers can deter students from walking or biking to school.

Considering equity in the way infrastructure projects are identified, prioritized, funded, built, and maintained is a key step in creating a more equitable walking and bicycling network. Equitable approaches may include identifying and prioritizing projects based on presence and quality of infrastructure and community need instead of a complaint based system, or moving away from assessing property owners for improvements.

# Existing Infrastructure



**Left to right from top left:** Toaster-style bicycle racks are located at the north and south main entrances; a multiuse trail connects to neighborhoods south of the school; a worn area of grass where students regularly walk up a hill to access 195th Street W; a tunnel underneath 195th Street connects to the trail on the north side of the road; 195th Street (an identified barrier) looking west towards the school driveway; student patrols facilitate crossings near the Community Education entry.





## Infrastructure Recommendations



# Infrastructure Recommendations

LOCATION	PROBLEM/ISSUE	RECOMMENDATIONS	ANTICIPATED OUTCOME	LEAD	PRIORITY	
A	195th St, roughly the extents shown in map	Parent concerns about traffic speeds and volumes on 195th prevent them from allowing their students to walk.	Organize 195th St Safety Forum with relevant stakeholders including county representatives, school administration, parents, and community members to discuss safety concerns, ideas for improvement, and engineering constraints. For more information, see 195th St Safety Forum under Program Recommendations.	Improved understanding of existing concerns, opportunities, and restraints regarding traffic safety and active transportation along 195th St.; Identify strategies to address and overcome barriers associated with the corridor.	Dakota County	High
B	North side of parking lot between 195th St and parking lot	Students headed east on the south side of 195th St currently walk in the grass and snow from the crossing guards near the tunnel to the hill.	Install a shared use path along the north side of the parking lot to connect the existing path to a paved trail or stairway (see Item D).	Increased safety and comfort for students and families accessing neighborhoods east of school and south of 195th St.	Farmington Area Public Schools	High
C	Future development sites north of 195th St and south of campus	Future connectivity opportunity.	Coordinate with future development to ensure people walking and biking have safe, comfortable, and efficient ways to reach Meadowview including full access neighborhood roads, sidewalks, and trail easements. Consider internal neighborhood connections and connections to existing/planned trails and grade-separated crossings that avoid the need for students to travel along 195th St.	Increased future walking and biking to school; provide safe and comfortable route options that minimize the need for students to travel along 195th St..	City of Farmington	High
D	Area where students currently traverse hill to reach path on south side of 195th St	Many students headed east on the south side of 195th St currently climb hill in the grass and snow to reach the shared use path.	Formalize existing student shortcut by installing staircase where students currently walk up the hill. Include bicycle-friendly stairway runnel for people who may be traveling with bikes.	Increased safety for people walking and biking up and down the hill to 195th St.	Farmington Area Public Schools	Medium
E	South of campus access to neighborhoods	There is limited internal access between Charleswood and Meadowview. Desire lines in the grass suggest that people access the school path from this area.	Coordinate with Charleswood neighborhood to explore opportunities to formalize additional routes between Excel Ct or Everhill Ave and the school trail.	Low stress, internal route between Charleswood and Meadowview; more students walking and biking from the Charleswood neighborhood.	City of Farmington, Charleswood neighborhood	Medium
F	Crossing of north parking lot	While this route across campus is discouraged, it is the most direct and intuitive path for students who walk up the hill (Item D).	Understanding that a formal pedestrian route was recently removed for additional parking spaces, explore tactical urbanism approach to identifying and marking a pedestrian route. Consider installing a raised sidewalk/crossing again in the future.	Improved safety and visibility of pedestrians through parking lot; greater clarity of preferred route to Item D.	Farmington Area Public Schools	Low
G	Main entrance and where south trail connects to playground	Existing toaster-style bicycle parking does not allow for secure parking and may cause damage to bikes when locked.	Install high quality bicycle parking near entrances. See Appendix H for more information about bicycle parking.	Secure, high quality bicycle parking to encourage more students and staff to bike to school.	Farmington Area Public Schools	Low
H	West entrance to parking lot	Formalize route that provides lower-conflict alternative to crossing at school driveway. Note that no students will use this route as of fall 2018.	If and when additional residential development occurs west of the school, install sidewalk on west side of entrance that would connect to crossing shown in Item I. Priority will increase if/when development occurs west of school.	Dedicated space for people walking that is connected to school crosswalk; Increased safety and comfort for pedestrians.	Farmington Area Public Schools	Low
I	Entrance to rear parking lot	Formalize crossing that provides alternative to crossing at school driveway. Note that no students will use this route as of fall 2018.	If and when additional residential development occurs west of the school, install high visibility crosswalk and signage to alert drivers that youth may be present. Priority will increase if/when development occurs west of school.	Increased safety and comfort for pedestrians.	Farmington Area Public Schools	Low





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## Using this Plan

*At the heart of every successful Safe Routes to School comprehensive program is a coordinated effort by parent volunteers, school staff, local agency staff, law enforcement, and community advocates, such as public health.*

This plan provides an overview of Safe Routes to School with specific recommendations for a 6 E's approach to improve the safety and the health and wellness of students. The specific recommendations in this plan are intended to support improvements and programs over the next five years. These recommendations include both long- and short-term infrastructure improvements as well as programmatic recommendations.

It should be noted that not all of these projects and programs need to be implemented right away to improve the environment for walking and bicycling to school. The recommended projects and programs listed in this plan should be reviewed as part of the overall and ongoing Safe Routes to School strategy. Some projects will require more time, support, and funding than others. It is important to achieve short-term successes while laying the groundwork for progress toward some of the larger and more complex projects.

### FOR MORE INFORMATION

#### MN SRTS RESOURCE CENTER

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There are many great resources already available on the Minnesota Safe Routes to School Resource Center. You can find answers to many common questions, information about upcoming events, and even promotional material that can easily be customized for your community's SRTS event.

The MN SRTS Resource Center is a great way to stay engaged throughout the year!

[mnsaferoutestoschool.org](https://mnsaferoutestoschool.org)



## Who are you?

Successful programs are achieved through the coordinated efforts of parent volunteers, school staff, local agency staff, law enforcement, and community advocates, such as public health. Each partner has a key role to play in contributing to a plan's success. The following paragraphs highlight the unique contributions of key partners in Safe Routes to School.

### I am a parent

Parents can use this report to understand the conditions at their children's school and to become familiar with the ways an SRTS program can work to make walking and bicycling safer. Concerned parents or city residents have a very important role in the Safe Routes to School process. Parent groups, both formal and informal, have the ability and the responsibility to help implement many of the educational and encouragement programs suggested in this plan. Parent groups can also be key to ongoing success by fundraising for smaller projects and programs.

### I am a community member

Community residents, even if they don't currently have children enrolled in school, can play an important role in supporting implementation of the plan. They can use this report to better understand where there may be opportunities to participate in programming initiatives and infrastructure improvements. Community members, including seniors or retirees who may have more flexible schedules than parents with school-aged children, may volunteer in established programs or work with school staff or community partners to start new programs recommended in this plan.

### I work for the school district

School district staff can use this report to prioritize improvements identified on District property and develop programs that educate and encourage students and parents to seek alternatives to single family commutes to school.





District officials are perhaps the most stable of the stakeholders for a Safe Routes to School program and are in the best position to keep the program active over time. District staff can work with multiple schools, sharing information and bringing efficiencies to programs at each school working on Safe Routes.

### I am a school administrator

School administrators have an important role in implementing the recommendations contained within this SRTS plan. For a plan to succeed, the impetus for change and improvement must be supported by the leadership of the school.

School administrators can help with making policy and procedural changes to projects that are within school grounds and by distributing informational materials to parents within school publications. Please read the SRTS Facts for School Communication in Appendix B.

### I am a teacher or other staff member

Other than parents, teachers might interact with students the most. Teachers can include bicycle and pedestrian safety in lesson plans (see Walk! Bike! Fun!). Sharing books in your classroom that promote walking and biking is a good way to get kids interested at an early age. Teachers can also arrange for field trips within walking distance of school and incorporate informal lessons about safety along the way. In general, being positive and encouraging about walking and biking is a great way to start!

### I work for the city or county

City and County staff can use this report to identify citywide issues and opportunities related to walking and bicycling and to prioritize infrastructure improvements. City staff can also use this report to support Safe Routes to School funding and support opportunities such as:

- MnDOT SRTS grants
- Federal SRTS grants
- Statewide Health Improvement Program (SHIP)

For all infrastructure recommendations, a traffic study and more detailed engineering may be necessary to evaluate project feasibility. Additional public outreach

should be conducted before final design and construction. For recommendations within the public right-of-way, the responsible agency will determine how (and if) to incorporate suggestions into local improvement plans and prioritize funding to best meet the needs of each school community.

### I work for the police department

Police department staff can use this report to understand issues related to walking and bicycling to school and to plan for and prioritize enforcement activities that may make it easier and safer for students to walk and bike to school. The Police Department will be instrumental to the success of the enforcement programs and policies recommended in this plan. The Police Department will also have a key role in working with school administrations in providing officers and assistance to some of the proposed education and encouragement programs.

### I work in public health

Public health staff can use this report to identify specific opportunities to collaborate with schools and local governments to support safety improvements and encourage healthy behaviors in school children and their families.



A

APPENDICES



# Appendix A. For More Information

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

## LOCAL RESOURCES

Amy Jones, Health Promotion Specialist  
Dakota County Public Health  
1 Mendota Rd  
West St Paul, MN 55118  
651-554-6134  
[amy.jones@co.dakota.mn.us](mailto:amy.jones@co.dakota.mn.us)

## STATE RESOURCES

Dave Cowan, Minnesota SRTS Coordinator  
395 John Ireland Blvd  
St. Paul, MN 55155  
651-366-4180  
[dave.cowan@state.mn.us](mailto: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](mailto:mao.yang@state.mn.us)

MnDOT SRTS Educational Webinars:  
<http://www.dot.state.mn.us/mnsaferoutes/training/planning/index.html>

MnSRTS Guide to Getting Started  
[http://www.dot.state.mn.us/mnsaferoutes/about/getting\\_started.html](http://www.dot.state.mn.us/mnsaferoutes/about/getting_started.html)

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](http://www.dot.state.mn.us/mnsaferoutes/planning/school_siting.html)

## NATIONAL RESOURCES

Safe Routes to School Data Collection System  
<http://saferoutesdata.org/>

Pedestrian and Bicycle Information Center  
<http://www.pedbikeinfo.org/>

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](http://www.saferoutespartnership.org/sites/default/files/pdf/Local_Policy_Guide_2011.pdf)

School District Policy Workbook Tool  
<http://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](http://guide.saferoutesinfo.org/walking_school_bus/bicycle_trains.cfm)

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

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# 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 five percent 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 one percent 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 regular 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 percent 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 four percent in 1969 to 19.6 percent 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 six 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 percent 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. Twenty percent of children and 33 percent of teens are overweight or at risk of becoming overweight. This is a 50 percent to 100 percent 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 six percent 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 five 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 five 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 percent of its original oil supply remaining.
- Americans drive more than two 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 one percent of short automobile trips to walking or biking decreases emissions by two to four percent.
- There is more pollution inside a stationary car on a congested road than outside on the pavement.
- The transportation sector is the second largest source of CO<sub>2</sub> 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 CO<sub>2</sub> into the atmosphere. Cars account for an estimated 15 percent to 25 percent of U.S. CO<sub>2</sub> 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 percent, carbon monoxide by 80 percent and hydrocarbons by 90 percent per passenger mile.
- Eight bicycles can be parked in the space required for just one car.

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# Appendix C. Summary of Planning Process

The planning process for North Trail and Meadowview Elementary Schools began in October 2017 when Farmington Area School District submitted a project proposal for Smart Choices funding through Dakota County Public Health. The county awarded the school district funding for Safe Routes to School plans at both schools to assess existing conditions, identify infrastructure improvements, and promote and encourage more students to walk or bike to school, especially for students living within the district's one-mile walk boundary.

## RAPID PLANNING SESSION

In April 2018, a broad group of stakeholders met for two intensive half-day Rapid Planning Workshop including a morning session at North Trail Elementary School and an afternoon session at Meadowview Elementary School. These charrette-style events brought together school, district, city and county staff, plus students, and public health professionals to discuss the challenges and opportunities for walking and biking to school.

Each half-day workshop included:

- Introduction to SRTS for all participants including programs, infrastructure, and the planning process
- Observation of student arrival at North Trail and student dismissal at Meadowview
- Meeting with student to discuss routes, experiences, concerns, and ideas for improvement
- Discussion of infrastructure issues, upcoming projects, and opportunities for improvement
- Brainstorm of existing and potential programs
- Discussion of observations, consensus-building around primary issues and opportunities

Information gathered during the day was used to develop preliminary draft infrastructure and programming recommendations for each school. County and consulting team staff conducted neighborhood walk assessments for each school community in late April 2018 following the Rapid Planning Workshop.

## DATA COLLECTION

In March, parent perception surveys were distributed by schools through a link to an online survey or by sharing hard copies with parents. Surveys asked parents about how comfortable they were with their children walking and biking to school. In addition, the survey 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 May, school staff conducted student travel tallies to gather information about how students traveled to and from school. This student tally collected data on travel to and from school during three weekdays in May.

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 Data Collection System, allowing for comparison when future surveys and tallies are completed. The results of these evaluation efforts are in Appendix E and F.



*Left to right from top left: Meeting with students and North Trail Elementary School; observation of school dismissal and walking routes at Meadowview Elementary; discussing existing conditions, programs, and infrastructure with the North Trail SRTS team; staff returned for a community walkability assessment after the Rapid Planning Workshops; observation of student arrival at North Trail Elementary School; meeting with current and "could-be" walkers at Meadowview Elementary School.*



# Appendix D. Existing Conditions

The following is a brief summary of the existing conditions on and around school campus.

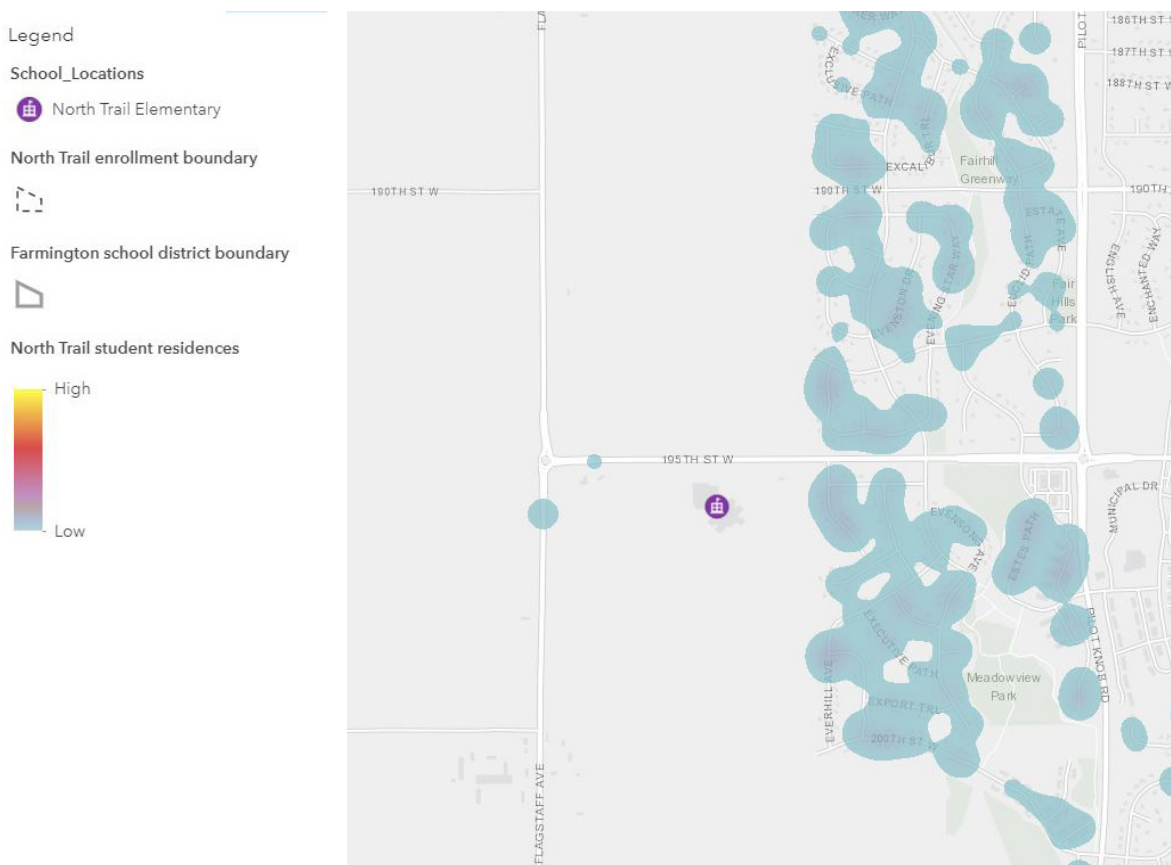
## SCHOOL CONTEXT

### Basic Information

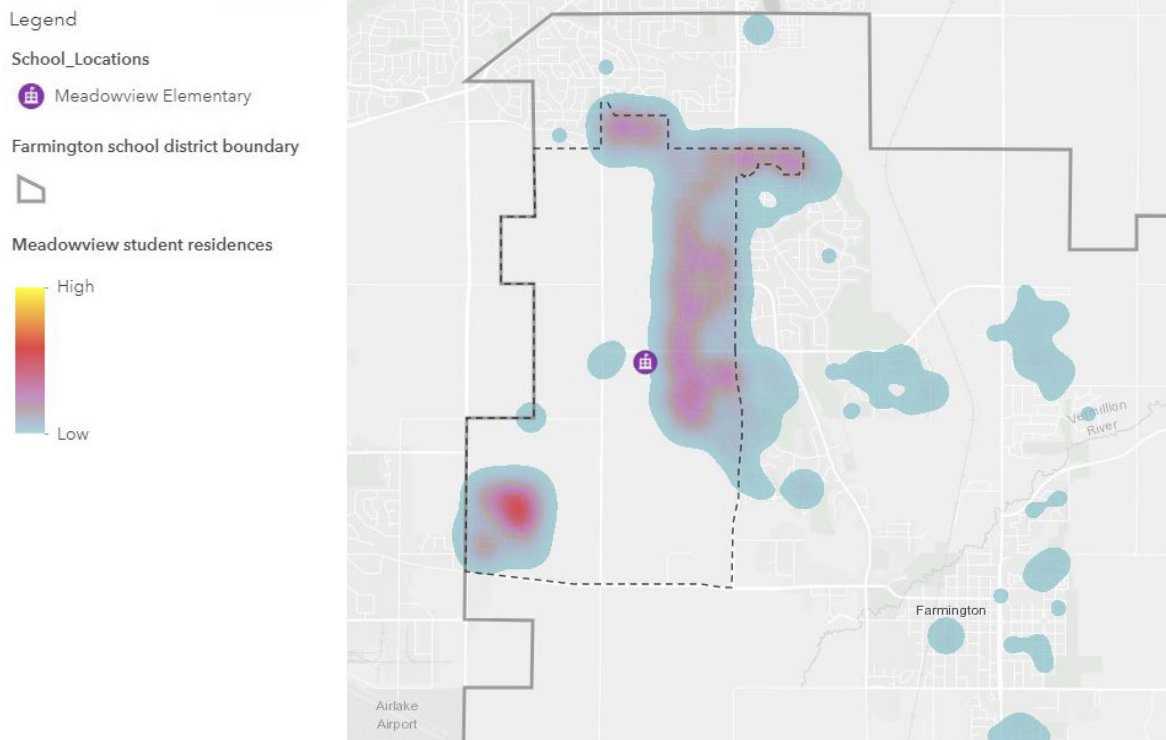
Principal: Becky Bican  
Grades: K-5  
Number of students: 710  
Arrival time: 9:00 AM  
Dismissal time: 3:30 PM

### Student Locations and School Enrollment Boundary

The two maps below show the locations of students attending Meadowview Elementary during the 2017-2018 school year. The first map shows the area immediately surrounding the school and the second map shows a wider geographic area. Warmer colors (red, yellow) represent areas with higher concentrations of students while cooler colors (blue) represent lower concentrations of students. The school location is shown as a purple marker.







## School/Campus Layout

The Meadowview Elementary School property is bound by 195th Street W on the north, which provides sole vehicular access to the school campus. Trail access is also present on the south side of the school. There are four parking areas surrounding the school. The primary lot used by staff and visitors is on the northeast side of the school building. Parking is also available on the north side of the school near the Community Education door, on the west side of the school along the parent loop driveway, and a permeable lot on the southeast corner of school near the playground and a community garden.

Parent pickup occurs on the southwest corner of the school in a lot that was originally designed for bus circulation. A parking lot attendant who knows families matches students with their caregiver's vehicles.

Buses circulate through the primary parking lot on the northeast side of school and pick up along the curb near the northern main entrance.

Bicycle racks are located near the school's main entrances on the north and south sides of the school.

## Surrounding Land Use

Campus is bound by residential development to the east, though access between the neighborhood and school campus is limited. Land directly south, west, and north of campus is largely agricultural and very low density. There is lots of development opportunity around the school. Portions of this land are slated for further residential development in coming years. Planning for people walking and biking as part of that development will be key in increasing opportunities for new residents to walk or bike to Meadowview.

Meadow View Park is located about a half mile southeast of Meadowview Elementary. Farmington Police, Fire, and Maintenance buildings are about a half mile east of the school. Akin Road Elementary School is located less than a mile east of Meadowview on 195th Street. Farmington High School is roughly one and a half miles southwest.



## Infrastructure for Walking and Biking

There are multi-use trails on both sides of 195th Street W and a grade-separated tunnel connecting Meadowview to the trail on the north side of the street. Despite the presence of trails and a tunnel, traffic safety along 195th Street continues to be a primary concern amongst parents and school staff due to traffic speeds and the lack of vertical separation between trails and motorized traffic.

A shared use path on the south side of the school connects into the adjacent neighborhood about one-third of a mile south of Meadowview.

There are sidewalks on one side of some streets in nearby residential developments. These streets have relatively low traffic speeds and volumes, but increasing sidewalk connectivity in residential areas would help create a more comfortable walking environment for students and residents in those neighborhoods.

## Facilitated Crossing Locations

Student safety patrols facilitate crossings at two locations on Meadowview Campus. Students are stationed near the school's main northern entrance to facilitate crossings across the bus zone to the main parking lot. Another group of students are located near the Community Education doors at the school's northern side. A third patrol is stationed to prevent students from taking the most direct route between the school's main northern entrance and the grade-separated tunnel under 195th Street. Students who walk home along 195th Street are instructed to cross at the Community Education crosswalk. Several students were also observed accessing 195th Street by cutting through the primary parking lot and climbing a hill on the northeast edge of campus.

## SCHOOL TRAVEL PATTERNS

### Student Hand Tallies

According to the student hand tally, the majority of Meadowview students ride the school bus to and from school (54 percent in the morning, 56 percent in the afternoon). There are also a large number of students who ride in a family vehicle (as high as 36 percent in the morning). Students also report walking (three and six percent in the morning and afternoon, respectively), bicycling (two percent), and carpooling (two percent). Four percent of students report using an "other" mode of transportation in the afternoon. More investigation should be made to determine what this "other" mode is. There were 21 classrooms surveyed.

A full summary of data collected from the student hand tally can be found in Appendix F.

### Parent Survey Summary

Fifty-one parent surveys were returned. Of those who responded, 11 percent estimated that they live within a quarter mile of school, 11 percent estimated that they live between a quarter and half mile, 30 percent estimated that they live between a half and full mile, 26 percent estimated that they live between one and two miles, and 23 percent estimated that they live more than two miles from school. Typical reported modes of arrival included 43 percent school bus, 55 percent family vehicle, and two percent carpool. Typical reported modes of dismissal included four percent walk, 46 percent school bus, 48 percent family vehicle, and two percent carpool. One hundred percent of respondents living within a half mile of school said that their student's primary mode of arrival was a family vehicle. Twenty percent of respondents who lived within a quarter mile said that their student typically walks home while 100 percent of respondents living between a quarter and half mile said that their student typically departs by family vehicle. One hundred percent of respondents who estimated they live between a quarter and half mile from school reported that their students had asked permission to walk or bike to school.

Survey respondents reported weather or climate, distance, and traffic speeds and volumes as the main factors



that affect their decision to not allow their students to walk or bike. Seventy-six percent of respondents felt that the school was neutral in encouraging students to walk or bike. Fifty-eight percent said that walking or biking would be neither fun nor boring for their students while 30 percent said it would be fun or very fun. Seventy-eight percent had the opinion that walking or biking was healthy or very healthy for their student.

In open comments, parents reported traffic speeds and volumes along 195th Street, traffic in the Meadowview parking lot, lack of sidewalks, and lack of parental supervision as barriers to walking or biking to school.

Detailed results from the parent survey can be found in Appendix E.



# Appendix E. Parent Survey

The following shows a summary of a survey sent home to parents of children in March of 2018. 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.

**School Name:** Meadowview Elementary School

**Set ID:** 17333

**School Group:** Dakota County Schools

**Month and Year Collected:** March 2018

**School Enrollment:** 0

**Date Report Generated:** 05/07/2018

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

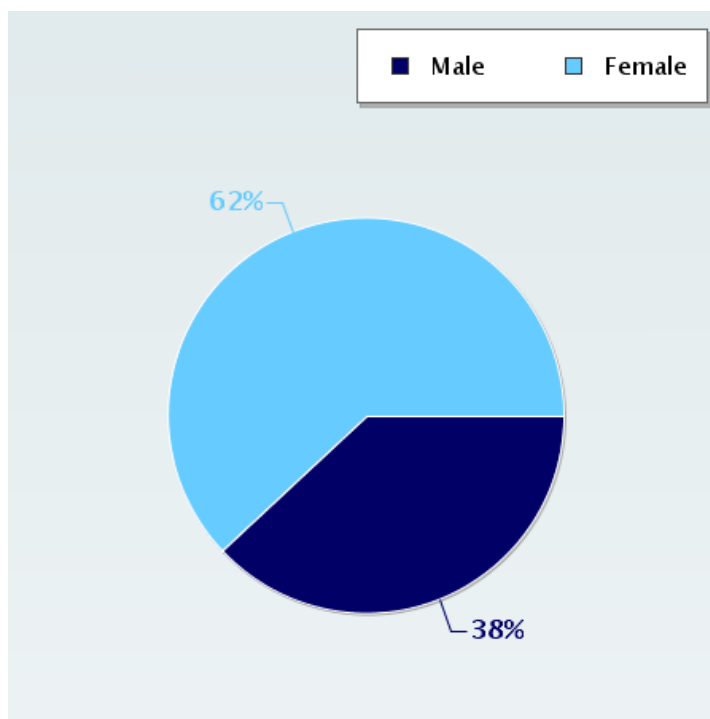
**Tags:**

**Number of Questionnaires Distributed:** 0

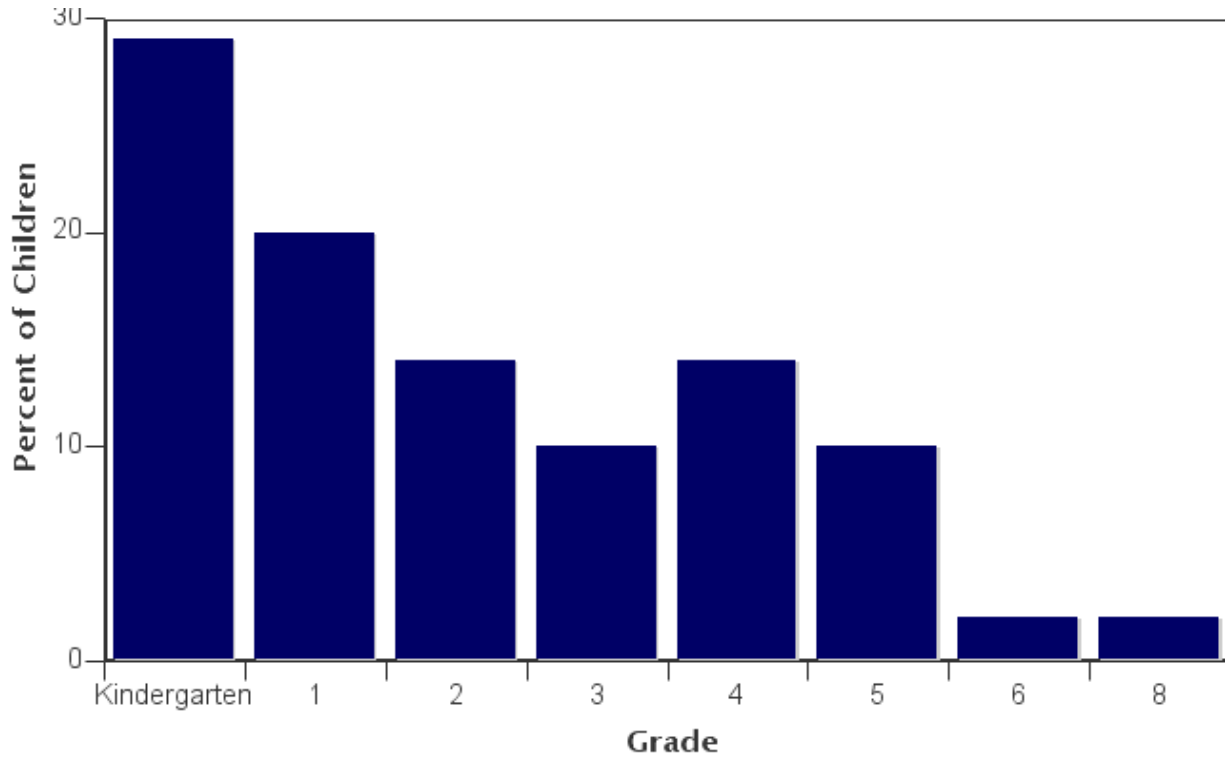
**Number of Questionnaires Analyzed for Report:** 51

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

Sex of children for parents that provided information



Grade levels of children represented in survey



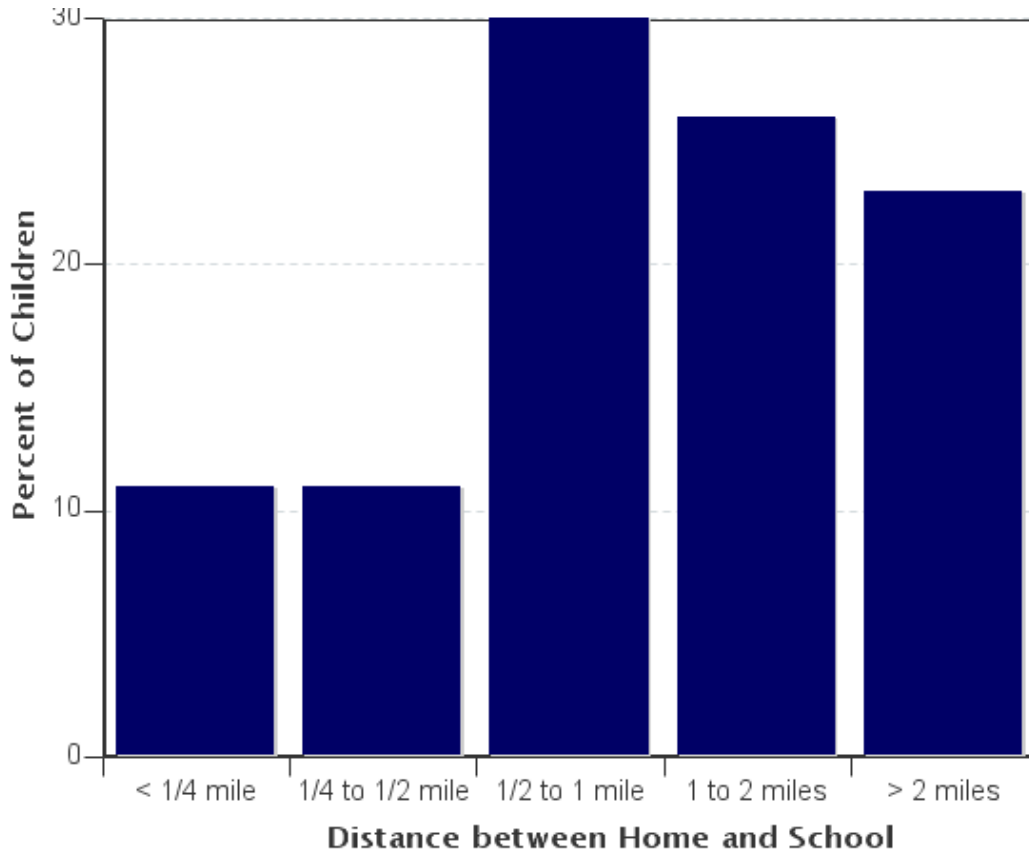
Grade levels of children represented in survey

Grade in School	Responses per grade	
	Number	Percent
Kindergarten	15	29%
1	10	20%
2	7	14%
3	5	10%
4	7	14%
5	5	10%
6	1	2%
8	1	2%

No response: 0

Percentages may not total 100% due to rounding.

Parent estimate of distance from child's home to school

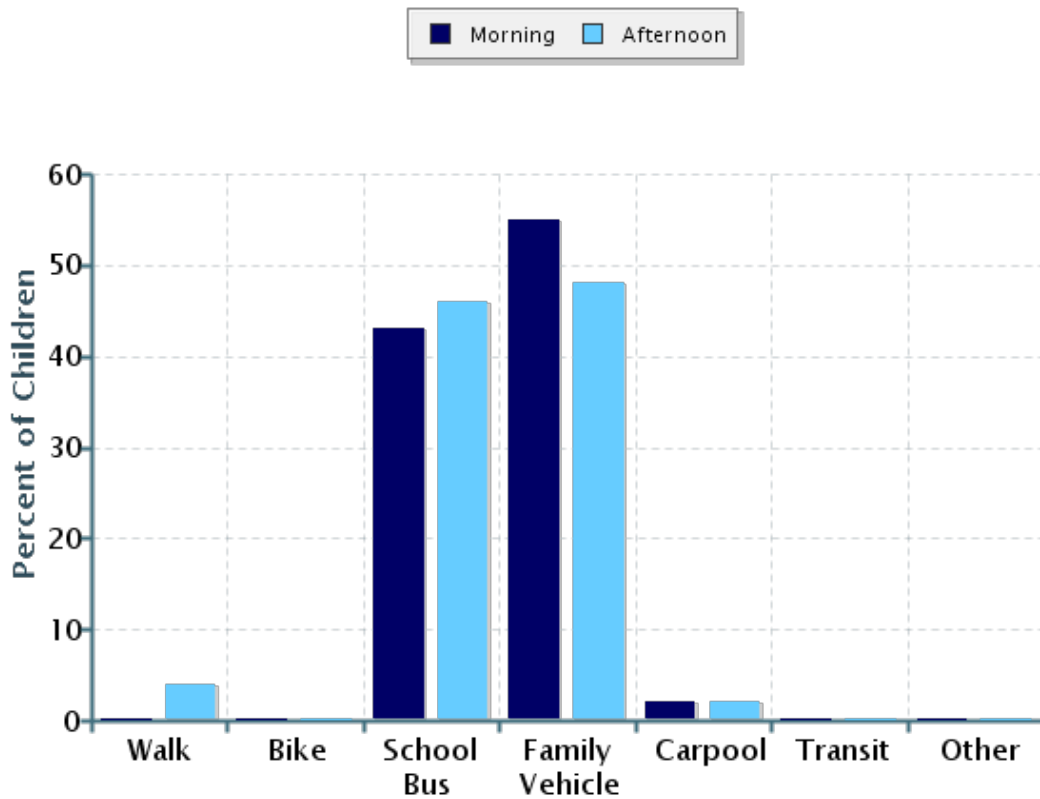


Parent estimate of distance from child's home to school

Distance between home and school	Number of children	Percent
Less than 1/4 mile	5	11%
1/4 mile up to 1/2 mile	5	11%
1/2 mile up to 1 mile	14	30%
1 mile up to 2 miles	12	26%
More than 2 miles	11	23%

Don't know or No response: 4  
 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	49	0%	0%	43%	55%	2%	0%	0%
Afternoon	50	4%	0%	46%	48%	2%	0%	0%

No Response Morning: 2

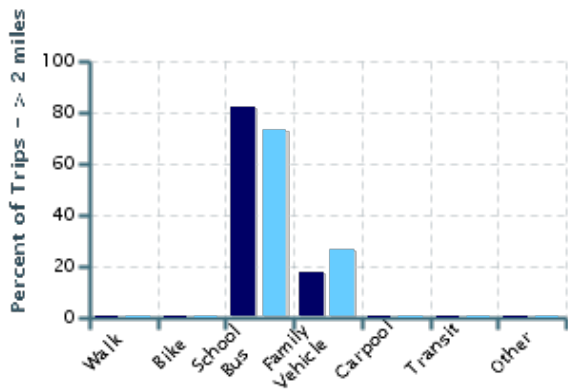
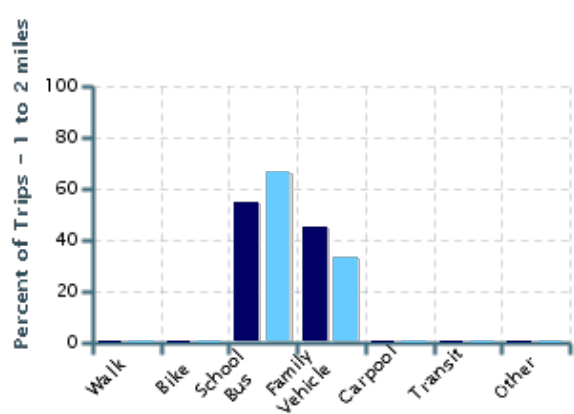
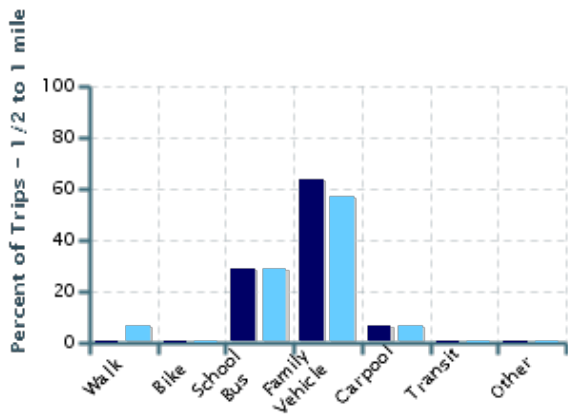
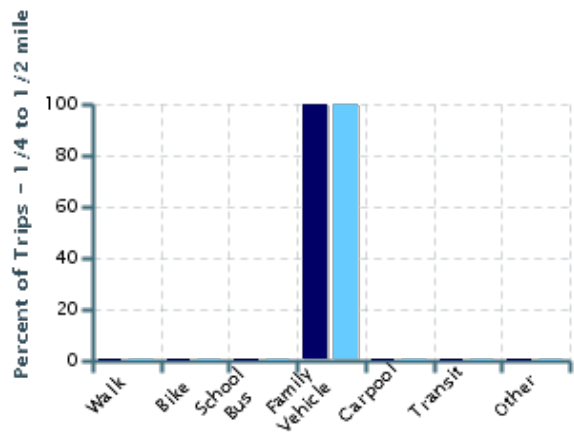
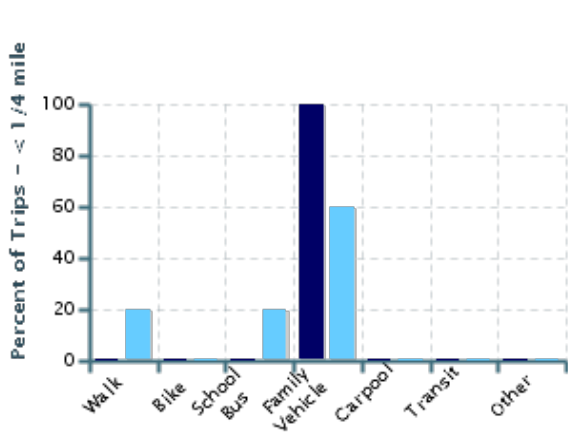
No Response Afternoon: 1

Percentages may not total 100% due to rounding.



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

■ Morning      ■ Afternoon



## 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	5	0%	0%	0%	100%	0%	0%	0%
1/4 mile up to 1/2 mile	5	0%	0%	0%	100%	0%	0%	0%
1/2 mile up to 1 mile	14	0%	0%	29%	64%	7%	0%	0%
1 mile up to 2 miles	11	0%	0%	55%	45%	0%	0%	0%
More than 2 miles	11	0%	0%	82%	18%	0%	0%	0%

Don't know or No response: 5

Percentages may not total 100% due to rounding.

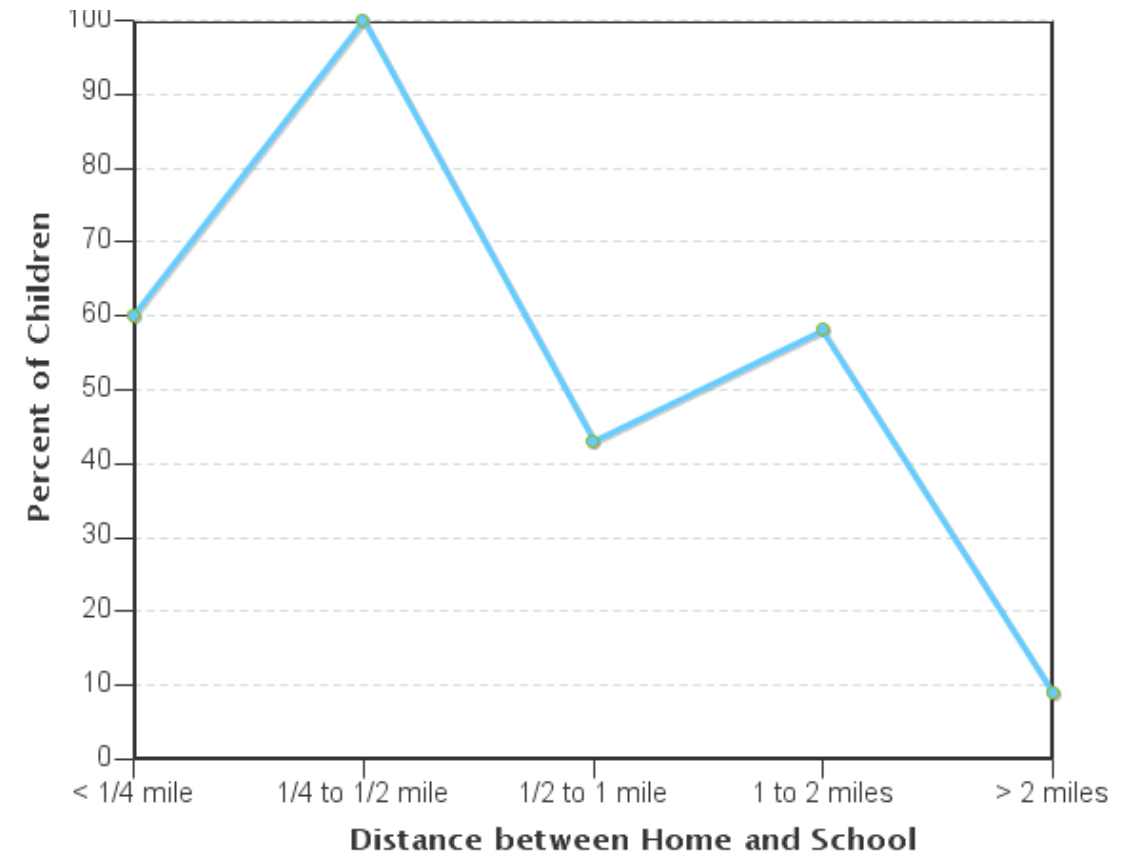
### School Departure

Distance	Number within Distance	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Less than 1/4 mile	5	20%	0%	20%	60%	0%	0%	0%
1/4 mile up to 1/2 mile	5	0%	0%	0%	100%	0%	0%	0%
1/2 mile up to 1 mile	14	7%	0%	29%	57%	7%	0%	0%
1 mile up to 2 miles	12	0%	0%	67%	33%	0%	0%	0%
More than 2 miles	11	0%	0%	73%	27%	0%	0%	0%

Don't know or No response: 4

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

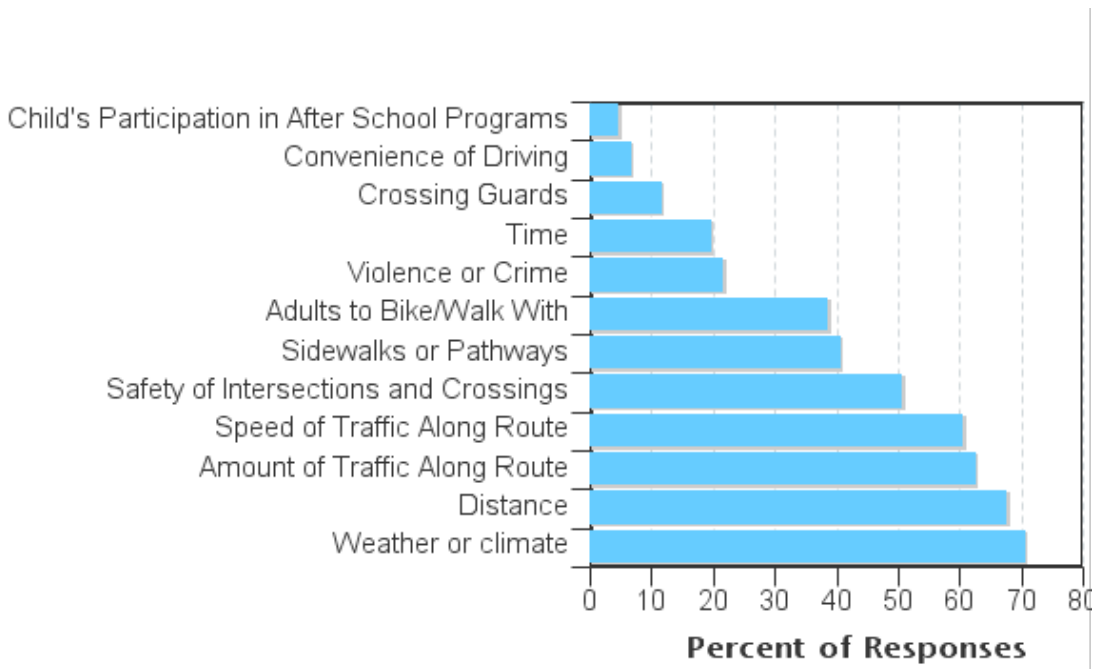


Percent of children who have asked for permission to walk or bike to/from school by distance they live from school

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	22	60%	100%	43%	58%	9%
No	25	40%	0%	57%	42%	91%

Don't know or No response: 4  
 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

Issue	Child does not walk/bike to school	Child walks/bikes to school
Weather or climate	71%	0
Distance	68%	0
Amount of Traffic Along Route	63%	0
Speed of Traffic Along Route	61%	0
Safety of Intersections and Crossings	51%	0
Sidewalks or Pathways	41%	0
Adults to Bike/Walk With	39%	0
Violence or Crime	22%	0
Time	20%	0
Crossing Guards	12%	0
Convenience of Driving	7%	0

Child's Participation in After School Programs	5%	0
<b>Number of Respondents per Category</b>	<b>41</b>	<b>0</b>

No response: 10

Note:

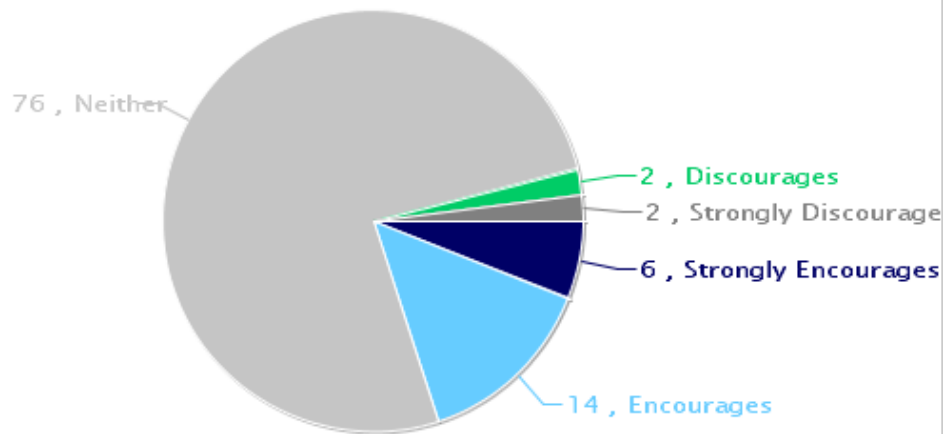
--Factors are listed from most to least influential for the 'Child does not walk/bike to school' group.

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

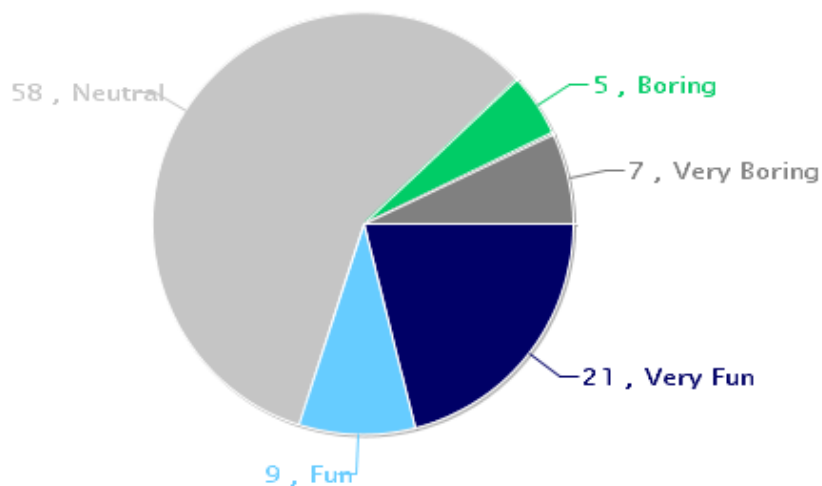
--The calculation used to determine the percentage for each issue is based on the 'Number of Respondents per Category' within the respective columns (Child does not walk/bike to school and Child walks/bikes to school.) If comparing percentages between the two columns, please pay particular attention to each column's number of respondents because the two numbers can differ dramatically.



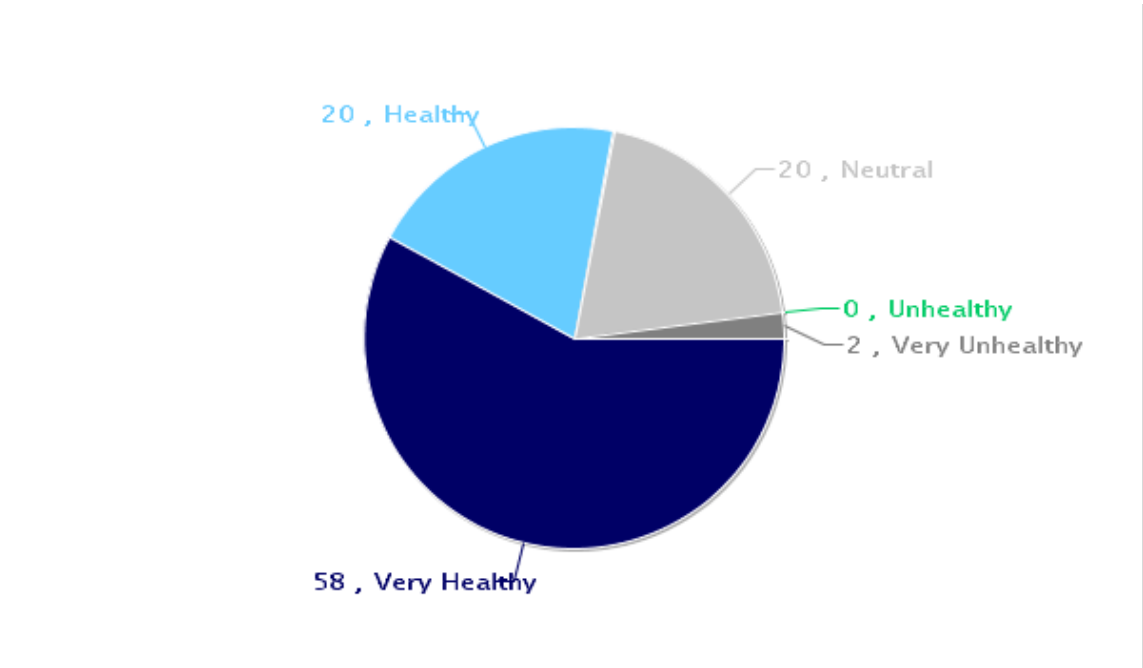
Parents' opinions about how much their child's school encourages or discourages walking and biking to/from school



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
1592157	There are no adults on a very busy road to supervise the students walking.
1591704	Meadowview parking lot is very busy. The kids have to cross the parking lot to enter the school. This is my biggest issue with letting my kids walk to school
1591705	We are just inside the "bus boundary" so my daughter (and son in the future) cannot ride the bus for free. I refuse to let my young kids walk along a busy road on their own, due to distance, weather, speed of cars, and fear of something happening to them. It is NOT a safe walk, and many times dangerous in the winter. It takes my husband and myself 15-20 minutes to walk from our front door to school, it would take my daughter at least 30. It is my feeling, that due to the distance, speed of cars, volume of traffic, and weather, that the bus regulations should be reconsidered. I will likely never let my kids walk to/from school due to these considerations.
1591706	Meadowview's parking lot is too busy. There is no easy way to enter the parking lot.
1591707	I do not allow my children to walk because there are not sidewalks for a majority of their route (to access them in certain spots as available would significantly increase distance). The speed limit is 50 MPH on 195th without a school zone consideration. As a working parent, I cannot budget the time to walk to and from school with my children.
1591708	I do not allow my children to walk because there are not sidewalks for a majority of their route (to access them in certain spots as available would significantly increase distance). The speed limit is 50 MPH on 195th without a school zone consideration. As a working parent, I cannot budget the time to walk to and from school with my children.
1591709	I do not allow my children to walk because there are not sidewalks for a majority of their route (to access them in certain spots as available would significantly increase distance). The speed limit is 50 MPH on 195th without a school zone consideration. As a working parent, I cannot budget the time to walk to and from school with my children.
1591737	We do not have a sidewalk to school and they would have to walk along Flagstaff, a busy road. It is also probably to far from our house regardless, but I wish they could walk.
1591934	I would love for my child to be able to walk to school everyday. The intersection at 195th and exceptional trail does not feel safe. Cars come around that corner off 195th onto exceptional trail quick. There needs to be a sidewalk on exceptional Trail that way the kids can get off of the road there. The only time I let my daughter walk is when I walk with her. I see so many kids taking the bus in our neighborhood who lived closer to us than we do. It is very sad that the neighborhood closest to school the parents do not feel safe with their children walking.
1591935	I would love for my child to be able to walk to school everyday. The intersection at 195th and exceptional trail does not feel safe. Cars come around that corner off 195th onto exceptional trail quick. There needs to be a sidewalk on exceptional Trail that way the kids can get off of the road there. The only time I let my daughter walk is when I walk with her. I see so many kids taking the bus in our neighborhood who lived closer to us than we do. It is very sad that the neighborhood closest to school the parents do not feel safe with their children walking.

1592161	We live 0.6 miles from the school. The tunnel has made convenience of walking, however the road and sidewalk to get there is scary- cars fly by and some can be extremely loud. As a mom who walks with the kids to and from school on the nice weather days, i am able to see and experience what the kids do, and i will not be comfy with mine walking alone until many years from now when much older. There is also rarely another adult with m any kids walking, so if anything happened the kids would be unsafe- no help. The speed is 50 although -i rarely see someone go that speed- and the sidewalk is right next to the road, which can be dangerous. Our neighborhood parents/kids would walk more if we had another path that lead behind the neighborhood and came out where kids only needed to walk a few feet next to this busy traveled road.
1591719	There is no straight route to the school from our home and the majority of the streets do not have sidewalks. I would never have my 6 year old walk a mile to school with no supervision. The fact the bussing is not offered unless you pay through the nose for it is insane.
1591756	The intersection of Euclid Path and Pilot Knob is currently too unsafe for me to consider letting my child walk/bike anywhere!
1592059	I am concerned about the traffic and the tunnel. I am concerned about what might be waiting for my children in the tunnel before or after school. There is also a lot of traffic on 195th and the cars travel pretty fast. It is really difficult to expect children to walk/bike to school in the winter/cold weather and I find it frustrating that the school does not offer buses during the colder months regardless of how close a family lives to the school. There is no safe alternative option for families under 1 mile during the cold weather other than to drive or pay for busing when other families in the district get it for free.
1592182	My child is also very distractable and unsure if he would actually make it to school every day.
1592160	195th makes me nervous about biking or walking to school. Ontop of the fact we live well over a mile from the school and in winter that is crazy to walk or ride in. that would take at least 30 minutes to walk.
1591718	I think its great to allow children to walk/ride a bike to school however in Minnesota it is cold and I dont feel its safe at a certain tempature to allow them to walk, a separate transportation should be provided for winter months.
1591732	My child rides the bus that I pay for when it is cold or raining. When it is nice outside he walks or rides his bike.
1591760	I would not feel comfortable with my child walking or biking alone at any age, but in a group of 4 more students, I would feel more comfortable
1592034	Wish more busing options were available without paying \$300+
1591713	Requiring an elementary student to walk almost a mile in Minnesota winter weather is ridiculous.
1591771	Will walk or bike when acceptable weather at start and end of year with adult and when time permits for adult. Faster to drive.
1591928	Walking is only healthy in fall and spring when frostbite is not a possibility. We have no sidewalks, bike lane, crossing guard or patrol in our neighborhood. There is a lot of traffic. It is unsafe for children to walk, but bussing is not free, in fact it is outrageously priced.
1591929	The middle school is too far away and there are not reasonable bike trails. The weather is too cold or half he school year to bike or walk. It would take too long to walk or bike.
1592158	I do not believe it is safe for elementary kids to walk to school. I would worry everyday. Did my child make it to school/home? Too many crazy people out there these days. Winter is too cold!

1591927	There are no sidewalks, bike lanes or patrol on my road. There is a lot of traffic.
1592236	<p>I will not ask my child to walk/bike to school at any point during their elementary school years. I want a bus to pick up my children and bring them to and home from school. I don't care if there's an added cost, I am uncomfortable with any of my kids (I have a 4 year old who will start kindergarten in 2019) , regardless of who may be joining them from the neighborhood, walking/biking at their age on the trip to/from school. Setting aside the more dire safety concerns I have, our annual severe weather conditions November through March, along with storms during the other months, give me great pause. I do not have the luxury to drive my children to school or pick them up every day - or especially in the event of immediate need due to a weather related issue. I would venture a guess that many other families don't have this luxury as well. I can't fathom a school that would willingly ask a child to walk nearly two miles in a day in wintry/rainy conditions. I feel that Meadowview understood our concerns this past year when a bus program was allowed for a cost. On the mornings I am available to see my son get on the bus, I see a bus full of children - sitting three to a seat on some occasions. As recently as a few weeks ago (early March), my son was pulled off his normal bus for a couple days and was instructed to board on an entirely different bus. While this problem appears to have been resolved for the time being, I was advised that he was removed from his usual bus and put on another due to an overloaded/capacity problem. In light of this information, I am confused as to why the introduction of some sort of walking/biking initiative on behalf of Meadowview Elementary would even be entertained. I have zero interest in joining this international initiative and developing a safe-route to school if it means bringing my child any closer to categorizing him as a mandatory walker/biker during the school year. Please take my comments into consideration and continue to work with families who prefer to have safe transportation provided - with our without cost - to those who request it. Thank you.</p>
1592153	Flagstaff is unsafe for vehicle traffic. I wouldnt let anyone walk or bike on it. If a round about isnt built soon at 179th and flagstaff somebody is going to get seriously hurt.
1591712	I dont ever think its ok for my elementary school age kid to walk. Especially in K-2nd grade. Too much anxiety for them and me. kindergartens are just getting to know school and shouldnt have the anxiety of walking to school by themselves everyday and back. We live just shy of a mile from the school and we pay for a bus. Kindergartens especially should never have to walk. To dangerous.
1591754	The thought of having my kindergartener or second grader walk to school is frightening, unless supervised every day by myself or husband. The safety measures that have been completed appear to be great. The unknown of the drivers speeding down 195th is scary on its own account. It's very unfortunate that children are expected to walk or pay a high bussing cost d/t the distance from their home to school.





# Appendix F. Student Hand Tally

The following pages show summaries of a hand tally of student transportation behavior in May of 2018. During the first week of May, students were asked how they traveled to and from school on Tuesday, Wednesday, and Thursday. 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:** Meadowview Elementary School

**Set ID:** 25719

**School Group:** Dakota County Schools

**Month and Year Collected:** May 2018

**School Enrollment:** 0

**Date Report Generated:** 05/16/2018

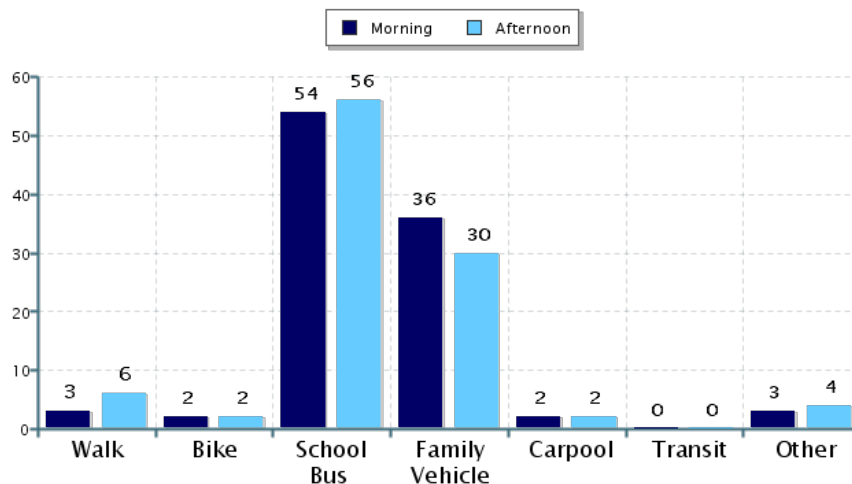
**% of Students reached by SRTS activities:**

**Tags:**

**Number of Classrooms  
Included in Report:** 21

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



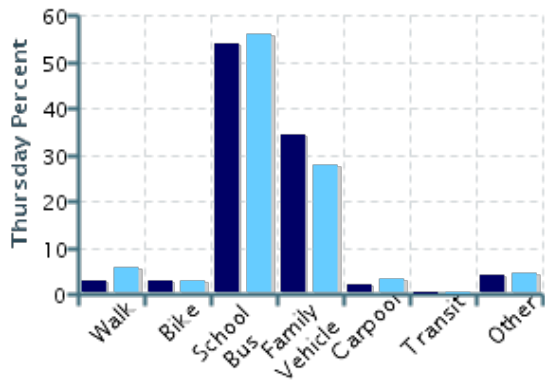
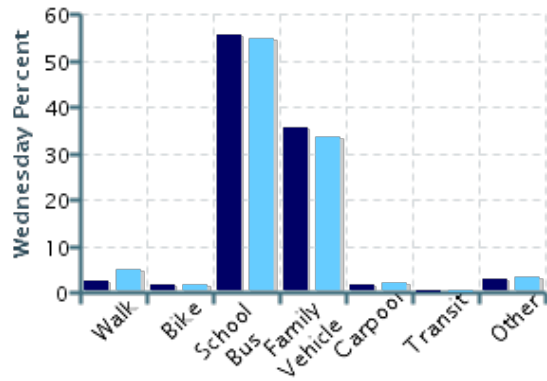
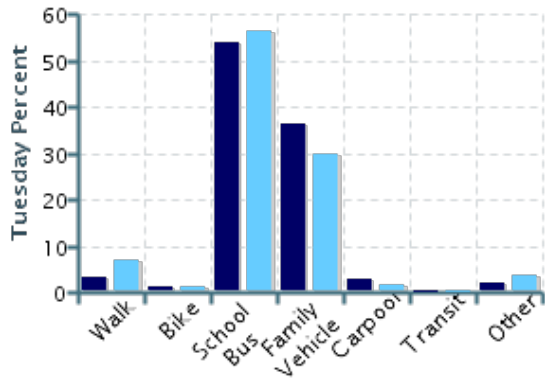
Morning and Afternoon Travel Mode Comparison

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	1366	3%	2%	54%	36%	2%	0%	3%
Afternoon	1305	6%	2%	56%	30%	2%	0%	4%

Percentages may not total 100% due to rounding.

## Morning and Afternoon Travel Mode Comparison by Day

■ Morning      ■ Afternoon



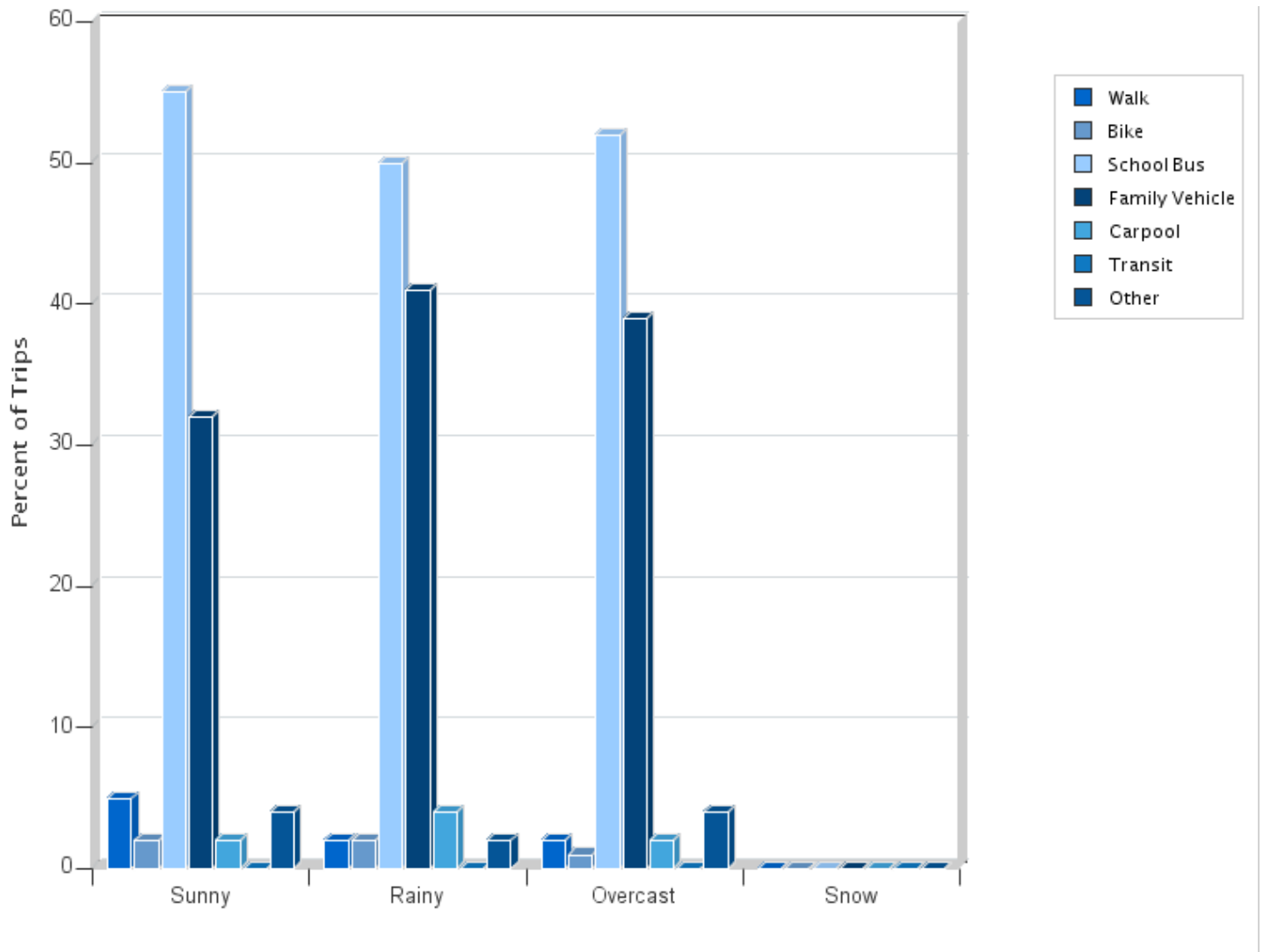
## Morning and Afternoon Travel Mode Comparison by Day

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Tuesday AM	468	3%	1%	54%	36%	3%	0%	2%
Tuesday PM	450	7%	1%	56%	30%	2%	0%	4%
Wednesday AM	451	2%	2%	56%	36%	2%	0%	3%
Wednesday PM	438	5%	2%	55%	33%	2%	0%	3%
Thursday AM	447	3%	3%	54%	34%	2%	0%	4%
Thursday PM	417	6%	3%	56%	28%	3%	0%	5%

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	1996	5%	2%	55%	32%	2%	0%	4%
Rainy	133	2%	2%	50%	41%	4%	0%	2%
Overcast	363	2%	0.8%	52%	39%	2%	0%	4%
Snow	0	0%	0%	0%	0%	0%	0%	0%

Percentages may not total 100% due to rounding.

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# Appendix G. 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 LINES

### 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<sup>A,E</sup>

- \$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.



### Estimated Costs<sup>D</sup>

- \$14.00 per hour average wage for a crossing guard

### 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

## CURB EXTENSION/BULB OUT

### Description

Curb extensions extend the sidewalk and curb into the motor-vehicle parking lanes at intersections or mid-block crossings. Also called bulb-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.



### Estimated Costs<sup>E</sup>

- \$13,000 for a single corner

### 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

## CURB RADIUS REDUCTION

### Description

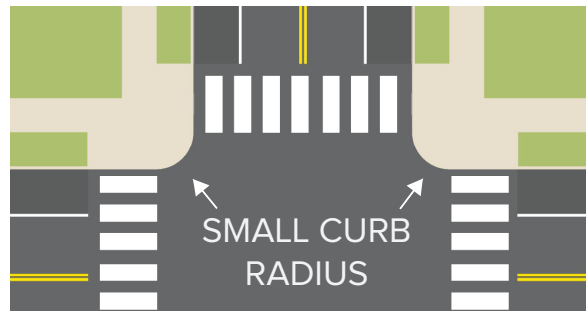
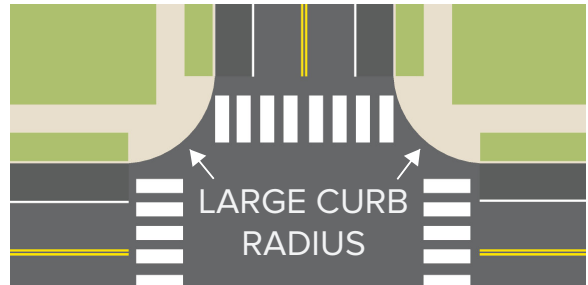
Curb radii designs are determined based on the design vehicle of the roadway. In general, vehicles are able to take turns more quickly around corners with larger curb radii. Minimizing curb radii forces drivers to take turns at slower speeds, making it easier and safer for people walking or biking to 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.

### Estimated Costs<sup>F, G</sup>

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

### Resources

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



## 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.

### Estimated Costs

- Varies depending on retrofit or new construction, material used

### 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



## 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.

### Estimated Costs<sup>H</sup>

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

### 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



## 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.

### Estimated Costs<sup>E</sup>

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

### 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





## 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.

### Estimated Costs<sup>A</sup>

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

### Resources

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



## 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.

### Estimated Costs<sup>E</sup>

- \$13,500, \$10 per square foot

### 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



## 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.

### Estimated Costs<sup>E</sup>

- \$8,170 each

### 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



## 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.

### Estimated Costs<sup>B</sup>

- \$36,000 for two assemblies on poles

### 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





## 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.

### Estimated Costs<sup>E</sup>

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

### 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



## 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.

### Estimated Costs<sup>A, C</sup>

- \$600 for sign and post in each direction

### 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



## 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.



### Estimated Costs<sup>B</sup>

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

### 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

## 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.

### Estimated Costs<sup>A, B</sup>

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



### 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



## 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.



### Estimated Costs<sup>E</sup>

- \$35,000-\$50,000 each

### 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

## 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](http://www.pedbikeinfo.org/cms/downloads/Countermeasure%20Costs_Report_Nov2013.pdf)

F: [http://guide.saferoutesinfo.org/engineering/reduced\\_corner\\_radii.cfm](http://guide.saferoutesinfo.org/engineering/reduced_corner_radii.cfm)

G: [http://www.pedbikeinfo.org/cms/downloads/Countermeasure\\_Costs\\_Summary\\_Oct2013.pdf](http://www.pedbikeinfo.org/cms/downloads/Countermeasure_Costs_Summary_Oct2013.pdf)

H: <http://www2.ku.edu/~kutc/pdffiles/LTAPFS11-Mid-Block.pdf>

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# Appendix H. 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:

- Aim for 25 percent of the maximum student capacity of the school.
- Provide additional parking to encourage staff and faculty to bike to school

## WHERE SHOULD PARKING BE LOCATED?

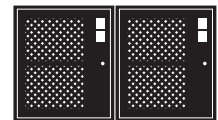
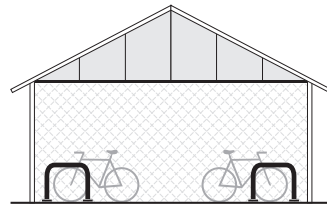
Well-located bike parking will be:

- 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

*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!*

## 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

*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!*

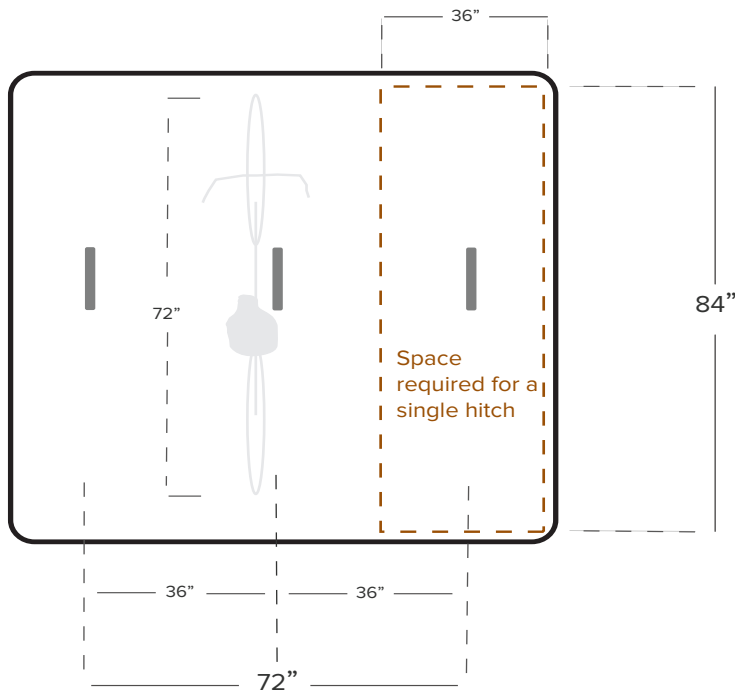


WHEELWELL

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

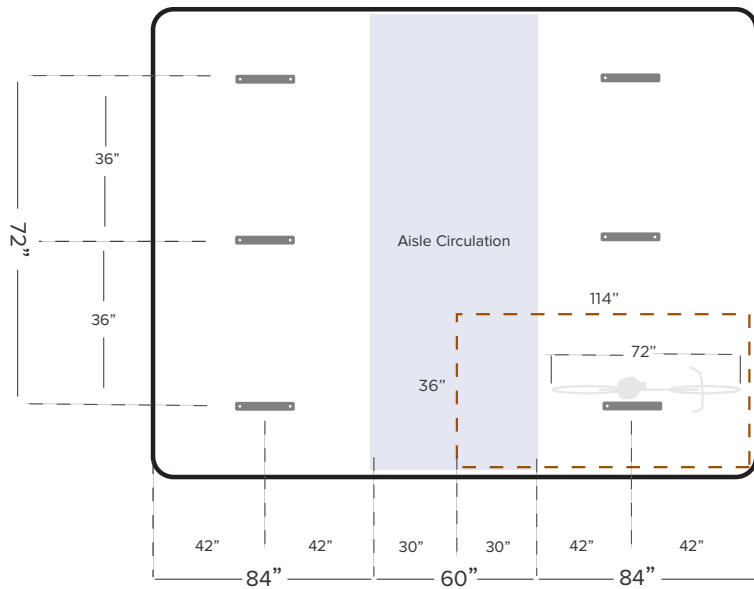


## SPACE REQUIREMENTS



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.



## RESOURCES FOR EQUIPMENT

[Dero](#)  
[Sportworks](#)  
[Urban Racks](#)

## MORE INFORMATION

[APBP Essentials of Bike Parking](#)



# Appendix I. 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.

Lighting 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](https://www.edmonton.ca/city_government/documents/PDF/WinterCityDesignGuidelines_draft.pdf)

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# Appendix J. 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. 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 not as 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.
- Encourage caregivers to attend health fairs that 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.
- Understand that 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.
- Provide walkie-talkies to 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 at <http://www.sparetheairyouth.org/schoolpool-guidebook>. More information about organizing a Walking School Bus or Bike Train is available online at <http://www.sparetheairyouth.org/walking-school-buses-bike-trains>.

### 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.
- Organize an Open Streets event as a strategy to create 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**

- Implement programs that identify walking opportunities on campus, which can be defined in terms of routes or by amount of time spent walking. This will allow students who arrive to school by bus or parent vehicle to benefit from the physical benefits provided by walking or biking to school.

### **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



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