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A photograph of children walking to school on a sidewalk. In the foreground, three children are seen from behind, wearing backpacks and winter clothing. One child has a red Angry Birds backpack. In the background, a yellow school bus is stopped on the street, and other children are walking. A "NO PARKING ANY TIME" sign is visible on the street. The scene is set in a residential area with trees and houses under an overcast sky.

# Safe Routes to School

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

**KAPOSIA EDUCATION CENTER**

South St. Paul, MN

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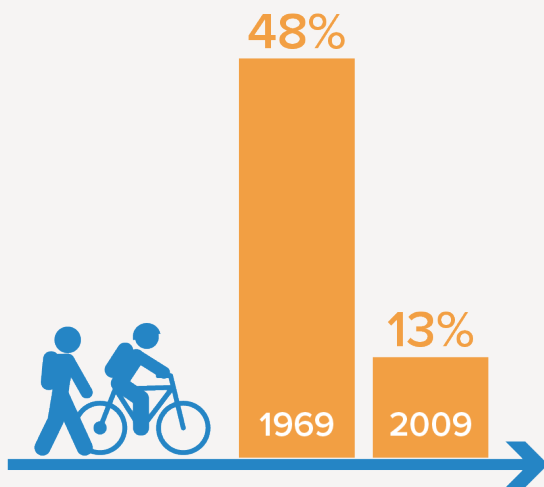


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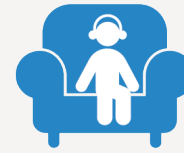
INTRODUCTION + CONTEXT



# 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 Kaposia Education Center.

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.





## Kaposia in Context

Kaposia Education Center serves ages Pre-K through 5th grade and is located in a residential neighborhood on the south side of the City of South St. Paul. The school campus sits three blocks south of Interstate 494 and just west and up the bluff of Concord Street S. Fifth and 7th Avenue S, which provide access over Interstate 494, are located two and four blocks west of Kaposia Education Center, respectively.

During the 2017-2018 school year, 741 students grades Pre-K through 5 attended Kaposia. The school's enrollment boundaries cover the south side of the city and extend north of Interstate 494 to Marie Avenue. The majority of Kaposia students live within South St. Paul, but some students attend through open enrollment and commute from outside the city.

As per South St. Paul School District's transportation policy, elementary students must live more than one mile from their assigned school to be eligible for Dis-

trict-provided transportation. In a parent survey conducted in March of 2018, elementary school parents and caregivers reported that just under half of students travel to school by family vehicle (47 percent) followed by busing (36 percent) and walking (17 percent). In the afternoon, more students walk and bus and fewer are picked up in family vehicles. These percentages vary by distance from school. Over 75 percent of students who live within a quarter mile of school walk to or from school and 25 percent of students who live between a quarter and a half mile from school walk to or from school. As the distance from school increases to a mile or greater, the share of walking trips drops to about eight percent and the share of school bus trips increase. Students who live more than two miles from school are typically driven in a family vehicle.

Caregivers reported that safety of intersections and crossings (71 percent), traffic volumes (68 percent), traffic speeds (64 percent), and distance (54 percent)





were the main factors that affected their decision not to allow their students to walk or bike. Safety of intersections and crossings (100 percent) and traffic volumes (86 percent) were the top factors that caregivers reported in allowing their students to walk. Lack of sidewalks and stranger danger were also reported as concerns.

Interstate 494 to the north and Concordia Street S to the east are significant barriers to walking and bicycling to Kaposia Education Center. Fifth and 7th Avenues also present barriers to walking or bicycling to school.

In May, Kaposia 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 575 and 600 students participated each day. Most students reported traveling to or from school by family vehicle or bus (as high as 44 percent for each mode). Fifteen percent of students reported walking home, one percent reported biking home, and three percent reported carpooling with other students' families.



## APPENDIX

### FURTHER READING

.....

The summary on this page takes information from more detailed existing conditions reports, which can be found in the appendix. There you'll find a report that discusses surrounding land use, travel patterns, and a map illustrating where Kaposia students live as well as detailed results from the parent survey and student tally. 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 K.



## Existing Programs

Kaposia Education Center, South St. Paul School District, and the City of South St. Paul have been actively working towards providing safe and inviting spaces around the school campuses 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 Kaposia Education Center.

### Programs already active at Kaposia

- Parent communication: South St. Paul Public Schools and school administrators have a variety of ways to communicate with families including a robust district website, individual school webpages, social media, and print and digital newsletters.
- Student safety patrols: Kaposia has a robust student safety patrol program. Students help to facilitate crossings at six locations around the school campus.
- Adult crossing guards: In the past, adult crossing guards have been stationed where 5th Avenue S and 7th Avenue S intersect Dale Street W and Spruce Street W. These posts have become more challenging to fill in recent years, and the school is exploring creative solutions to help students cross at these locations.
- Parking lot attendant: A parking lot attendant greets families and helps to monitor the flow of pedestrians and drivers through the Kaposia parking lot.
- Walk and Bike to School Day: South St. Paul Public School District and Kaposia Education Center have informally participated in Walk and Bike to School Day in the past.
- Law enforcement presence: The South St. Paul Police Department patrols school arrival and dismissal on a rotating schedule to ensure a consistent law enforcement presence during peak traffic times.
- Summer Safety Fair: Since 1992, South St. Paul has participated in an annual safety camp where children can learn about varying aspects of everyday safety.





## Program Recommendations

The following programs were identified as priority programs by the local SRTS team for South St. Paul and Kaposia Education Center during the SRTS 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 the compatibility with Kaposia.

### Recommended program list

- Walking and biking field trips
- Automated speed enforcement
- Walk! Bike! Fun!
- Walking School Bus
- Bike drive
- Class or school competitions

- Bicycle rodeo for families
- Walk and Bike to School Day (formal participation)
- Increased school communication
- Parent workshop
- Safety campaign

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.



**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.

**DEPARTMENT OF TRANSPORTATION**

**SAINT PAUL PUBLIC SCHOOLS**



## 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:** South St. Paul School District, school staff and administrators

**Timeline:** Immediate

**Why we recommend it:** South St. Paul Public Schools and Kaposia Education Center already send out communication through websites, Facebook, and newsletters. Consider regularly posting about safe habits and encouraging families and students to give walking and biking a try. More detailed information about safe driving near schools can be sent home at the beginning of the year and after winter breaks.

## 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. Minnesota also 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 and are a great opportunity to pilot other SRTS programs. Events are often promoted through press releases, school communication, and posters. Students can earn incentives for participating or there is a celebration at school following the morning event.

**Program Lead:** South St. Paul School District, school staff and administrators

**Timeline:** Immediate

**Why we recommend it:** Schools in South St. Paul have informally participated in Walk to School Day. Resources exist on the Minnesota Safe Routes to School Resource Center to publicize Walk to School Day events in the community and within the school. Publicizing Walk and Bike to School Days are a great way to keep SRTS momentum going.



## WALKING AND BIKING FIELD TRIPS

A field trip made by foot or by bicycle gives students a supportive environment in which to practice their pedestrian safety or bicycling skills. Walk / bike field trips can also showcase the many benefits of walking and bicycling for transportation including health and physical activity, pollution reduction, and cost savings. The destination of the field trip may vary, or the field trip could be the ride or walk itself.

**Program Lead:** School staff, teachers

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

**Why we recommend it:** Walking and biking field trips were mentioned during the Rapid Planning Workshop. South St. Paul schools can take advantage of nearby destinations including the Mississippi River, city parks, or local businesses to learn about science, history, social / culture studies, or other topics. Consider applying for use of the Minnesota Bike Fleet or coordinating with a bike drive or after school bike mechanics course.

## 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:** South St. Paul Public Schools, school staff and administrators, South St. Paul Community Liaison

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

**Why we recommend it:** A Kaposia parent expressed her interest in something similar to a Walking School Bus, but didn't know other parents. A workshop at the beginning of the year could discuss busing, but also include conversations about walking and biking events.



## 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:** School administration, South St. Paul Community Liaison, PTO/A, local law enforcement, local businesses

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

**Why we recommend it:** The community and school pride in South St. Paul is evident. Businesses along Marie Avenue proudly display “Go Packers” signs in their windows. Consider leveraging this school pride to promote safety for people walking and biking to school.



## BIKE DRIVE

A bike drive is an event where bicycles are donated, collected, repaired, and given away to students who do not have access to them. A bike drive can be hosted and organized by a school district, police department, or any other community group. These events can also take the form of a bike swap, where families trade different sized bicycles once one child has outgrown a certain bike. A trained bicycle mechanic should always be on site to ensure any bike is safe to ride before leaving with a family.

**Program Lead:** Local law enforcement, school district, South St. Paul Community Liaison

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

**Why we recommend it:** Access to helmets and functioning bicycles was identified as a barrier to bicycling during school visits and the March workshop. Law enforcement could be involved in a bike drive as they come across abandoned bicycles. This program could also be combined with an after-school bike mechanics class where students could earn credit by making repairs to donated bicycles.





## CLASS OR SCHOOL COMPETITIONS

Competitions and contests reward students by tracking the number of times they walk, bike, carpool, or take transit to school. Contests can be individual, classroom competitions, school wide, or between schools. Students and classrooms can compete for prizes and bragging rights. Inexpensive incentives such as shoelaces, stickers, bike helmets, or class parties can be used as rewards for participation. Competitions could be held on an ongoing monthly basis or a couple times a year, incorporated into existing events / competitions such as the Walk-a-Thon, or designed as a fundraiser.

**Program Lead:** School staff, South St. Paul Public Schools

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

**Why we recommend it:** Competitions are great for elementary aged students. Consider combining these events with walking field trips to see which classes get the most steps in. Displaying counts or tallies in common areas of the school that track walking will encourage other classrooms to join the competition.

## WALK! BIKE! FUN!

Walk! Bike! Fun! 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, the potential hazards to traveling, and handling skills needed to bike and walk effectively, appropriately, and safely through their community.

**Program Lead:** South St. Paul Public Schools, school administrators and staff

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

**Why we recommend it:** Many students in the district might not yet have the skills to safely walk and bike to school or in their neighborhood. Walk! Bike! Fun! Is designed to be taught in physical education or health classes, but training is available to any school staff or community member.



## 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 time and picks up children from their homes or bus stops at set times. Ideally, buses run daily 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 lead buses once a safe route has been established with the help of a trusted adult.

**Program Lead:** Parent Teacher Association, school administrators

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

**Why we recommend it:** Kaposia Elementary School is located in a well connected residential area with high potential for walking to school. However, there are a few barriers that cause parents or caregivers concern including busy roads and intersections. Walking with a trusted adult or as part of an organized group can help alleviate common concerns and increase the number of students and families who travel to school by foot.



## FAMILY BIKE CLASS / BICYCLE RODEO

Family biking classes and bicycle rodeos are events that provide bicycle skills and safety training for children and caregivers and are great strategies for educating and encouraging families to ride bicycles. Education trainings can cover safety checks, skills instruction, basic bike maintenance, how to carry kids by bicycle, cargo bike demonstrations, bike rodeos, and/or guided bike rides. 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:** South St. Paul Public Schools, South St. Paul Community Liaison, law enforcement

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

**Why we recommend it:** Local law enforcement already have training to support a bicycle rodeo in South St. Paul. Bike rodeos or family biking classes could also be incorporated into the April Safety Fair or hosted in conjunction with a bike drive to help provide bikes to students who don't have access to them.



## AUTOMATED SPEED ENFORCEMENT

Some types of enforcement do not require the presence of a law enforcement officer and are automated. Photo detection, radar trailers, or speed feedback signs are examples of automated enforcement.

**Program Lead:** Local law enforcement

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

**Why we recommend it:** Speeding was identified as a concern during the Rapid Planning Workshop and during school arrival and dismissal observations. South 5th Ave and S 7th Ave in particular were identified as corridors of concern. Automated enforcement can help increase awareness of bad driver behavior and improve speed compliance.



### EVALUATION

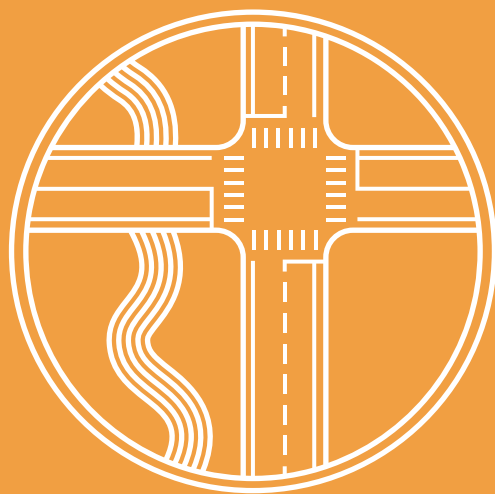
## PARENT SURVEYS AND STUDENT TRAVEL TALLIES

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.







## 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 Kaposia Education Center.

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 points: 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.

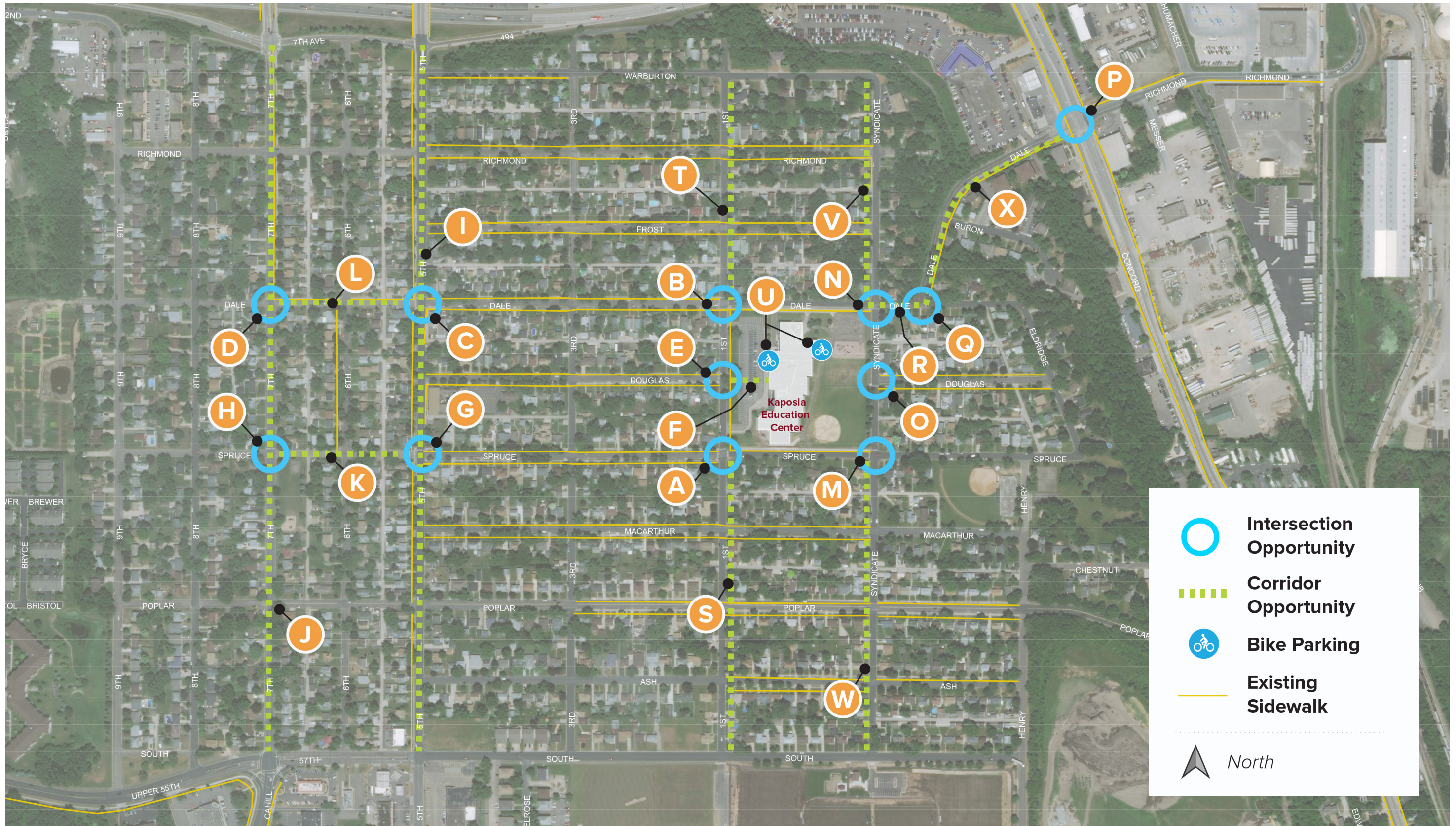
Engineering recommendations are shown on a map and described in a table on the following pages. It should be noted that funding is limited and all recommendations are planning level concepts only. Additional planning and engineering study will be needed to confirm feasibility and costs for all projects.

# Existing Infrastructure



*Left to right, from top left: A parking lot attendant facilitates parent drop-off in the parking lot; many caregivers park on adjacent streets and walk their students into school; many streets in the neighborhood are missing sidewalks on one or both sides of the street; bicycle parking on the northeast corner of campus; buses drop off on the north side of campus in the morning; pedestrian connections are present on all sides of campus, including a sidepath along the east edge.*





# Infrastructure Recommendations



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# Infrastructure Recommendations

	LOCATION	PROBLEM/ISSUE	RECOMMENDATION	OUTCOME	LEAD	PRIORITY
A	Spruce St & 1st Ave	Long crossing distance; does not meet accessibility standards; parents park close to Spruce intersection during arrival and dismissal.	Install curb extensions; construct ADA compliant curb ramps; install forward stop bars.	Increase pedestrian visibility; reduce crossing distance; prevent drivers from parking too close to intersection; encourage drivers to give pedestrians more space when crossing.	City of South St. Paul	High
B	Dale St & 1st Ave	Long crossing distance; does not meet accessibility standards; no landing on northeast corner.	Install curb extensions; construct ADA compliant curb ramps; install forward stop bars.	Increase pedestrian visibility; reduce crossing distance.	City of South St. Paul	High
C	Dale St & 5th Ave	Long crossing distance; does not meet accessibility standards; poor driver yielding behavior at marked school crosswalk across 5th Ave.	This intersection is identified in the city's 2018-2022 CIP for improvements including curb extensions, ADA compliant curb ramps, and an activated flashing beacon across 5th Ave.	Increase pedestrian visibility; reduce crossing distance; traffic calming; increase driver stopping compliance when pedestrians are present.	City of South St. Paul	High
D	Dale St & 7th Ave	Long crossing distance; does not meet accessibility standards; poor driver yielding behavior at marked school crosswalk across 7th Ave.	This intersection is identified in the city's 2018-2022 CIP for improvements including curb extensions and ADA compliant ramps.	Increase pedestrian visibility; reduce crossing distance; traffic calming; increase driver stopping compliance when pedestrians are present.	City of South St. Paul	High
E	Douglas St & 1st Ave	Long crossing distance; does not meet accessibility standards.	Install curb extensions on west corners and bump out entire east side at intersection; construct ADA compliant curbs.	Increase pedestrian visibility; reduce crossing distance; prevent drivers from parking in intersection.	City of South St. Paul	Medium
F	1st Ave parking lot, at Douglas St	Students and families walking from Douglas Ave cut through the parking lot to reach the main entry; conflicts between pedestrians and parent drop-off loop.	Install sidewalk connection and ADA compliant ramps between 1st Ave and the school parking lot; Formalize route through parking lot with striping and/or raised walkways.	Higher visibility of people walking across parking lot; more direct and safe access to main entrance.	South St. Paul Public Schools	Medium
G	Spruce St & 5th Ave	Long crossing distance; does not meet accessibility standards; poor driver yielding behavior at marked school crosswalk across 5th Ave.	Install curb extensions; construct ADA compliant curb ramps; consider installing activated flashing beacon across 5th Ave.	Increase pedestrian visibility; reduce crossing distance; traffic calming; increase driver stopping compliance when pedestrians are present.	City of South St. Paul	Medium
H	Spruce St & 7th Ave	Long crossing distance; does not meet accessibility standards; poor driver yielding behavior at marked school crosswalk across 7th Ave.	Install curb extensions; construct ADA compliant curb ramps.	Increase pedestrian visibility; reduce crossing distance; traffic calming; increase driver stopping compliance when pedestrians are present.	City of South St. Paul	Medium
I	5th Ave between 494 to South St	Busy corridor serves transit and commercial destinations; sidewalk only present on west side; corridor does not meet accessibility standards; long crossings throughout; driver speeding a concern.	Install sidewalk and ADA compliant curb ramps on both sides of the street; install curb extensions at intersections; consider modifying school speed zone signage to specify time.	Provide continuous, accessible pedestrian connections along and across corridor; reduce crossing distances; reduce speeding; improve school speed zone compliance.	City of South St. Paul	Medium
J	7th Ave, between 494 to South St	Sidewalk on east side only between 494 and Dale; no sidewalk present south of Dale; long crossing distances throughout; driver speeding a concern.	Install sidewalk and ADA compliant curb ramps on both sides of the street; install curb extensions at intersections; consider modifying school speed zone to signage to specify time.	Provide continuous, accessible pedestrian connections along and across corridor; reduce crossing distances; reduce speeding; improve school speed zone compliance.	City of South St. Paul	Medium
K	Spruce St between 5th Ave and 7th Ave	Spruce sidewalks end west of 5th Ave	Extend sidewalks west at least to 7th Ave, prioritizing sidewalk connection on the north side of the street; install ADA compliant curb ramps at intersections.	Dedicated space for pedestrians	City of South St. Paul	Medium



# Infrastructure Recommendations - Continued

	LOCATION	PROBLEM/ISSUE	RECOMMENDATIONS	ANTICIPATED OUTCOME	LEAD	PRIORITY
L	Dale St, between 5th Ave and 7th Ave	Sidewalk only present on south side of street.	Install sidewalk on north side of the street; construct ADA compliant curb ramps.	More comfortable experience for people walking.	City of South St. Paul	Medium
M	Spruce St & Syndicate Ave	Long crossing distances; does not meet accessibility standards.	Install curb extensions; construct ADA compliant curb ramps.	Increase pedestrian visibility; reduce crossing distances.	City of South St. Paul	Medium
N	Dale St & Syndicate Ave	Long crossing distances; does not meet accessibility standards.	Install curb extensions; construct ADA compliant curb ramps.	Increase pedestrian visibility; reduce crossing distances.	City of South St. Paul	Medium
O	Douglas St & Syndicate Ave	Long crossing distances; does not meet accessibility standards.	Install curb extensions; construct ADA compliant curb ramps.	Increase pedestrian visibility; reduce crossing distances.	City of South St. Paul	Medium
P	Dale Pl & Concord St	Most likely crossing for students and families traveling to Kaposia from the Healy Mobile Park. Long crossing distance.	Modify pedestrian signal timing to include leading pedestrian interval; install high visibility crosswalk; install additional street lighting at corners.	Increase pedestrian visibility while crossing.	Dakota County	Medium
Q	Dale St & Dale Pl	Heavily wooded intersection limits visibility; long pedestrian crossing distance; does not meet accessibility standards.	Reduce turning radii on northwest and northeast corners; install ADA compliant curb ramps and landings; maintain trees and shrubs.	Increase pedestrian visibility; reduce crossing distance; slow motorist turning speeds.	City of South St. Paul	Medium
R	Dale St between Syndicate Ave and Dale Pl	No sidewalk on either side of Dale St.	Install sidewalk with priority given to the south side of Dale St; install curb extensions and ADA compliant ramps at intersections.	Provide dedicated space for people walking.	City of South St. Paul	Medium
S	1st Ave, between Spruce St and South St	No sidewalk on either side of 1st Ave.	Install sidewalk with priority given to the east side of 1st Ave.	Provide dedicated space for people walking.	City of South St. Paul	Medium
T	1st Ave, between Dale St and 494	No sidewalk on either side of 1st Ave.	Install sidewalk with priority given to the east side of 1st Ave; install curb extensions and ADA compliant ramps at intersections.	Provide dedicated space for people walking.	City of South St. Paul	Medium
U	Main entrance to building, playground on east side of building	Opportunity for additional / improved bicycle parking.	Install high quality bicycle parking near entrance and playground similar to that shown in Appendix I.	Safe, secure bicycle parking for students, families, and staff riding to work or to the park.	South St. Paul Public Schools	Medium
V	Syndicate Ave between Dale St and Warburton St	No sidewalk on either side of Syndicate Ave.	Install sidewalk with priority given to the west side of Syndicate Ave; install curb extensions and ADA compliant ramps at intersections.	Provide dedicated space for people walking.	City of South St. Paul	Low
W	Syndicate Ave between Spruce St and South St	No sidewalk on either side of Syndicate Ave.	Install sidewalk with priority given to the west side of Syndicate Ave; install curb extensions and ADA compliant ramps at intersections.	Provide dedicated space for people walking.	City of South St. Paul	Low
X	Dale Pl between Dale St and Concord St	Only available route for students who live off of Buron Ln has narrow, back-of-curb sidewalk on only one side of the street; no lighting.	Explore opportunities to install sidewalk on both sides of the street and / or provide a wider or buffered sidewalk on one side; maintain vegetation; install ADA compliant curb ramps and street lighting.	Provide dedicated space for people walking; increase separation between people walking and driving; improved lighting, comfort, and safety.	City of South St. Paul	Low



# Planned Infrastructure Projects

The City of South St. Paul is leading and working in partnership with Dakota County and the Minnesota Department of Transportation (MnDOT) on a variety of infrastructure projects and studies that will impact the way that people walking and biking travel in South St. Paul.

Several projects, including those outlined below, are located along student routes to Kaposia Education Center. Projects in close proximity to Kaposia are identified in this Plan's Infrastructure Recommendations.

This plan supports the continued planning, design, and implementation of these projects and others as outlined in the City of South St. Paul's 2018-2022 Capital Improvement Program. A more comprehensive list of planned infrastructure projects near South St. Paul Schools is located in Appendix G.

## 5th & 7th at Dale Street

The City of South St. Paul is installing pedestrian crossing improvements at the intersections of 5th and 7th Avenues at Dale Street as requested by South St. Paul School District. Improvements include curb extensions at both intersections and a rectangular rapid flashing beacon (RRFB) at the intersection of 5th Avenue and Dale Street. These improvements are based on safety concerns from the general public and school district and will help to overcome infrastructure barriers to invite more students to walk or bike to Kaposia Education Center.

## Concord Street

In 2016, the City of South St. Paul, City of St. Paul, and MnDOT jointly developed a planning study for the Concord Street Corridor from Interstate 494 to Annapolis Street in South St. Paul to determine the overall vision for the corridor in advance of a proposed MnDOT project that will include pavement resurfacing, drainage improvements, and active transportation accommodations. This City of South St. Paul received grant funding to proceed with the preferred alternative

### 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.

for the northern segment between Annapolis Street and Wentworth Avenue and is currently working with MnDOT to develop a preferred alternative for the southern segment from Wentworth Avenue to Interstate 494.

## 5th Avenue S

The City is preparing to reconstruct 5th Avenue S between Interstate 494 and Southview Boulevard. In addition to replacing and upgrading the roadway, curb and gutter, water main, and storm sewer, the project is exploring opportunities to achieve additional goals including improving pedestrian facilities, adding pedestrian-level lighting, reducing the street width, widening boulevards, increasing intersection safety, and calming traffic overall. Final designs will be complete in late 2018 and construction is planned for 2019.







## 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 shorter-term successes while laying the groundwork for progress toward some of the larger and more complex projects.



## 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.

#### FOR MORE INFORMATION

#### MN SRTS RESOURCE CENTER

.....  
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](http://mnsaferoutestoschool.org)





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 in South St. Paul

Dakota County Safe Routes to School in South St. Paul came out of a city-led drive to develop Safe Routes to School Plans ahead of the 2018 Regional Solicitation. The City of South St. Paul is in the planning and design phases of several infrastructure projects located near schools and along student routes to school and is pursuing funding to implement projects that will make it easier, safer, and more comfortable for students to walk or bike to school. With support and funding from Dakota County Health and the Statewide Health Improvement Partnership, all four public schools in South St. Paul School District are participating in this city-wide Safe Routes to School initiative.

## RAPID PLANNING SESSION

In March 2018, a broad group of stakeholders met for an intensive, day-long Rapid Planning Workshop at South St. Paul Secondary School. This charrette-style event 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 in South St. Paul.

The Rapid Planning Workshop included

- Introduction to SRTS for all participants including programs, infrastructure, and the planning process
- Observation of student arrival at Lincoln Center Elementary School and student dismissal at South St. Paul Secondary School
- Meeting with South St. Paul Secondary student to discuss routes, experiences, concerns, and ideas for improvement
- Walking audit of the streets surrounding Lincoln Center and South St. Paul Secondary
- 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 arrival/dismissal observations and walking audits at Community Learning Center and Kaposia Education Center to gather information about existing conditions, issues, and student routes.

## 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:** Members of the SRTS team conducted observations and walk assessments at Kaposia Education Center (shown) and Community Learning Center before the Rapid Planning Workshop; representatives from the county, city, school district, and schools identified routes, barriers, and opportunities on and near school campus; the team met with students who currently walk to school at South St. Paul Secondary to hear about their experiences and feelings about traveling to school; workshop participants conducted a walking audit of the neighborhood surrounding South St. Paul Secondary and Lincoln Center Elementary as part of the Rapid Planning Workshop.





# Appendix D. Existing Conditions

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

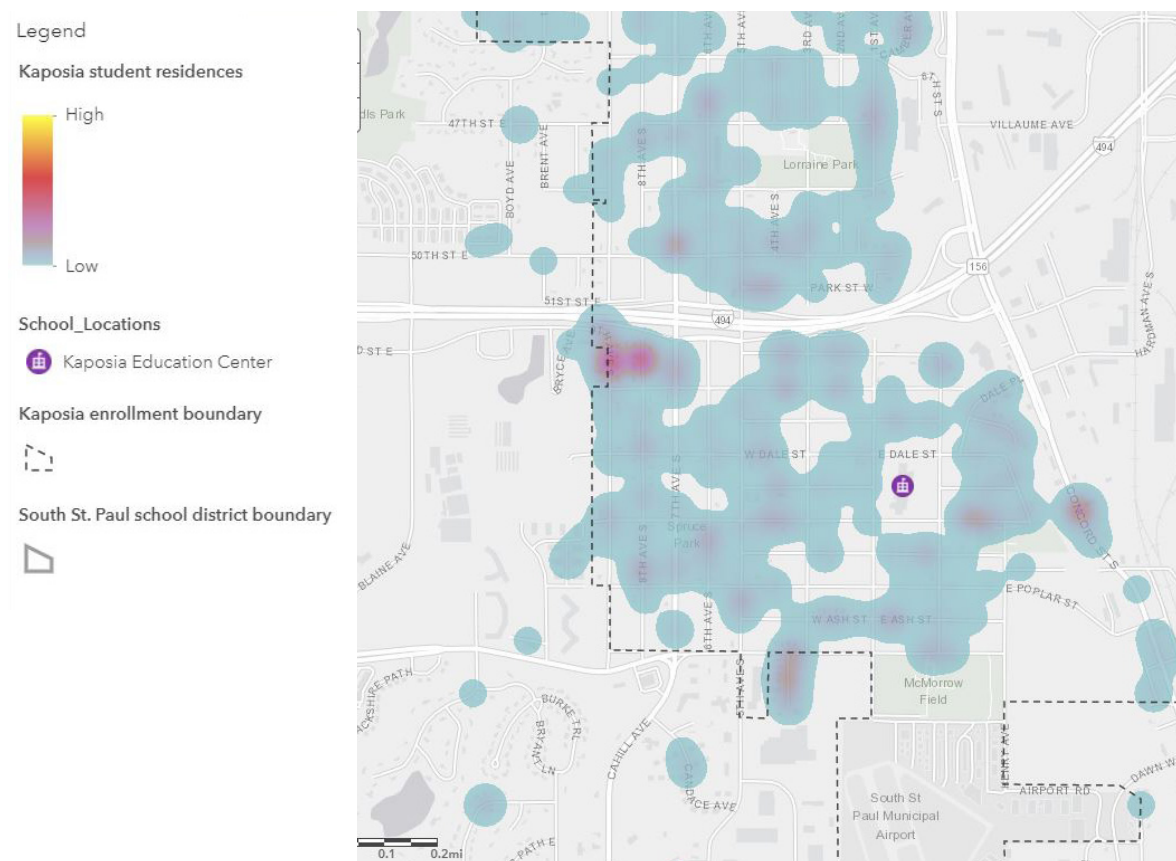
## SCHOOL CONTEXT

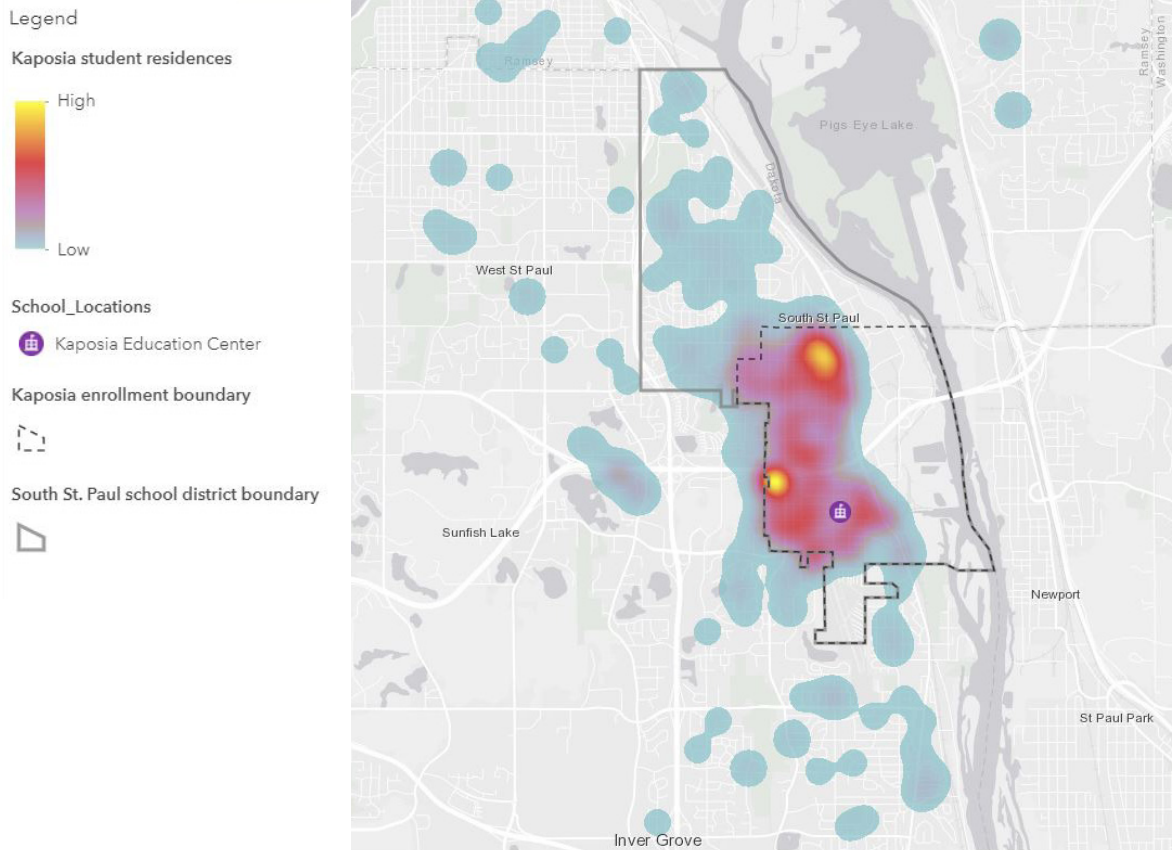
### Basic Information

Principal: Terry Bretoi  
Grades: Pre-K through 5  
Number of students: About 740  
Arrival time: 9:00 AM  
Dismissal time: 3:35 PM

### Student Locations and School Enrollment Boundary

The two maps below show the locations of students attending Kaposia Education Center during the 2017-2018 school year. The first map shows the area immediately surrounding Kaposia 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

Kaposia Education Center is bound by 1st Avenue S on the west, Dale Street E on the North, Syndicate Avenue on the east, and E Spruce Street on the south. The school building and parking lot is located on the west half of the property. The east half of the property includes an open field with a playground on the northeast corner. Kaposia's primary entrance faces 1st Avenue S.

In the morning, buses drop off in a pullout adjacent to Dale Street E on the north side of the school and parents circle through the parking lot which has two access points onto 1st Avenue. In the afternoon, parents pick up on the north, east, and south sides of campus and buses circle through the parking lot.

Bicycle parking is located on the northeast side of school near the playground.

During the morning arrival observation, police officers were observed stationed at three locations on campus including E Spruce Street and Syndicate Avenue, on the north side of campus off Dale Street E, and at the school's main entrance.

## Surrounding Land Use

Kaposia Education Center is located on the south side of South St. Paul in a residential neighborhood. South St. Paul Airport is located roughly four blocks south of Kaposia. South St. Paul city limits are located about one-half mile west and one-quarter mile south of the school.



Concord Street S is located about two blocks east of the school. Concord Street S is lined primarily by light industrial uses; however it also includes a mobile home park where several Kaposia students live. Kaposia is separated from Concord Street S by a steep bluff. Two roads, Dale Place and Poplar Street E, connect up the bluff from Concord Street S to Kaposia and the surrounding neighborhood.

Interstate 494 is located three blocks north of the school. Fifth and 7th Avenue S provide access over I-494 and connect to Inver Grove Heights. Despite being primarily residential, they carry higher volumes of traffic through the neighborhood.

### Infrastructure for Walking and Biking

There are no dedicated bicycle facilities near or connecting to the Kaposia campus. The sidewalk network surrounding the school is inconsistent. Sidewalks are present on one or both sides of some streets, and completely absent from others. First Avenue S and Syndicate Avenue provide direct access to Kaposia and do not have sidewalks except where they border the school campus. Surrounding streets are generally low speed, low volume roads, however they would still benefit from sidewalks on at least one side of the street. Bicycle parking is provided on the east side of the school adjacent to the playground.

### Facilitated Crossing Locations

Kaposia has a robust student patrol program. Student patrols are stationed on all four corners of campus and at midblock locations where Douglas Street tees on the west and east sides of campus. In addition to student patrols, an adult parking lot attendant facilitates parent drop-off in the parking lot every morning. In the past, the school has also paid adult crossing guards to facilitate crossings where 5th and 7th Avenues cross Dale Street W and Spruce Street W. As the economy has improved, those adult crossing guard positions have been more challenging to fill and less reliable.

## SCHOOL TRAVEL PATTERNS

### Student Hand Tallies

According to the student hand tally, the majority of Kaposia students either ride to and from school by school bus or in a family vehicle (as high as 44 percent of students for both modes). According to the survey of students in 27 classrooms, 15 percent of students walk home from school in the afternoon, one percent bike home, and around three percent carpool with other students' families. More students report riding in a family vehicle in the morning than in the afternoon (44 percent vs. 39 percent, respectively), but are more likely to walk, bike, or take the school bus in the afternoon than they are in the morning.

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

### Parent Survey Summary

Forty-eight parent surveys were returned. Of those who responded, 62 percent estimated that they live within one mile of campus, 27 percent estimated they live between one and two miles from campus, and 11 percent estimated that they live more than two miles from school. The typical modes of arrival at school included 17 percent walk, 36 percent bus, and 47 percent family vehicle. Typical modes of departure included 26 percent walk, 40 percent bus, and 35 percent family vehicle. Zero respondents said that their students bike to or from school. More than half of students who live within a quarter mile of school arrive by family vehicle, but more than three quarters (78 percent) of students who live within a quarter mile of school walk home in the afternoon. One hundred percent of respondents who live within between one-quarter and one-half miles of school said that their students had asked permission to walk or bike to school.



Survey respondents of students who do not currently walk or bike to school cited safety concerns at intersection crossings, traffic speeds, traffic volumes, and distance as the main reasons that affect their decision to not allow their students to walk to school. Survey respondents of students who do walk to school cited safety of intersections and crossings, traffic volumes, and weather or climate as reasons that affect their decision to allow their students to walk to school. Seventy percent of respondents said that the school is neutral in terms of encouraging or discouraging students to walk or bike to school.

In open comments, many parents reported that traffic safety, fear of crime, and lack of sidewalks were barriers to walking, but that they were encouraged by crossing guards and presence of law enforcement. A parent also suggested that practicing walking routes and walking with a group of students may encourage more students to walk.

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:** Kaposia Education Center Elementary School

**Set ID:** 17331

**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

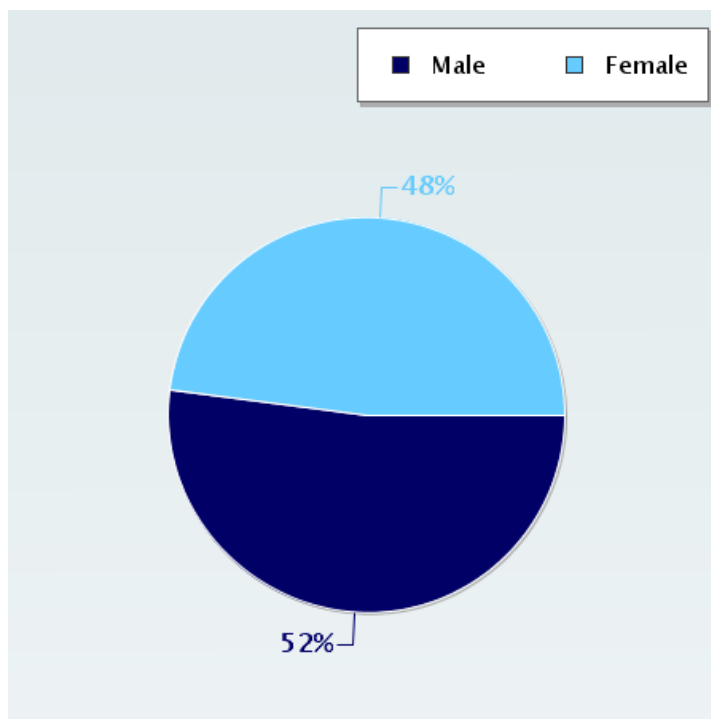
**Tags:**

**Number of Questionnaires Distributed:** 0

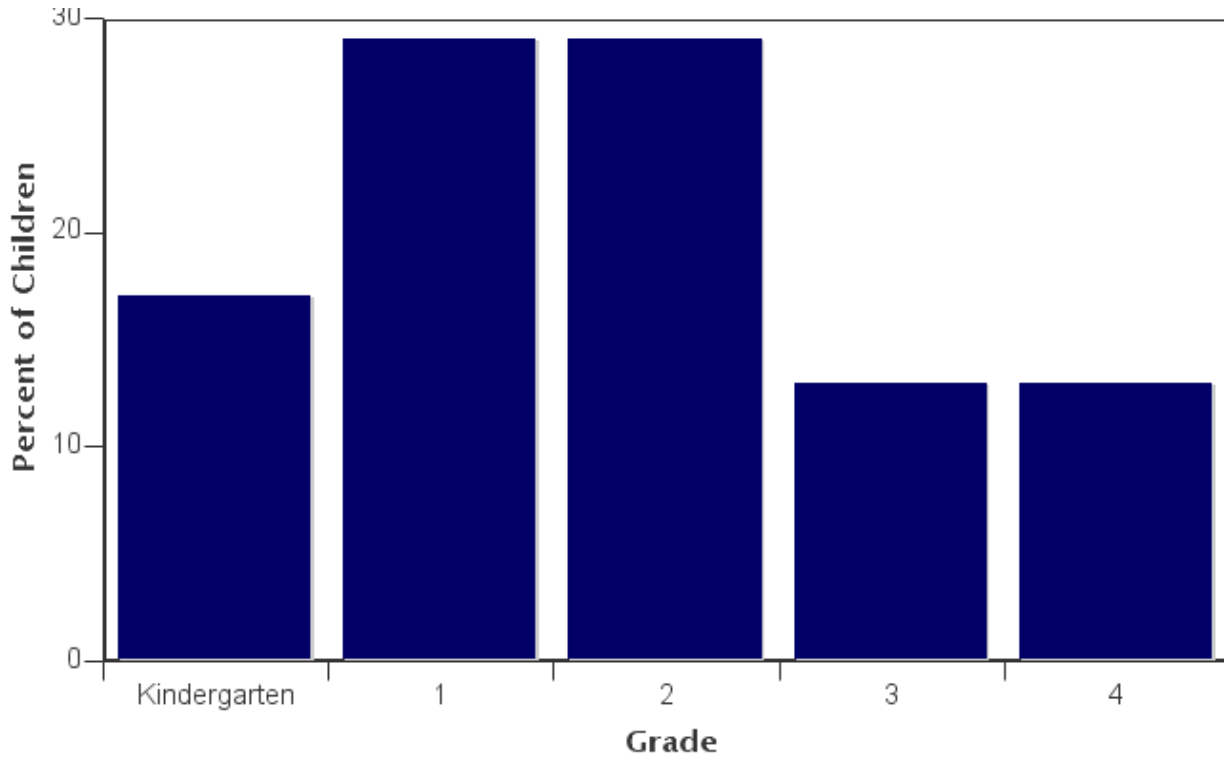
**Number of Questionnaires Analyzed for Report:** 48

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

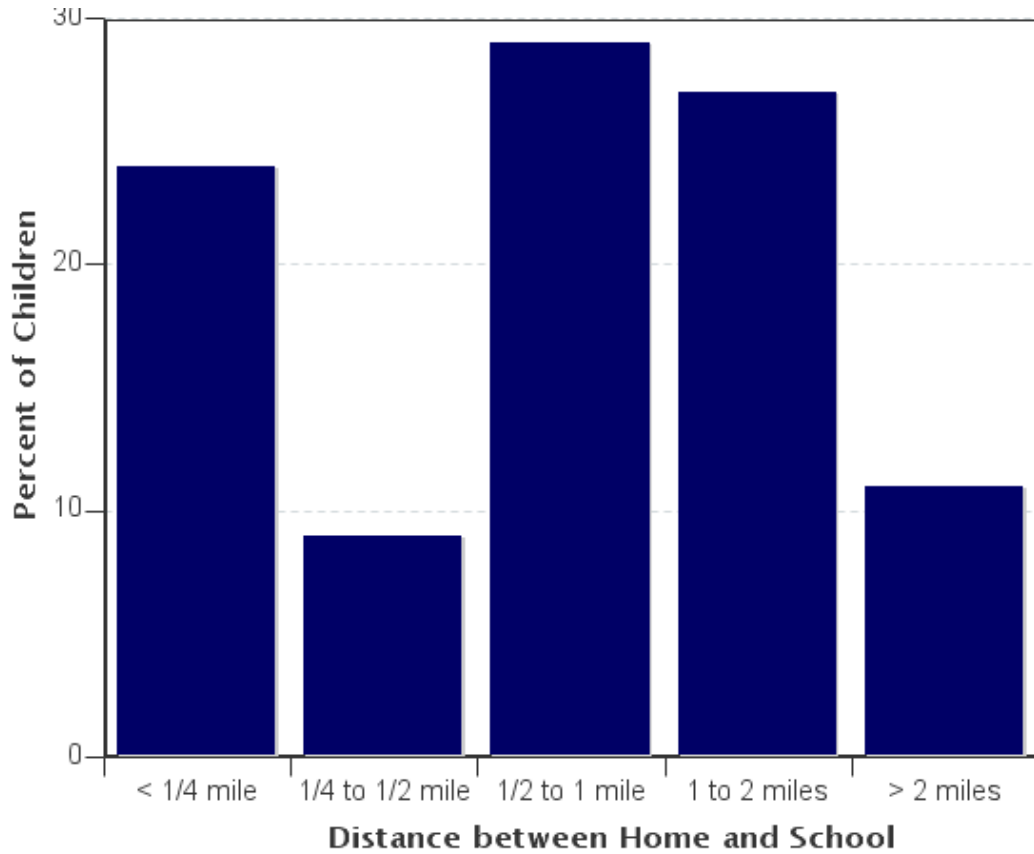
Grade in School	Responses per grade	
	Number	Percent
Kindergarten	8	17%
1	14	29%
2	14	29%
3	6	13%
4	6	13%

No response: 0

Percentages may not total 100% due to rounding.



Parent estimate of distance from child's home to school



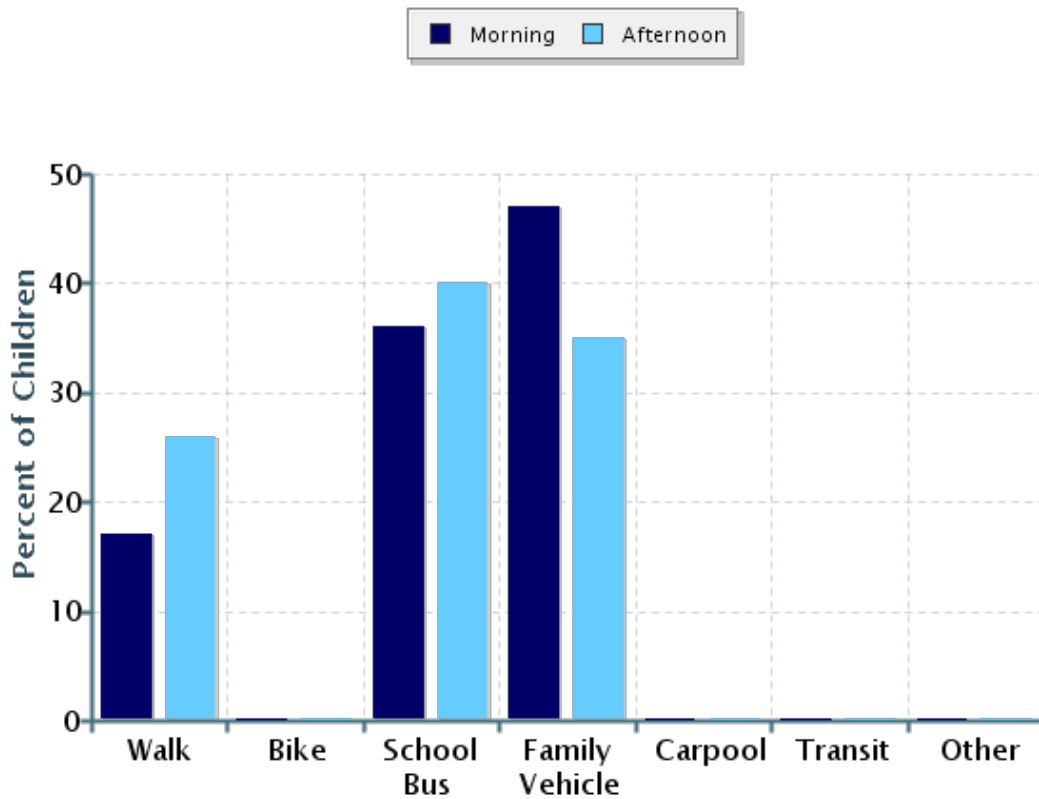
Parent estimate of distance from child's home to school

Distance between home and school	Number of children	Percent
Less than 1/4 mile	11	24%
1/4 mile up to 1/2 mile	4	9%
1/2 mile up to 1 mile	13	29%
1 mile up to 2 miles	12	27%
More than 2 miles	5	11%

Don't know or No response: 3

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	47	17%	0%	36%	47%	0%	0%	0%
Afternoon	43	26%	0%	40%	35%	0%	0%	0%

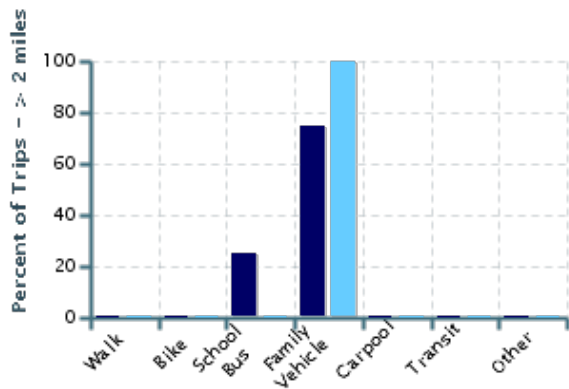
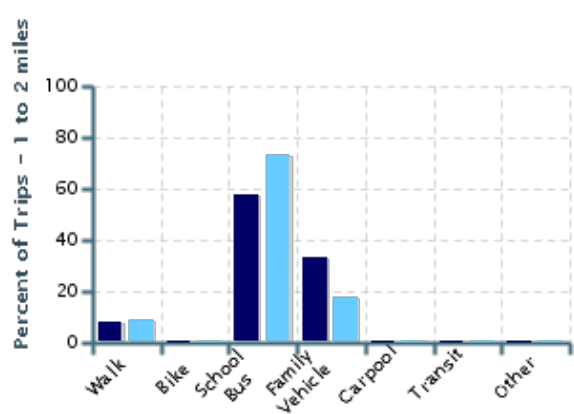
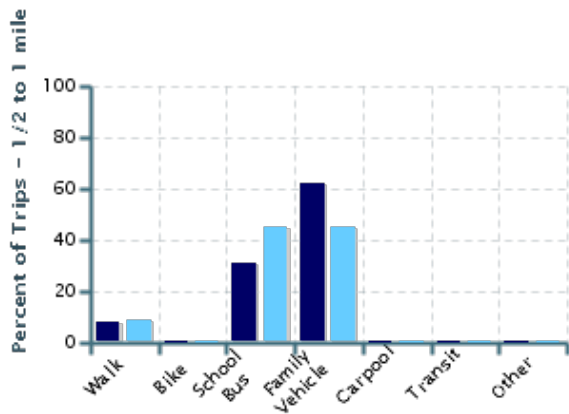
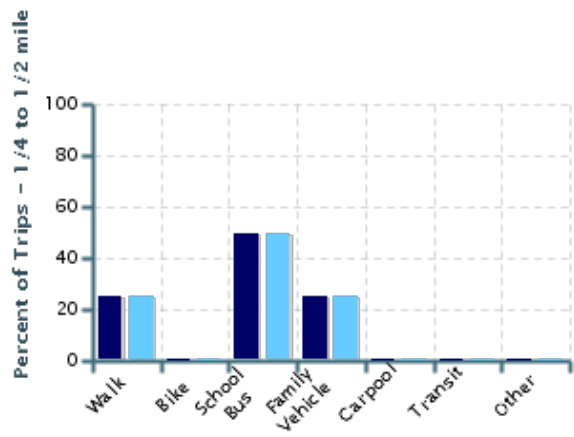
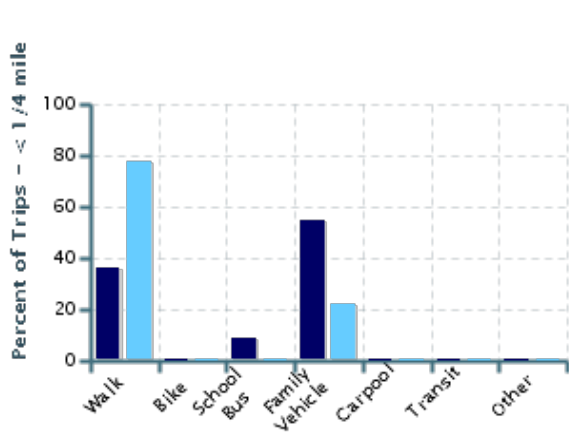
No Response Morning: 1

No Response Afternoon: 5

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	11	36%	0%	9%	55%	0%	0%	0%
1/4 mile up to 1/2 mile	4	25%	0%	50%	25%	0%	0%	0%
1/2 mile up to 1 mile	13	8%	0%	31%	62%	0%	0%	0%
1 mile up to 2 miles	12	8%	0%	58%	33%	0%	0%	0%
More than 2 miles	4	0%	0%	25%	75%	0%	0%	0%

Don't know or No response: 4

Percentages may not total 100% due to rounding.

### School Departure

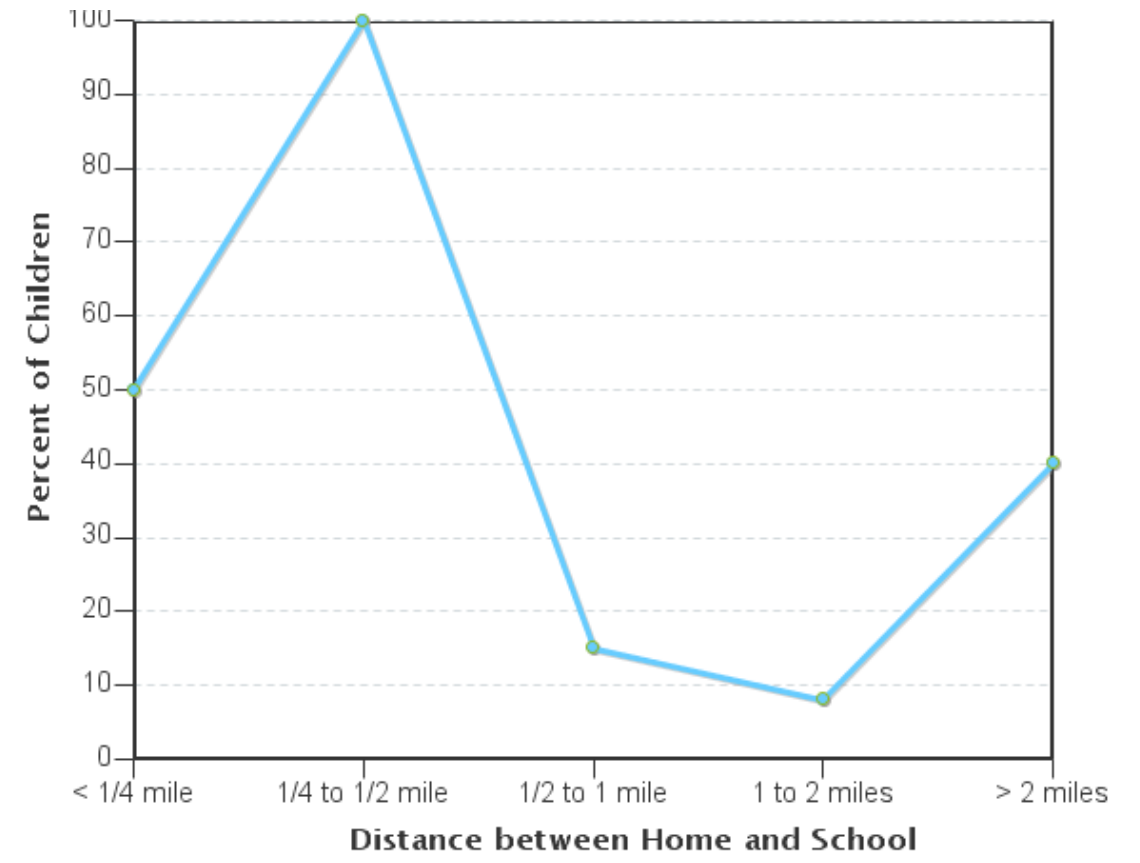
Distance	Number within Distance	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Less than 1/4 mile	9	78%	0%	0%	22%	0%	0%	0%
1/4 mile up to 1/2 mile	4	25%	0%	50%	25%	0%	0%	0%
1/2 mile up to 1 mile	11	9%	0%	45%	45%	0%	0%	0%
1 mile up to 2 miles	11	9%	0%	73%	18%	0%	0%	0%
More than 2 miles	5	0%	0%	0%	100%	0%	0%	0%

Don't know or No response: 8

Percentages may not total 100% due to rounding.



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

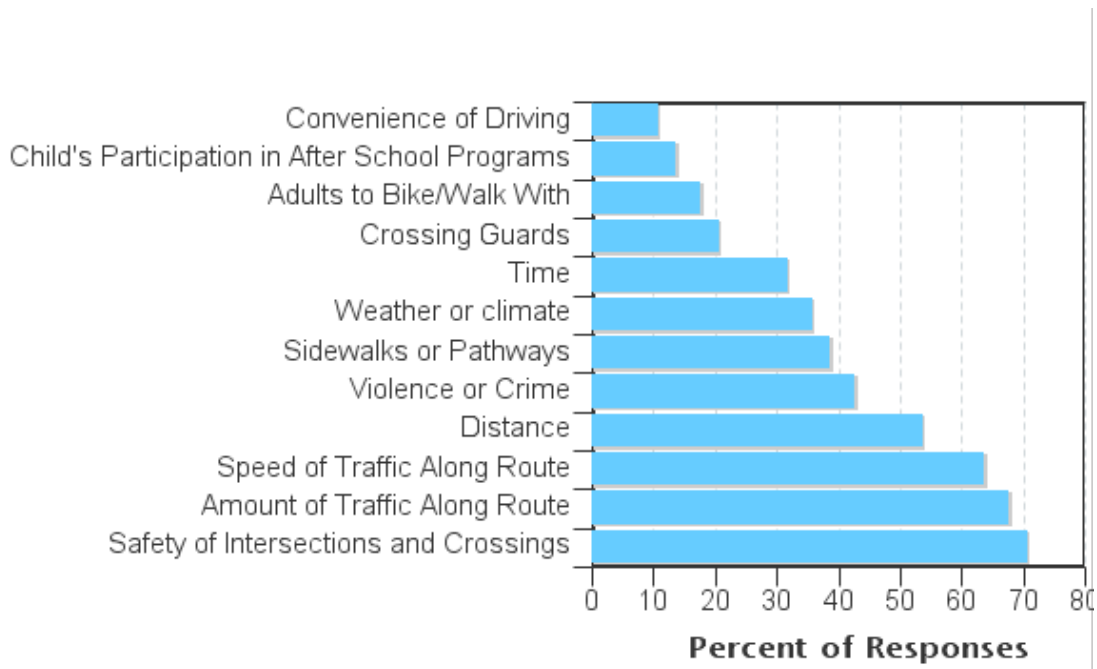


Percent of children who have asked for permission to walk or bike to/from school by distance they live from school

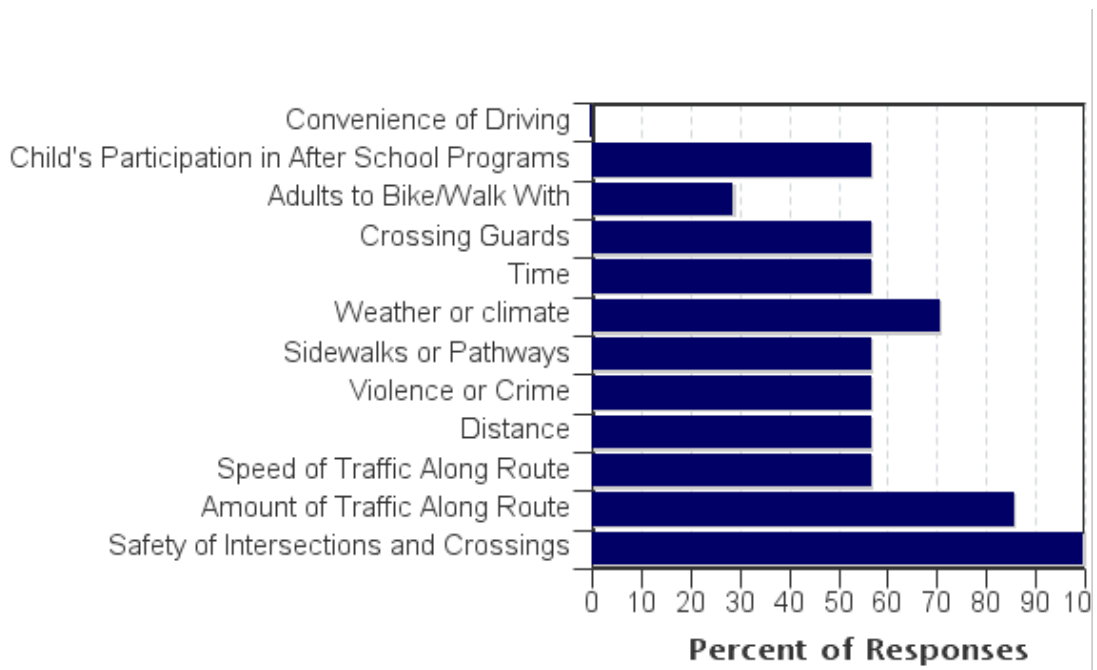
Asked Permission?	Number of Children	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles
Yes	14	50%	100%	15%	8%	40%
No	30	50%	0%	85%	92%	60%

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



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
Safety of Intersections and Crossings	71%	100%
Amount of Traffic Along Route	68%	86%
Speed of Traffic Along Route	64%	57%
Distance	54%	57%
Violence or Crime	43%	57%
Sidewalks or Pathways	39%	57%
Weather or climate	36%	71%
Time	32%	57%
Crossing Guards	21%	57%
Adults to Bike/Walk With	18%	29%
Child's Participation in After School Programs	14%	57%
Convenience of Driving	11%	0%
<b>Number of Respondents per Category</b>	<b>28</b>	<b>7</b>

No response: 13

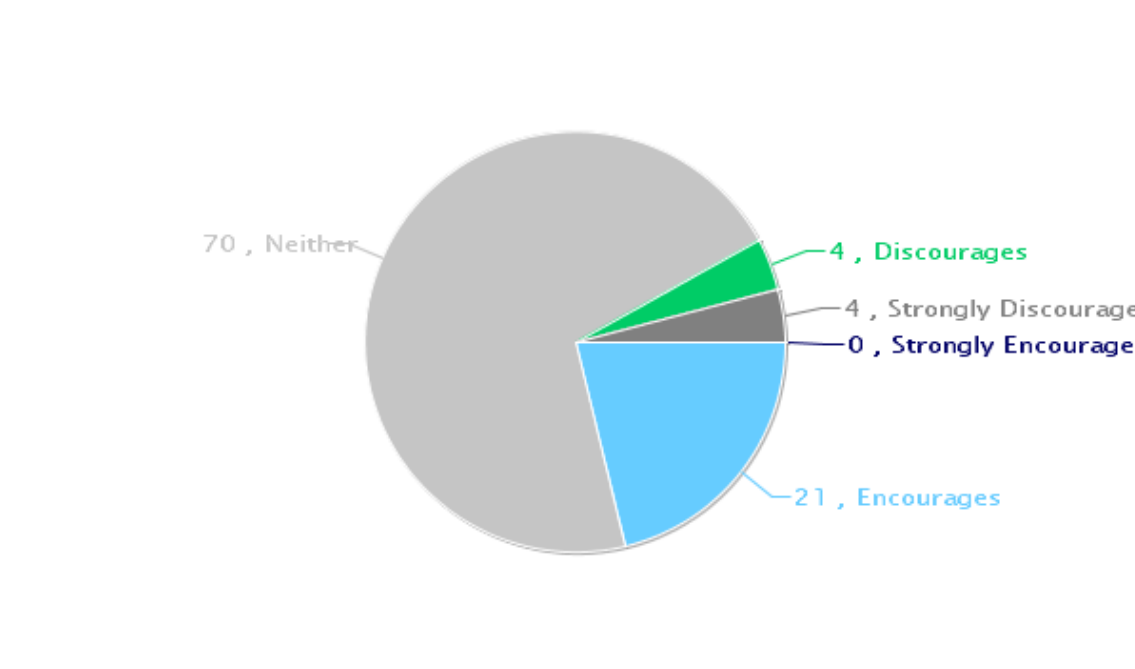
Note:

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

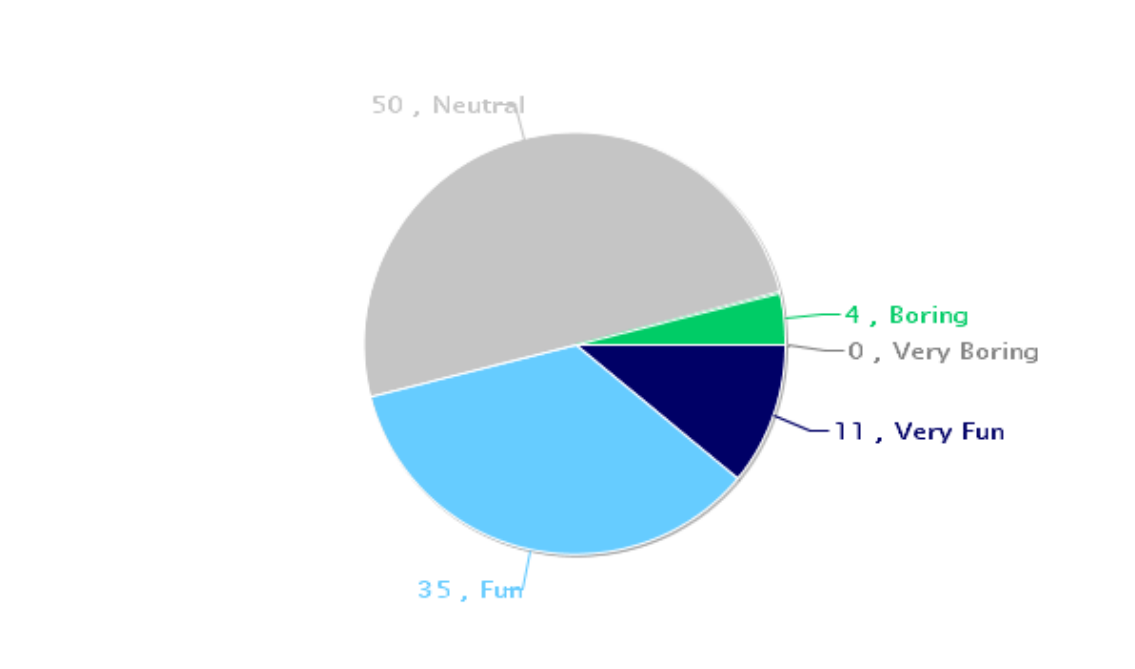
--Each column may sum to > 100% because respondent could select more than issue

--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

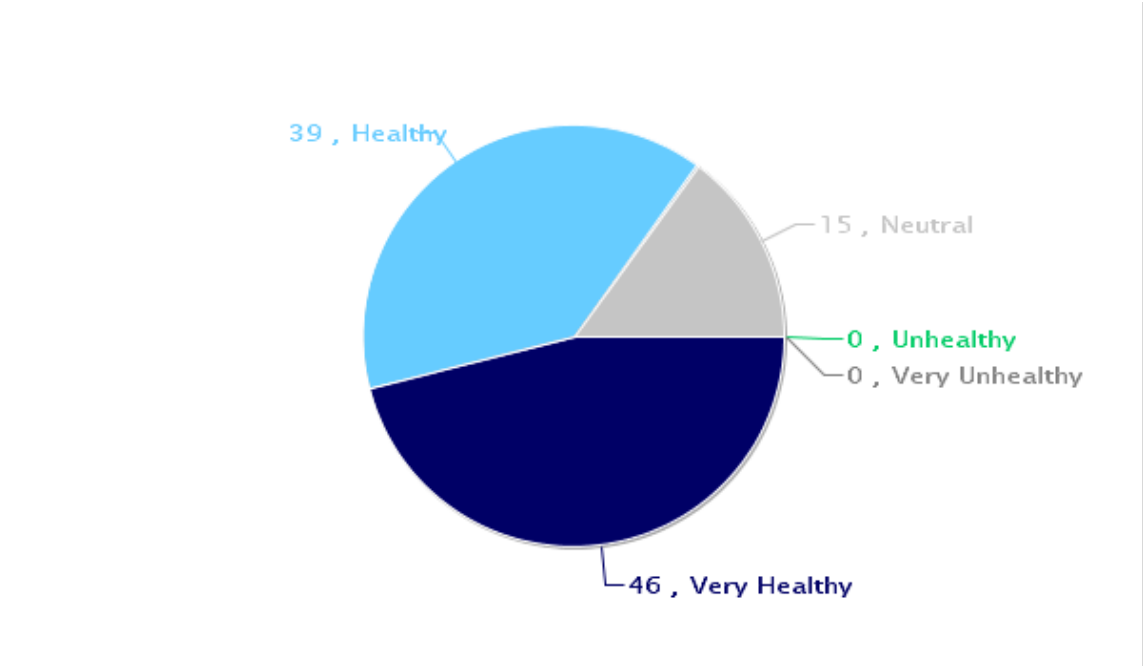


Parents' opinions about how much fun walking and biking to/from school is for their child





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



## Comments Section

SurveyID	Comment
1593334	Primary concern is people becoming more volatile and lacking in common sense to commit crimes towards children.
1593434	We live on a busy street and my daughter is only 6 years old.
1594141	Thank you for having crossing guards. This is the main reason I allow my child to walk to/from school.
1591770	I think the increased presence of local law enforcement should be a daily thing. I also feel that crossing guards should be monitored by an adult in the morning at each corner area, or have adults/staff volunteer to do this as well.
1591931	None
1591984	Spruce St. & 5th Ave S is not a very good place for children, or even adults for that matter, to cross if there is not an ADULT crossing guard present. There is a cross walk at the intersection, but drivers on 5th Ave S rarely stop to let people cross. Generally, it is not a safe place to cross. If I have knowledge that there is no crossing guard at Spruce & 5th, I will opt to drive my children to school.
1591989	Stoplights crossing the freeway on 5th would be great, or a pedestrian bridge
1593267	Crossing 494 and then no sidewalk is a concern
1593286	I wish I felt comfortable. However, in today's time, I am too nervous of all the criminals that her safety would be at risk.
1593292	We open enroll and the distance is greater than convenient for walking or biking.
1593344	We live in St. Paul -- too far away.
1593366	My child walks from daycare 1 1/2 blocks away. I have seen some concerning crossing guard behavior from students.
1593369	We wish that we had sidewalks along Syndicate or 1st Avenue to walk to school. Walking on the roads can be dangerous.
1593373	There are few sidewalks. Also my child does Kids Choice which I need to check her in for/check her out of. We walk when we can.
1594142	My child has ASD and doesn't fully understand the dangers.
1593371	Maybe practice walking routes and routines with the students and get them more comfortable with the students they would walk with?
1593367	I feel it is not safe for students to walk. Traffic in the entrances and parking lots is terrible. Bullying is an issue. They need adult supervision.
1597989	Daughter is disabled
1593430	Child walks to daycare from 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:** Kaposia Education Center Elementary School

**Set ID:** 25727

**School Group:** Dakota County Schools

**Month and Year Collected:** May 2018

**School Enrollment:** 741

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

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

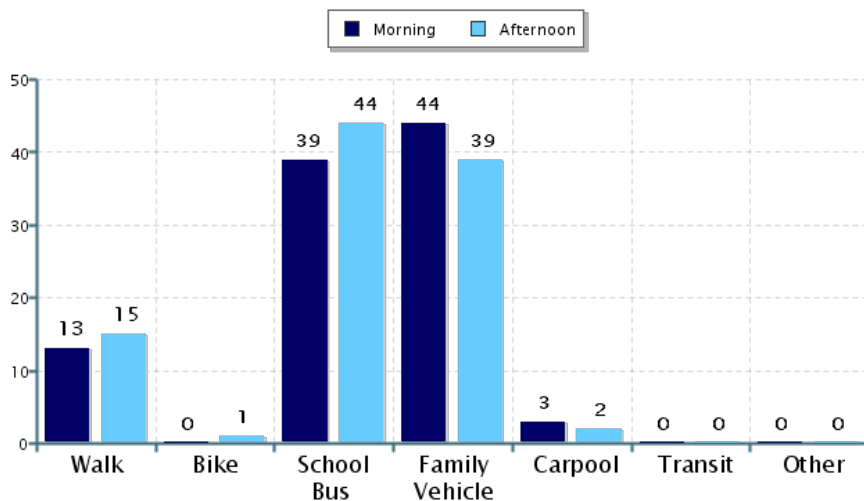
**Tags:**

**Number of Classrooms**

**Included in Report:** 27

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



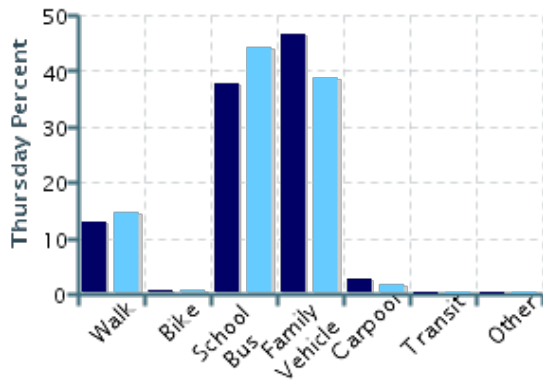
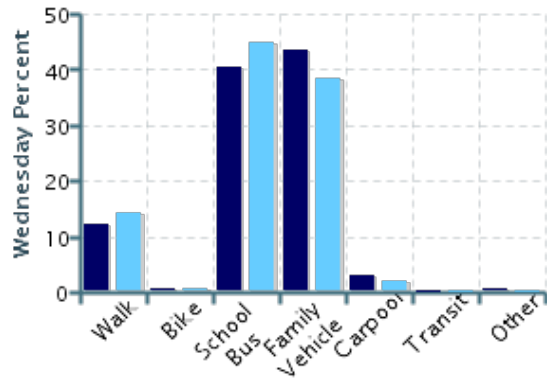
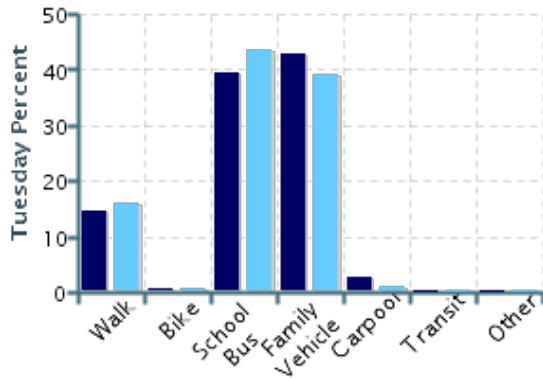
Morning and Afternoon Travel Mode Comparison

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	1754	13%	0.5%	39%	44%	3%	0%	0.1%
Afternoon	1756	15%	0.5%	44%	39%	2%	0%	0%

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

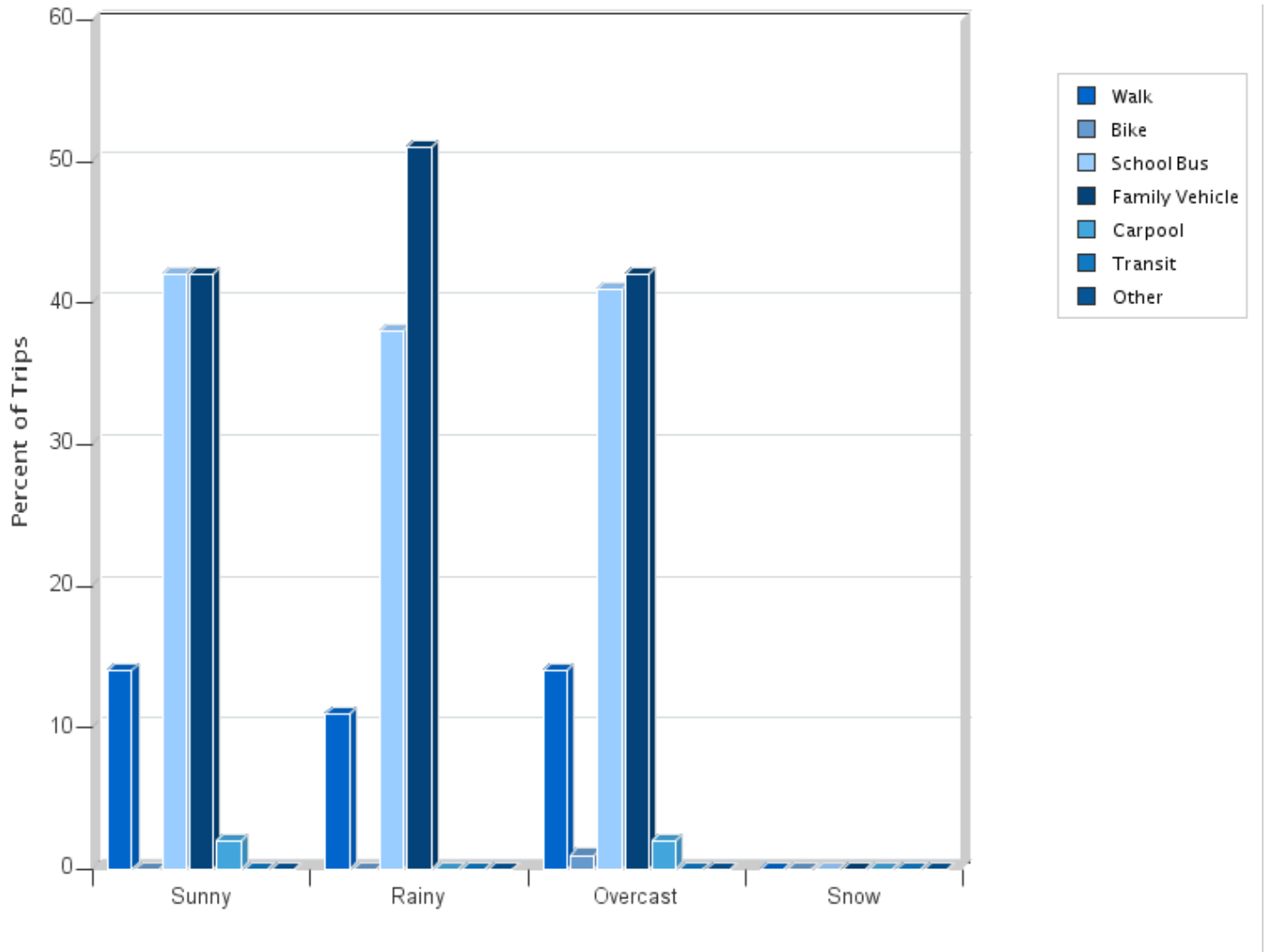
	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Tuesday AM	583	15%	0.5%	39%	43%	3%	0%	0%
Tuesday PM	578	16%	0.5%	44%	39%	0.9%	0%	0%
Wednesday AM	584	12%	0.3%	41%	44%	3%	0%	0.2%
Wednesday PM	588	14%	0.5%	45%	38%	2%	0%	0%
Thursday AM	587	13%	0.5%	38%	47%	3%	0%	0%
Thursday PM	590	15%	0.5%	44%	39%	2%	0%	0%

Percentages may not total 100% due to rounding.





## Travel Mode by Weather Conditions



## Travel Mode by Weather Condition

Weather Condition	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Sunny	2709	14%	0.5%	42%	42%	2%	0%	0.0%
Rainy	45	11%	0%	38%	51%	0%	0%	0%
Overcast	444	14%	0.9%	41%	42%	2%	0%	0%
Snow	0	0%	0%	0%	0%	0%	0%	0%

Percentages may not total 100% due to rounding.

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# Appendix G. Planned Infrastructure Projects

The City of South St. Paul is leading and working in partnership with Dakota County and the Minnesota Department of Transportation (MnDOT) on a variety of infrastructure projects and studies that will impact the way that people walking and biking travel in South St. Paul.

Several projects, including those outlined below, are located along student routes to school. The City additionally has ongoing sidewalk and pavement maintenance programs to fill gaps and improve the quality of transportation infrastructure in the city. This plan supports the continued planning, design, and implementation of the following projects which are outlined in the City of South St. Paul's 2018-2022 Capital Improvement Program:

## Southview Boulevard

Together with Dakota County, South St. Paul is working to redevelop and rehabilitate Southview Boulevard and a portion of 3rd Avenue S. The planned reconstruction project will replace aging infrastructure, narrow the roadway width, widen sidewalks, install curb extensions, provide streetscaping improvements, and address traffic and safety needs. Construction is planned to begin in 2018.

## Marie Avenue

Segments of Marie Avenue are in need of pedestrian and bicycle mobility improvements in accordance with the city's adopted Bicycle and Pedestrian Plan as well as street light upgrades to replace an outdated system. The city is pursuing funding to implement pedestrian, bicycle, accessibility, and general streetscaping improvements, which will positively impact the comfort and safety of students walking or bicycling to school and other destinations in South St. Paul.

## 12th Avenue

Twelfth Avenue from Marie Avenue to Thompson Avenue is identified for reconstruction. Changes may include a narrower roadway to calm traffic and provide space for pedestrian and/or bicycle improvements as well as sidewalk replacement and street lighting upgrades.

## Concord Street

In 2016, the City of South St. Paul, City of St. Paul, and MnDOT jointly developed a planning study for the Concord Street Corridor from Interstate 494 to Annapolis Street in South St. Paul to determine the overall vision for the corridor in advance of a proposed MnDOT project that will include pavement resurfacing, drainage improvements, and active transportation accommodations. This City of South St. Paul received grant funding to proceed with the preferred alternative for the northern segment between Annapolis Street and Wentworth Avenue, and is currently working with MnDOT to develop a preferred alternative for the southern segment from Wentworth Avenue to Interstate 494.

## Wentworth Avenue

The city is beginning the planning process for a proposed sidewalk along the south side of Wentworth Avenue from US 52 to 15th Avenue N. Wentworth Avenue is a primary route between West and South St. Paul, and is a student route to school, however it currently has no sidewalks. The addition of sidewalks will improve pedestrian comfort and safety and provide improved access to neighborhoods, parks, and schools in north South St. Paul.

## 5th Avenue S

The city is preparing to reconstruct 5th Avenue S between Interstate 494 and Southview Boulevard. In addition to replacing and upgrading the roadway, curb and gutter, water main, and storm sewer, the project is exploring opportunities to achieve additional goals including improving pedestrian facilities, adding pedestrian-level lighting, reducing the street width, widening boulevards, increasing intersection safety, and calming traffic overall. Final designs will be complete in late 2018 and construction is planned for 2019.

## 5th & 7th at Dale Street

The City of South St. Paul is installing pedestrian crossing improvements at the intersections of 5th and 7th Avenues at Dale Street as requested by South St. Paul School District. Improvements include curb extensions at both intersections and a rectangular rapid flashing beacon (RRFB) at the intersection of 5th Avenue and Dale Street. These improvements are based on safety concerns from the general public and school district and will help to overcome infrastructure barriers to invite more students to walk or bike to Kaposia Education Center.

## Sidewalk Infill and Replacement

The city has an ongoing sidewalk infill and replacement program to fill gaps in the sidewalk network as identified in the city's 2030 Comprehensive Plan and replace sidewalk segments that are in disrepair. It is recommended that the city prioritize sidewalk infill projects along student routes to school and in neighborhoods that have higher proportions of transit-dependent and/or traditionally marginalized populations. In order to not disproportionately burden lower-income households, the city should explore strategies to fund sidewalk installation and replacement without assessing adjacent property owners.

## Pavement Management

South St. Paul has an ongoing pavement management program which dedicates funds to repave or reconstruct streets with poor pavement quality or beyond their useful life. Repaving and reconstruction projects provide opportunities for the city to make changes to the roadway ranging from striping changes with repaving projects to more extensive improvements such as roadway narrowing, curb extensions, and streetscaping with a full reconstruction.





# Appendix H. Infrastructure Toolbox

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

## ADVANCED STOP 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

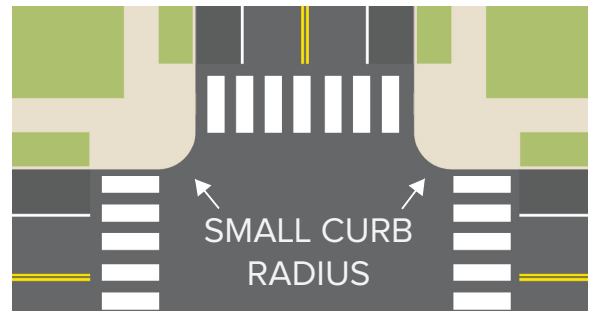
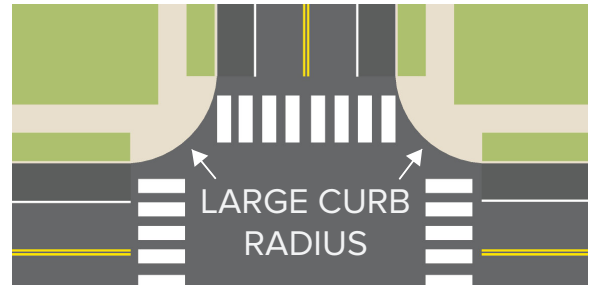
Curb radii designs are determined based on the design vehicle of the roadway. In general, vehicles are able to take turns more quickly around corners with larger curb radii. Minimizing curb radii forces drivers to take turns at slower speeds, making it easier and safer for people walking or biking to 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: 31-2
- 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-qv/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/pdf/LTAPFS11-Mid-Block.pdf>



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# Appendix I. 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

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

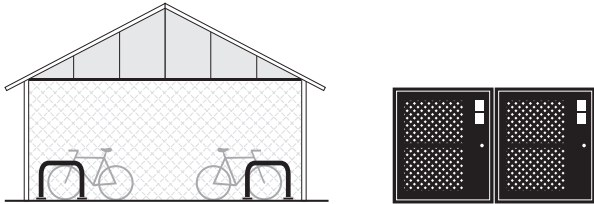
## WHERE SHOULD PARKING BE LOCATED?

Well-located bike parking will be:

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

## CAN MY SCHOOL PROVIDE ADDITIONAL AMENITIES?

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



## WHICH RACKS ARE BEST?



INVERTED U



POST & RING



WHEELWELL SECURE

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

## WHICH RACKS ARE NOT RECOMMENDED?



WAVE



COMB



SPIRAL

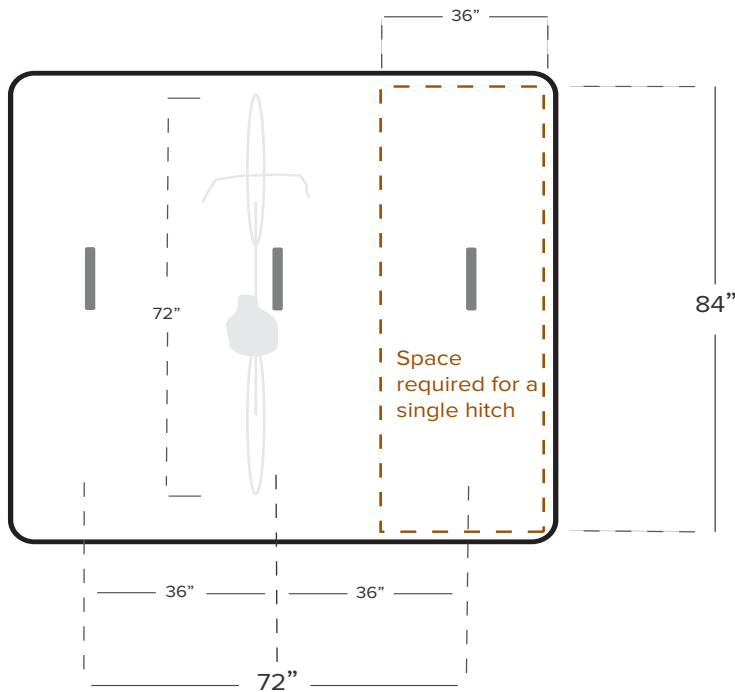
*These racks do not provide support at two places on the bike, can damage the wheel, do not provide adequate security, and are not intuitive to use!*



WHEELWELL

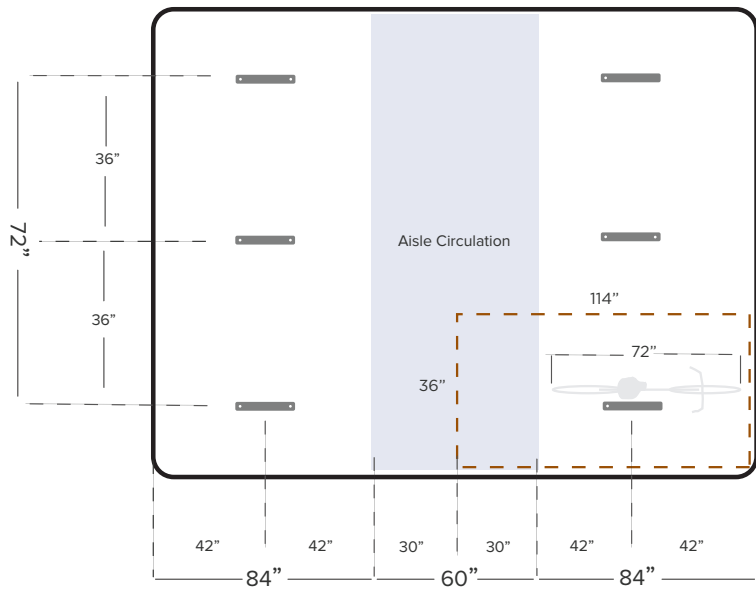
Graphics courtesy of Association of Pedestrian and Bicycle Professionals Essentials of Bike Parking report (2015).

## 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 J. 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 K. 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



# Appendix L. School Start Times

Across the country, communities are considering and implementing later start times for middle and high schools due to teenagers' biological sleep patterns and a wide range of well-researched benefits. Districts that implement later start times have typically required that school begins after 8 a.m. and bus pickup begins no earlier than 7 a.m. Studies have found that later start times for middle and high schools are correlated with improved attendance and academic performance, lower rates of depression, fewer risky behaviors, and reduced crash rates among teen drivers. From a safety perspective, later start times also mean that more middle and high school students are able to walk or bike in daylight which improves traffic and personal safety.

While later start times for middle and high school students are well supported by research, impacts of earlier start times on elementary school students in regards to academic performance and safety are less understood.

In order to limit financial impacts related to busing, many districts pursuing later start times for middle and high schools have chosen to flip start times, moving elementary start times up to the earliest time slot and pushing middle and high school start times to the later time slot. This means that elementary school students start and end their school day earlier than middle and high school students.

## CONSIDERATIONS FOR SCHOOL START TIMES

### Lighting

Flipping middle/high and elementary school start times means that young students will be walking or biking to school or to bus stops when it is dark outside for a significant portion of the year. Elementary school students are smaller and can be more difficult for drivers to see if waiting along the street or walking across it. As with older students, lack of lighting can be a significant risk factor for the safety of people walking and biking to school or to bus stops.

### Availability of parents and older siblings

Earlier elementary start times may allow more parents or older siblings to walk with younger students before work or school. Incentives such as accruing volunteer hours could encourage older students to lead Walking School Buses or act as safety patrols or school valets at elementary schools.

### Before and after school activities and traffic

If before school elective periods for middle and high school students are substantial, there may be conflicts with elementary students arriving to school. Consider after-school schedules as well. Will elementary students be traveling as middle and high school dismissal traffic begins? How do current and proposed arrival and dismissal times compare to peak morning and evening commuter traffic?

## RESOURCES

For more information about school start times and Safe Routes to School, visit the Safe Routes to School National Partnership at <https://www.saferoutespartnership.org>.