

Kerkhoven Murdock Sunburg Elementary School Safe Routes to School Plan

KMS Safe Routes to School Team

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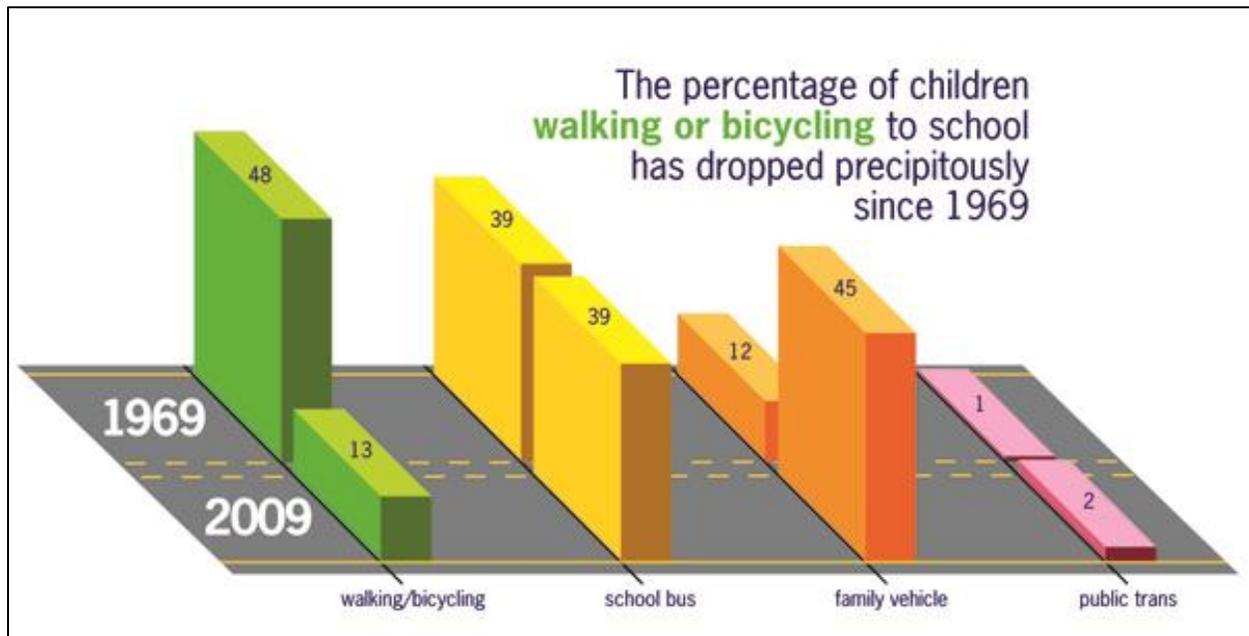
Murdock Safe Routes to School Recommended Path



What Is Safe Routes to School?

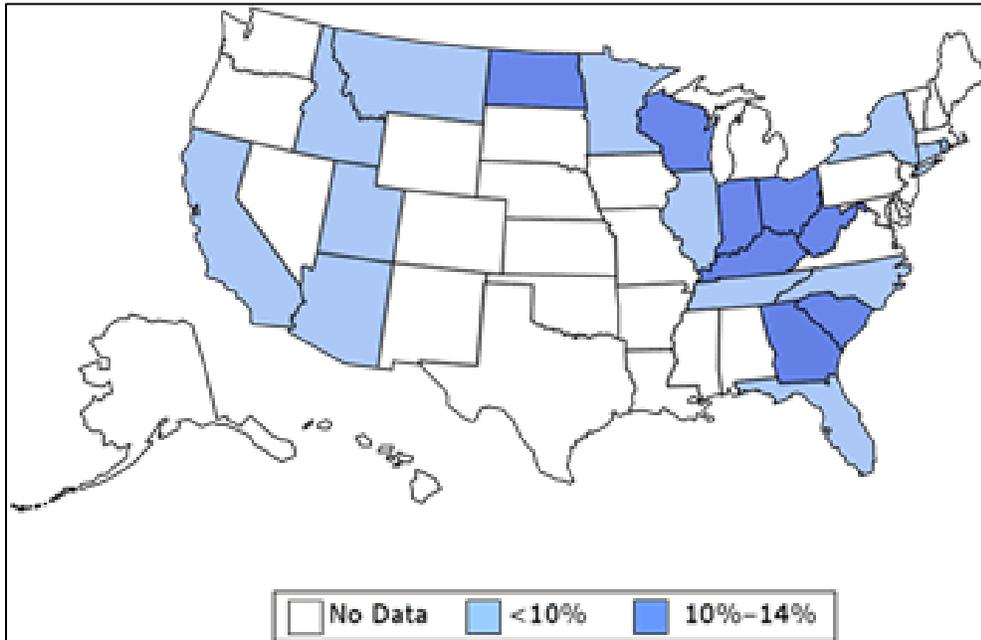
Walking and biking to school was once the way most students arrived at school, but that has since changed dramatically.

Percentage of Children Walking or Bicycling to School 1969 vs. 2009

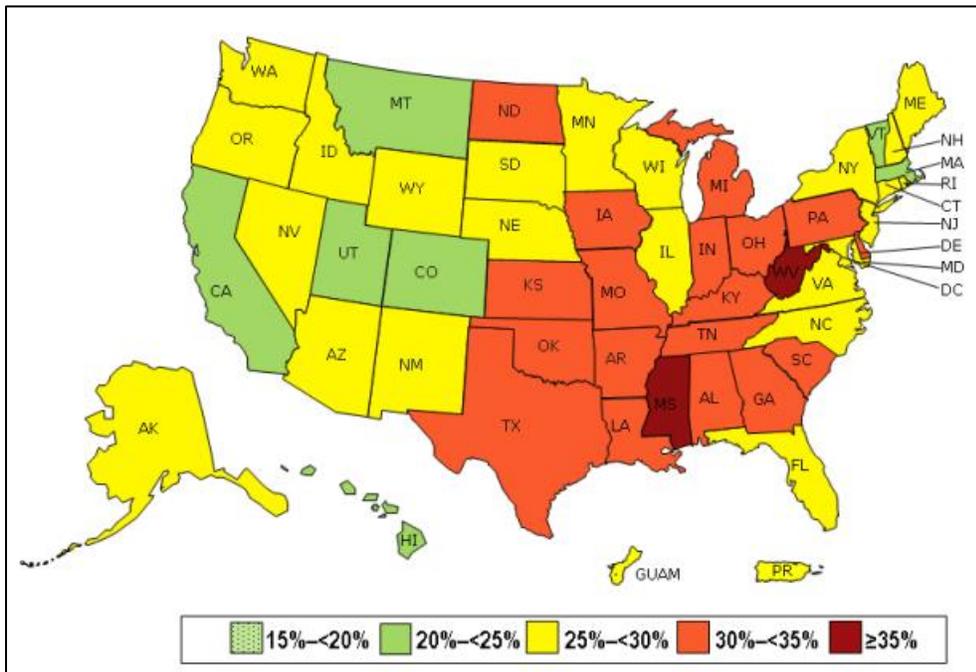


Safe Routes to School was created, in part, to help reverse the alarming nationwide increase in childhood obesity and inactivity.

U.S. Obesity Rates by State in 1985

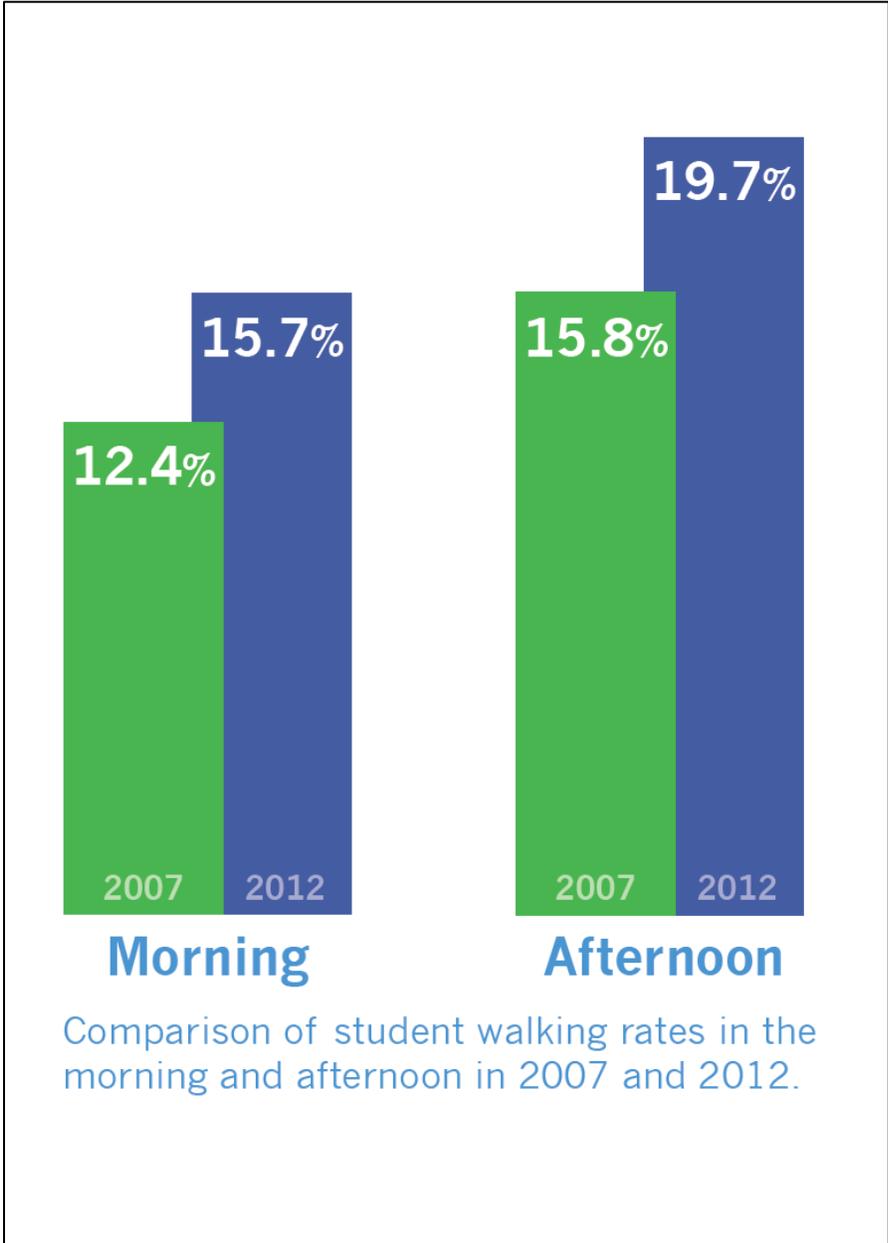


U.S. Obesity Rates by State in 2013



Safe Routes resources and activities help communities: build sidewalks, bicycle paths and pedestrian-friendly infrastructure.

Student Walking Rates After 2005 Creation of Safe Routes to School

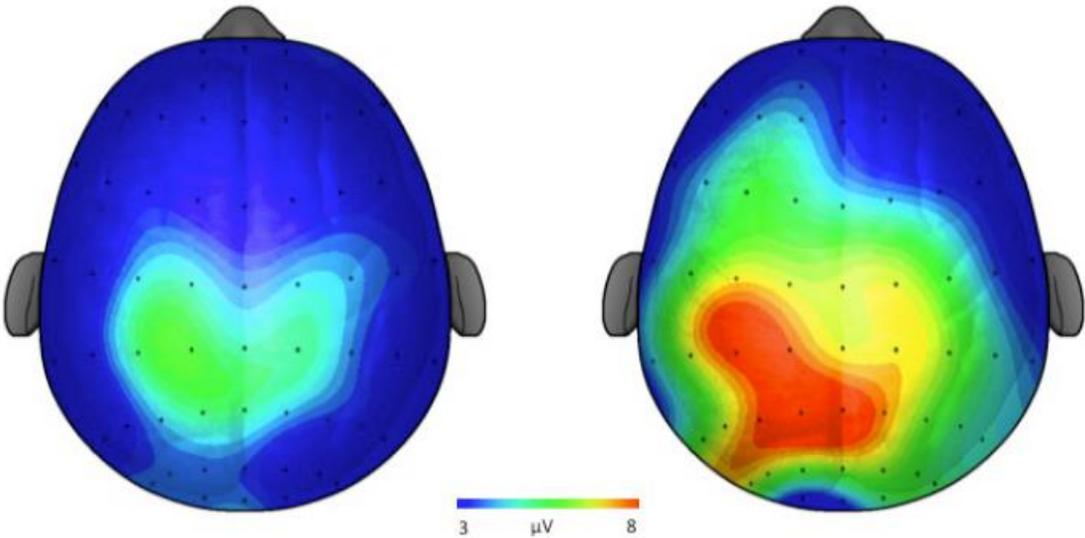


Safe Routes to School has numerous benefits to local communities including reduced traffic congestion, improving air quality and helping kids arrive to school focused and ready to learn.

Brain Images of Students Following Sitting and Walking for 20 Minutes

Composite Attentional Allocation of 20 Students Taking the Same Test

These two brain images, taken from the top of the head, represent the average amount of students' neural activity during a test following sitting and walking for 20 minutes. The color blue represents lower neural activity, while the color red denotes higher brain activity in a given region.



After 20 minutes of sitting quietly

After 20 minutes of walking

Image courtesy of Charles Hillman, University of Illinois at Urbana-Champaign

Key Points in the Safe Routes to School Plan

The key points that will be covered in this plan are:

- A summary of the existing conditions around KMS Elementary School (as discovered by the survey results and walk/bike audit results)
- A list of existing issues identified through the plan process
- The KMS Elementary Safe Route Map
- The KMS Elementary Safe Routes Action Plan
- Implementation steps for the KMS Elementary Safe Routes Action Plan
- The KMS Elementary School Evaluation Plan

Why This Is Important

Safe Routes to School is important for the City of Murdock because if KMS School District is going to encourage children to walk and bike to school, they need a safe community in which to do so. Partnering with the community to design and create better walking and biking options also benefits the entire city's economy as well as their safety.

U.S. Highway 12 that runs the length of the City of Murdock is signed at 30mph through the city, but it is signed at 60mph just outside the city limits. According to a recent literature review performed by the National Association of City Transportation Officials (or NACTO) looking at vehicle traffic speeds, public education and enforcement work well on higher speed roadways, but permanent engineering changes are more effective for improving pedestrian safety in lower speed areas. U.S. Highway 12 does not feature many of the commonly used engineering features designed to slow vehicle traffic, such as curb extensions or narrow road widths. Combined with the findings of a recent NYC DOT study that most traffic deaths are caused by vehicles ignoring existing traffic rules, it becomes clear that U.S. Highway 12 has potential to create unsafe walking and biking conditions and the results of these conditions could potentially be very serious.

The route identified by the KMS Safe Routes to School team makes a conscious effort to remove pedestrian and bicycle traffic from U.S. Highway 12. Combining the fact that a pedestrian struck by a vehicle traveling at 40mph (just 10mph above the posted limit) only has a 30% chance of survival and the conditions on U.S. Highway 12 are conducive to speeding vehicle traffic, it became obvious to the KMS Safe Routes to School Team that this was the best solution supported by the community of Murdock.

The benefits of creating a designated Safe Route to School path for KMS Elementary School 2 and 3 blocks removed from U.S. Highway 12 are two-fold. First, there is evidence that streets with protected paths are significantly safer for bicyclists and pedestrians. A 2015 NYC Department of Transportation traffic study found a 43% reduction of injuries on streets with protected paths. Secondly, by concentrating the bicycle and pedestrian traffic onto one specific route, there will be increased visibility of the non-motorized traffic in the City of Murdock. This is especially important in the rural City of Murdock with less population to potentially use this designated route. When drivers see more bikers, they learn to expect them and to anticipate their movements. They slow down, which also protects those who walk. The proposed designated Safe Route would provide the advantages both of a protected path and increased bike and pedestrian presence.

The larger community of Murdock will also receive similar safety benefits from this designated route. This is especially important for the 9% of Murdock that is 65 or older, as the same NYC DOT traffic study found that although persons 65 or older are less likely to be struck by a vehicle, their resulting injuries are far more likely to be fatal.

The benefits of a protected path to increase and encourage walking and biking extend beyond basic safety. The American Heart Association lists the benefits of walking as: maintaining a healthy weight, preventing or managing various conditions (including heart disease, high blood pressure and type 2 diabetes), strengthening bones and muscles, improving mood, and improving balance and coordination. They also advise that brisk walking contributes to their recommended 150 minutes per week of moderate-intensity aerobic activity for overall cardiovascular health.

The benefits of a protected path to increase and encourage walking and biking also extend beyond health and safety. It can also bring economic benefits to the community. A frequently cited study on the economic benefits of walkability performed by the Victoria Transport Policy Institute lists a wide range of potential economic benefits found in communities found to be more walkable based on travel surveys. Some of the benefits listed were: increased local business activity and employment, increased neighborhood interaction and community cohesion, improved accessibility (particularly for non-drivers), reduced transportation costs, increased parking efficiency, health cost savings from improved exercise, improved accessibility for people who are transport disadvantaged, reduced external transportation costs (crash risk, pollution, etc.), improved opportunities to preserve cultural resources (e.g., historic buildings) and increased exercise.

The Safe Routes to School Team has worked closely with the Murdock community throughout the entire planning process to ensure that the recommendations of the plan are feasible and supported by the larger community. We believe that the changes recommended in this plan will make the City of Murdock a safer, healthier and more prosperous place for the whole community.

Action plan: list of identified strategies with prioritized short and long term action steps

The Plan

Since 2012, MnDOT has worked to develop statewide programs to support Safe Routes to School programs across the state. Nearly 500 schools have been awarded funding through MnDOT. Additionally, the Minnesota Department of Health supports the Statewide Health Improvement Program, which funds work to increase access to physical activity opportunities.

Currently, over 225 schools throughout the state are working to advance SRTS efforts, potentially reaching over 110,000 students in two years. There are countless champions such as parents, teachers, school administrators, local public health staff, community members, state and local advocates, and public safety officials who are making the SRTS movement a reality at the ground level.

Our Approach

Safe Routes to School is based on the 6Es approach to SRTS. The 6Es are strategies of a comprehensive SRTS Program, which include: engineering, enforcement, education, encouragement, evaluation and equity. The most effective Safe Routes to School programs include elements of all of the 6Es:

Evaluation Monitor and document outcomes before and after the intervention

Engineering Create operational and physical improvements surrounding schools

Education Teach children about the broad range of transportation choices

Encouragement Use events and activities to promote walking and bicycling

Enforcement Partner with local law enforcement

Equity Achieve fairness in the distribution of benefits and costs

Engineering

Engineering refers to creating improvements surrounding schools that reduce speeds and potential conflicts with motor vehicle traffic, and establish safer and fully accessible crossings, walkways, trails and bikeways. Many communities in the State of Minnesota were not designed to be safe and comfortable for people walking and bicycling. Once problem areas are identified, communities work with local governments to prioritize local funding for improvements or apply for funding through MnDOT's SRTS grant process or other sources.

- As part of a strategy to make biking easy and accessible, KMS School District has purchased a bike rack for the elementary school. District staff worked with students to determine the most effective location for the rack and it is scheduled to be installed the summer of 2017.

Future Actions

[See action plan matrix for details]

Safe Paths

- The KMS Safe Routes Team has identified a single route for students walking or biking to school in the City of Murdock. For students east of the school, it begins at the intersection of Clara Avenue and Helena Street and heads northwest to Peck Street, where it turns right. This path then turns left at Kenner Avenue and heads straight to the school. For students on the opposite end of town, it begins at the intersection of Clara Avenue and Shaaf Street and heads northwest to Kenner Avenue. At Kenner Avenue the path turns right and leads directly to the school. The plan provides recommendations for potential infrastructure based on the Federal Highway Administration's Small Town and Rural Multimodal Networks Guide.
- The KMS Safe Routes Team has identified the intersection of N. Hollis Street and Kenner Avenue as the safest place to cross County Road 33. This Safe Routes to School plan recommends a pedestrian-activated flashing beacon be installed at this intersection along with a restriping of the crosswalk.
- The KMS Safe Routes plan recommends the crosswalk at the intersection of Kenner Avenue and Frederick Avenue be restriped as the current striping has faded since its original installation.
- The KMS Safe Routes Plan recommends widening and ADA improvements on the existing sidewalks in front of the school to ensure they meet federal guidelines.

- The KMS Safe Routes Team recommends taking results from a sidewalk assessment of the City of Murdock and filling in missing sidewalk sections to make walking in the city more safe and accessible for everyone.
- The KMS Safe Routes Team is recommending improvements at the railroad crossing at the intersection of County Road 33 and S. Hollis Street to increase the safety of walking in the city for anyone located south of the railroad tracks.
- The KMS Safe Routes Team is recommending partnering with the Statewide Health Improvement Partnership to install trees on the south side of County Road 33 just north of the school. Adding trees and narrowing the roadway may help slow traffic down as the speed changes from 55mph to 20mph just north of this intersection.

Equipment

- The KMS Safe Routes Team recommends the elementary school install the bike rack just northeast of the main entrance. The KMS district staff will then measure the utilization and determine if potential alternative locations need to be considered.
- The KMS Safe Routes Team is recommending a new 'No Parking' sign be installed at the intersection of Kenner Avenue and North Hollis Street as the current signage is easily blocked by overgrown brush.

Further Study

- The KMS Safe Routes Team is recommending a full traffic study be completed for KMS Elementary School to address issues of congestion and traffic during peak times.
- The KMS Safe Routes Team believes it will be imperative to address staff parking in conjunction with the traffic study to ensure district staff can safely and easily reach the school grounds in a timely manner.
- The KMS Safe Routes Team is recommending a sidewalk study be completed to identify where sidewalks are missing or deteriorated so the City of Murdock can make strategic investments in improvement.

Education

Education is a key component of comprehensive SRTS programs. Education means teaching children about the broad range of transportation choices, instructing them in important lifelong bicycling and walking safety skills and launching driver safety campaigns in the vicinity of schools.

- The KMS School District believes that bicycling and pedestrian safety is important for their students. That is why they currently have a bike safety program for students in their elementary school to teach them how to safely navigate their community on bike.
- The KMS School District also believes the health of their students is a central part of their mission. They have a health committee that manages the district's initiatives to ensure the district is encouraging and fostering healthy habits.

Future Actions

[See action plan matrix for details]

Classroom Learning

- The KMS Safe Routes Team recommends the establishment and implementation of bicycle & pedestrian education in the classroom to ensure students utilizing the safe route to school path are doing so safely.
- The KMS Safe Routes Team recommends KMS School District develop a safety patrol training program for older students to work in conjunction with the infrastructure improvements and crossing guards identified in the plan.
- The KMS Safe Routes Team recommends KMS School District distribute the walk/bike to school map for the City of Murdock created as part of the Safe Routes to School planning process.
- The KMS Safe Routes Team also recommends the development of a school safety campaign to increase education and encouragement around walking and biking to school.

Learning Outside the Classroom

- The KMS Safe Routes Team recommends that KMS School District continue to offer bike riding safety training for elementary students during the summer program to ensure all students have the opportunity to learn bicycle safety.
- The KMS Safe Routes Team recommends that KMS School District teach students the identified Safe Routes for each school to ensure all students know the identified path.

Community Connection

- The KMS Safe Routes Team recommends that KMS School District use outreach to inform parents, community members, and businesses about the Safe Routes.
- The KMS Safe Routes Team recommends that KMS School District place the safe route map in the community education brochure to increase visibility of the identified route.

Enforcement

Enforcement in SRTS is usually coordinated with local law enforcement to ensure that traffic laws are obeyed in the vicinity of schools (this includes enforcement of speeds, yielding to pedestrians in crosswalks and proper walking and bicycling behaviors) and initiating community enforcement such as crossing guard programs and student safety patrols. Many parents cite speeding cars or distracted drivers as primary concerns affecting whether or not they allow their child to walk or bicycle to school. Enforcement activities help increase compliance with traffic and parking laws, making the streets safer for all users.

Future Actions

[See action plan matrix for details]

Work with Law Enforcement

- The KMS Safe Routes Team is recommending that local law enforcement continue to enforce all traffic laws on U.S. Highway 12, County Road 33 and on all local streets and intersections.
- The KMS Safe Routes Team also recommends law enforcement to become familiar with the recommended path for students in the City of Murdock to ensure all traffic laws are followed along this corridor where students are more likely to be present during school hours.

Enlist the Help of the Murdock Community

- The KMS Safe Routes Team recommends the implementation of adult crossing guards during morning and afternoon hours, especially at the intersection of County Road 33 and Kenner Avenue.
- The KMS Safe Routes Team recommends the implementation of student safety patrol to ensure younger students have leadership in developing safe pedestrian and biking habits.

Evaluation

Evaluation means monitoring and documenting outcomes, attitudes and trends through the collection of data before and after the intervention. Evaluation will help demonstrate the impact of the KMS Safe Routes to School program. We've already documented current conditions with baseline surveys- next we will continue this process to measure the results of the KMS Safe Routes to School program.

- The KMS Safe Routes to School Team needed a starting point to measure the success of the Safe Routes program. A travel tally was administrated by KMS School District staff in the classroom to get information on how many children currently walk and bike to school.
- The KMS Safe Routes to School Team also needed a benchmark to determine the success of the engineering improvements. In 2017, a parent survey was administrated to understand parent's concerns with walking and biking in the City of Murdock.

Future Actions

[See action plan matrix for details]

Program Success

- The KMS Safe Routes Team recommends annual follow-up travel tallies to determine if more children are walking and biking to school as a result of the Safe Routes program.
- The KMS Safe Routes Team recommends that KMS School District and the Statewide Health Improvement Partnership meet annually to review the county student health data. They will determine if the rates of overweight and obese children are declining and if the number of children getting the recommended daily amount of activity is increasing.
- The KMS Safe Routes Team recommends that KMS School District annually have staff perform pedestrian and bike counts to collect data on how many students are walking and biking to school.
- The KMS Safe Routes Team recommends that KMS School District meet annually to review the Safe Routes to School Plan to: determine what action steps have been achieved, establish goals for the upcoming year and evaluate the progress found in the surveys, travel tallies and the county student health data.
- The KMS Safe Routes Team also recommends that KMS School District evaluate the student participation in the Walk to School Day.

Engineering Improvements

- The KMS Safe Routes Team recommends annual follow-up parent surveys to determine if the concerns parents had about walking and biking safety are being addressed successfully.

Encouragement

Encouragement refers to using events and activities to promote walking and bicycling and to generate enthusiasm for the program with students, parents, staff and surrounding community.

- KMS School District currently participates in the national Walk & Bike to School Days and has had huge success in participation. The KMS Safe Routes to School plan will continue to grow on this tradition by improving the safety of the routes students use to walk and bike to school.

Future Actions

[See action plan matrix for details]

Provide Structure

- The KMS School District will continue the tradition of encouraging students to walk and bike to school on the national Walk & Bike to School Days. It will use this opportunity to reinforce the recommended routes and foster new walking and biking habits.

Reward and Acknowledge Students

- The KMS Safe Routes to School Team is recommending a mileage club to track the distance students cover while walking and biking to school. Rewards will be given to the highest achievers.
- The KMS Safe Routes to School Team is recommending a walking and biking challenge to promote students walking and biking to school. The timeline and frequency can be determined and tuned to the participation and success in the pilot challenges.

Equity

Equity is a needs-based approach to allocating resources that aims to achieve fairness in the distribution of benefits and costs. Discussion of equity acknowledges that some communities and populations may require additional resources in order to have the same opportunities as other communities.

- The City of Murdock has a more diverse population than other communities of similar size, with 8% of the population being non-white. It is exceptionally important that the City of Murdock is constantly working to address equity within its community.

Future Actions

[See action plan matrix for details]

Accessibility

- By making the City of Murdock more walkable from every residential area, the Safe Routes to School plan will provide opportunity equally across the community.

Issue identification: key issues emerging from the surveys, audits, and assessment results

Issue Identification

KMS Elementary School is located in the City of Murdock in rural Swift County, MN. The children that come to the district from outside the City of Murdock predominantly live more than 2 miles away from the school. KMS Elementary School is located alongside County Road 33 with an average daily traffic of 580 vehicles and 3 blocks north of U.S. Highway 12 with an average daily traffic of 2,550 vehicles. The latest crash data reports that between the years of 2012-2016, three traffic fatalities occurred on Highway 12 in Swift County. KMS Elementary School does not currently separate school bus and family vehicle traffic out in front of the school that is serviced by a local two-lane road. The school is also located 5 blocks from an unbridged railroad crossing. These characteristics introduce several challenges that affect walking and bicycling in the City of Murdock.

Distance to KMS Elementary School

85% of students that attend KMS Elementary school live more than 2 miles from the school. Walking or biking to school from home will likely never be a realistic option for these elementary-age students. One possible solution to incorporate these children in the Safe Routes to School Program is walking school buses. A walking school bus is a group of children who walk to school on designated routes with adult supervision, while picking up kids along the route, just like a school bus. For some neighborhoods, it's a casual group walk, while others set up a formal plan with adults scheduled to walk on certain days. Children could be dropped off by the bus on either end of the Safe Route to School and have the option to walk the rest of the way to school. Children who are dropped off at the east end of the route would complete 9 minutes of exercise walking the 0.4 miles to school. Over a five-day

week, it would amount to 45 minutes of physical activity, 30% of their weekly recommended physical activity by the American Heart Association. Children who were dropped off on the west end of the route would receive less benefit. These children would complete 5 minutes of exercise walking the 0.3 miles to school. Over a five-day week, they would complete 25 minutes of physical activity, 17% of their weekly recommended activity by the American Heart Association.

Speed and Volume of Traffic on U.S. Highway 12

22% of parents surveyed indicated volume of traffic as a concern and 9% indicated speed of traffic as a concern. U.S. Highway 12, a thoroughfare that runs from Washington to Michigan, is the highest volume roadway in the City of Murdock and is located 3 blocks south of the school. 43% of fatal traffic crashes in Swift County between the years of 2012-2016 occurred on U.S. Highway 12. The community expressed concern in Safe Routes to School planning meetings that pass-through traffic may not slow down to the posted 30mph in the City of Murdock. That is a major concern for students walking and biking in the City of Murdock considering recent studies finding a pedestrian stuck by a vehicle at 40mph has a 30% chance of survival. Given the safety concerns that U.S. Highway 12 introduces for pedestrians and bikers, and the fact that very few students live on the south side of the city across U.S. Highway 12, the Safe Routes to School Plan recommends the path illustrated below.

Murdock Safe Routes to School Recommended Path



Traffic Guides

There are many design guides provided by different organizations that recommend designs for traffic engineering. Two popular organizations are the Federal Highway Administration (FHWA) and the National Association of City Transportation Officials (NACTO). The FHWA guides referenced in this document are the Manual on Uniform Traffic Control Devices (MUTCD) guide and the Small Town and Rural Multimodal Networks (STAR) guide. The NACTO guides are generally regarded as more progressive and updated more rapidly and frequently than the federal guides. The NACTO guides are explicitly tailored to urban areas but do provide supporting evidence where they agree with the FHWA manuals.

School Areas

The FHWA's Small Town and Rural Multimodal Networks (STAR) guide recommends that it is essential to provide separation for children from motorized traffic in school areas. They recommend that preferred facilities near schools provide as much

separation as possible between children and motorized vehicles. They also recommend that facilities such as sidepaths and paved shoulders should be wider than typical facilities. The STAR guide states that sidewalks are preferred over shoulders (in this case referring to a pedestrian lane of any sort in the road). The STAR guide recommends pedestrian lanes in areas near schools as an interim or temporary accommodation for roadways lacking sidewalks. The design recommendations list an 8ft lane as the preferred width and 5ft as the minimum to allow for side-by-side walking. It recommends a double white line for extra emphasis and to discourage motor vehicle encroachment and states a flexible delineator to increase separation can be used.

Design Alternatives

The KMS Safe Routes to School Plan recommends several design alternatives for the established path. The most basic alternative is a striped lane for walking and biking that provides signage. A similar alternative features the same striping and lane width, but includes a flexible delineator to function in a similar manner to rumble strips to alert a motorist they have drifted out of the vehicle travel lane. Both have a similar treatment regarding intersections. Thick, double white lines are to cross the roadway at the intersection to clearly mark the path for passing motorists. The STAR guide recommends 'No Parking' signage on the pedestrian lane and recommends the lane be for pedestrians only. Considering there are no existing bike paths or bike lanes, it may be preferred by the community to allow the lane to accommodate bicycles as well, given the low volumes of pedestrian and cycle traffic expected. The STAR guide also recommends that as part of the planning process, agencies should consider: detectability by people with vision disabilities, undesired use by bicyclists, accessible cross-slope requirements and maintenance strategies, such as sweeping and snow removal. Flexible delineator posts can be temporarily removed to allow for the clearing the roadway in winter months. The STAR guide recommends a pedestrian lane as a temporary or interim solution until a physical sidewalk can be constructed. For sidewalks, the design guide recommends a 5ft sidewalk with a 4-6ft buffer between the sidewalk and the road, referred to as a "Furnishing Zone" and a 1-2ft buffer between the sidewalk and the adjacent property, referred to as a "Frontage Zone".

Striped Lane with Signage

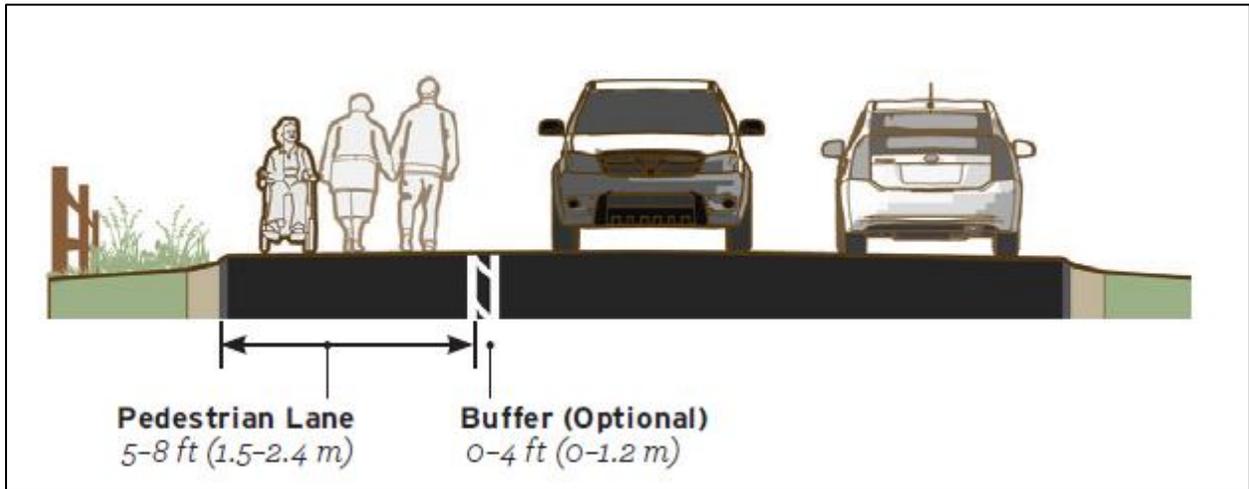
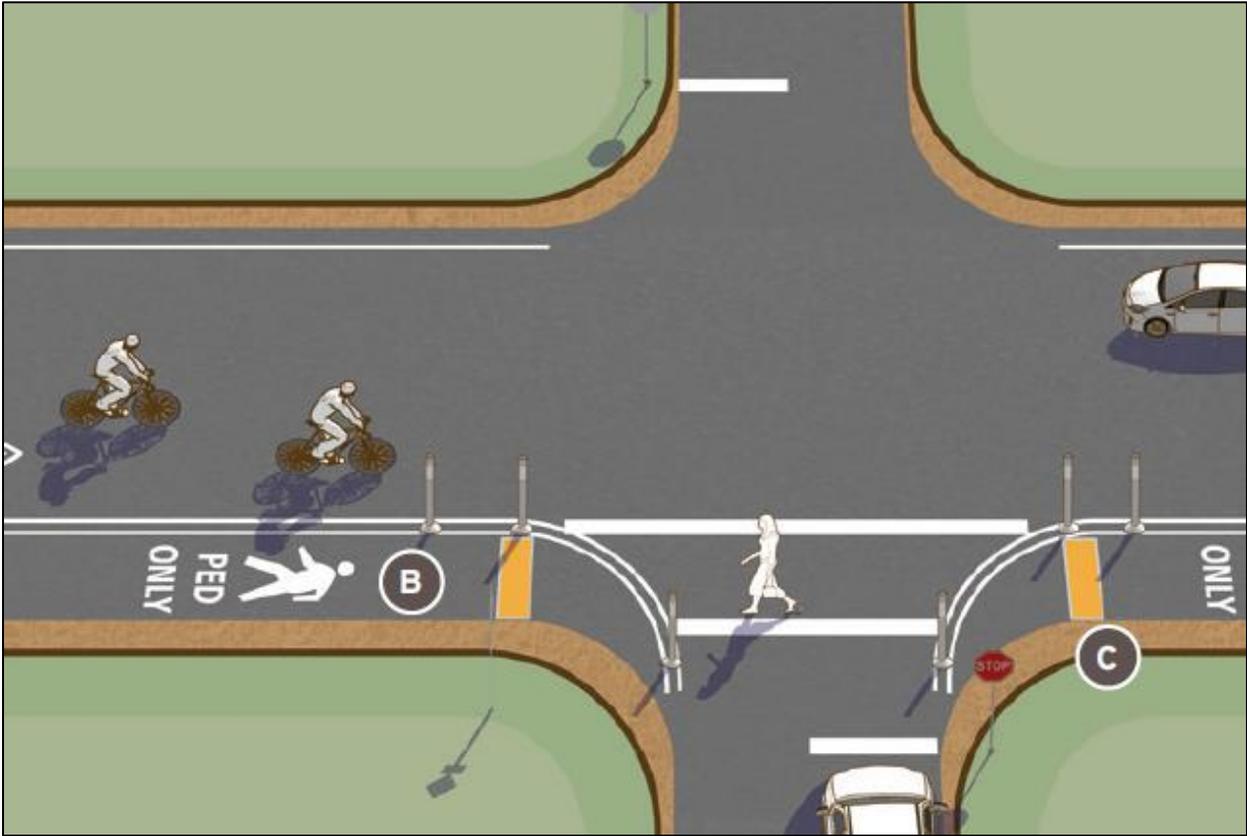


Photo Displaying Recommended Signage



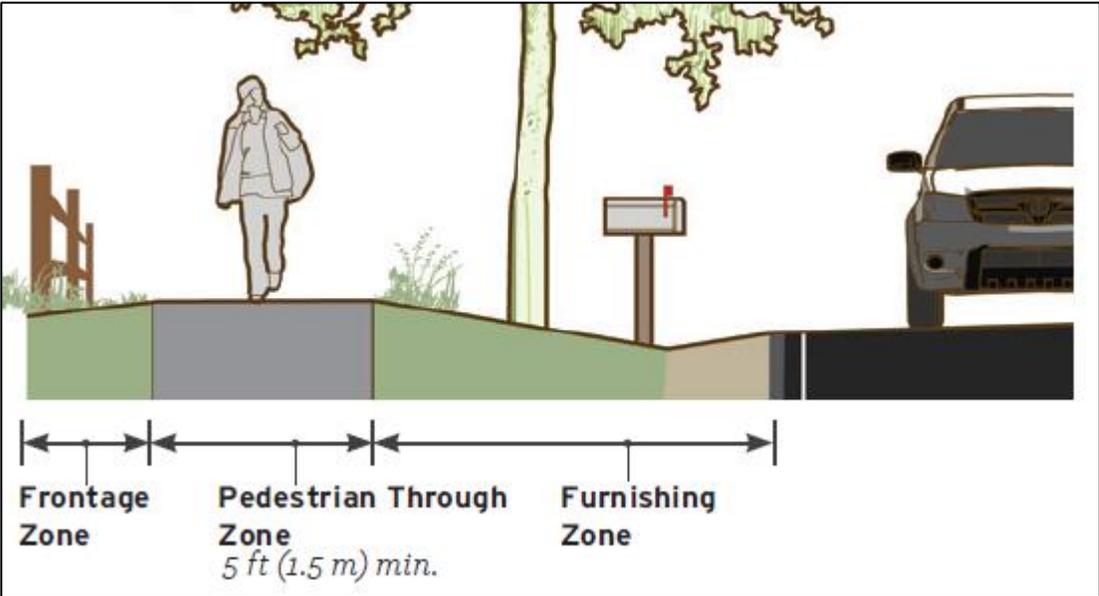
Intersection Treatments



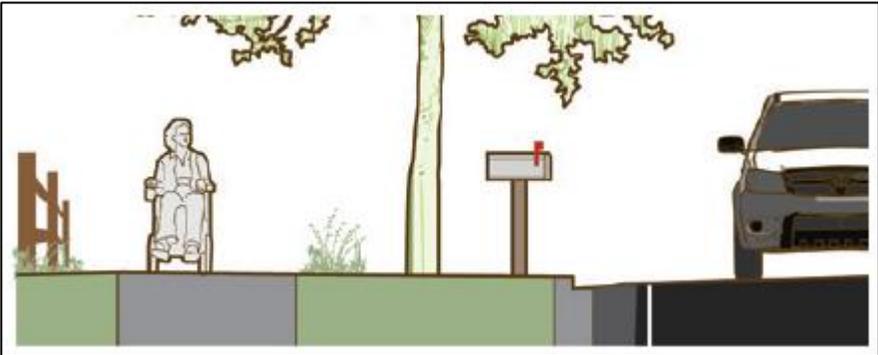
Striped Lane with Flexible Delineator



Five Foot Sidewalk with Frontage and Furnishing Zones



Sidewalk with Wide Furnishing Zone



Sidewalk with Thin Furnishing Zone



Speed and Volume of Traffic on County Road 33

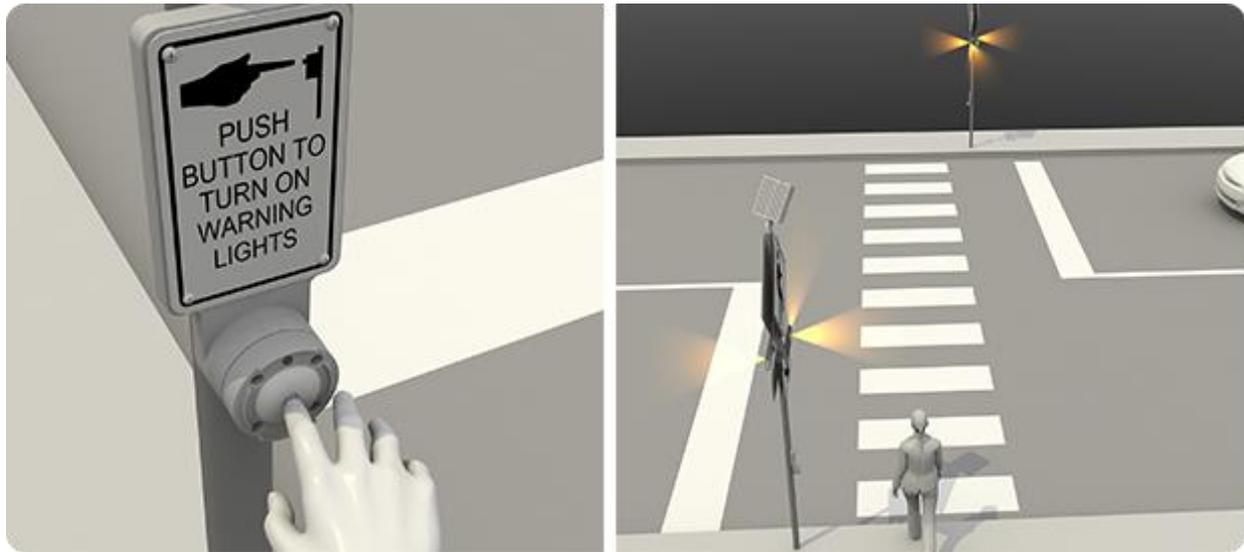
County Road 33 bisects U.S. Highway 12 and runs north to south the entire distance of the City of Murdock. The speed on County Road 33 is 55mph before it reaches the town of Murdock and the first stop sign after the speed reduction is on the corner of N. Hollis Street and Kenner Avenue where the elementary school is located. In our Safe Routes to School planning meetings community members identified their concern that cars may not slow down rapidly enough to reach safe speeds before they arrive at the intersection of the school. They also identified that the back of the school is a block before the stop sign and children may linger in this area.

The recommended Safe Route to School for KMS Elementary School utilizes low average daily traffic local streets for the entire route. For children coming from the east side of the path, there is one intersection where the path must cross County Road 33 with an average daily traffic volume of 580 vehicles. A crosswalk currently exists at this intersection. Given the potential for high speed traffic to enter the school zone from north of this intersection, the Safe Routes to School Plan recommends intervention at this intersection.

Design Alternatives

The KMS Safe Routes to School Plan recommends a pedestrian activated flashing beacon for the recommending crossing. One such example is a Rectangular Rapid Flash Beacon (or RRFB). RRFBs are user-actuated amber LEDs that supplement warning signs at unsignalized intersections or mid-block crosswalks. They can be activated by pedestrians manually by a push button or passively by a pedestrian detection system. RRFBs are a lower cost alternative to traffic signals and hybrid signals that are shown to increase driver yielding behavior at crosswalks significantly when supplementing standard pedestrian crossing warning signs and markings. RRFBs typically receive power by standalone solar panel units, but may also be wired to a traditional power source.

Illustration of a Rectangular Rapid Flash Beacon (or RRFB)



Crossing Guard

To supplement an infrastructure improvement at the recommended crossing of County Road 33 at Kenner Avenue, the Safe Routes to School Plan also recommends an adult crossing guard. Crossing guards help children safely cross the street at key locations. They also remind drivers of the presence of pedestrians. The presence of adult crossing guards can lead to more parents feeling comfortable about their children walking or bicycling to school. While the primary role of an adult school crossing guard is to guide children safely across the street, children also remain responsible for their own safety. In this manner, a guard plays another key function — a role model helping children develop the skills necessary to cross streets safely at all times.

The design and implementation of an adult school crossing guard program is largely the decision of local communities. Ideally, the development of an adult school crossing guard program involves a community partnership that includes the expertise of law enforcement agencies, traffic engineering or planning departments and school systems. The group establishes crossing procedures for a variety of traffic situations as well as hires, trains and equips the guards and secures long-term funding for the program.

Safety Patrol

To supplement the crossing guard and infrastructure improvements and assist with congestion during peak times, the KMS Safe Routes to School Plan also recommends the establishment of a student safety patrol. Student safety patrols enhance enforcement of drop-off and pick-up procedures at school by increasing safety for students and traffic flow efficiency for parents. Such efforts allow students to participate in promoting traffic safety where they learn skills they can use in their everyday lives. Having a student safety patrol program at a school requires approval by the school and a committed teacher or parent volunteer to coordinate the student trainings and patrols. Before beginning a program, school officials should be contacted for approval of the program and to determine how liability issues will be addressed.

Crosswalk

There are currently two crosswalks adjacent to KMS Elementary School. One is located along the north side of Kenner Avenue at the intersection of Kenner Avenue and N. Hollis Street. The second crosswalk is located along the east side of Frederick Street at the intersection of Frederick Street and Kenner Avenue. Both crosswalks are faded and need restriping. The crosswalk at the intersection of Kenner Avenue and N. Hollis Street has accompanying signage, the crosswalk at the intersection of Frederick Street and Kenner Avenue does not. The Federal Highway Administration's Manual Uniform Traffic Control Devices (MUTCD) guide states that warning signs should be installed at crosswalks and adequate visibility should be provided by parking prohibitions. Signage indicating the crosswalk at the intersection of Frederick Street and Kenner Avenue should be installed to comply with federal recommendations.

Railroad Crossing

There is an unbridged railroad crossing at the intersection of County Road 33 just south of U.S. Highway 12. Stakeholders from the community have identified this crossing as a safety concern for their children. The Safe Routes to School path recommends that the children do not cross U.S. Highway 12 or the railroad tracks to the south of the highway.

Staff Parking

Staff parking is a current need for the KMS School District. No parking lot for the elementary school exists, so staff must park on the streets nearby. The parking along Kenner Avenue just in front of the school contributes to the congestion at peak pick-up and drop-off times. The staff also parks on County Road 33, which could potentially create visibility concerns with the recommended crossing at Kenner Avenue and County Road 33. The KMS Safe Routes to School plan is recommending that KMS school staff do not park on County Road 33 and believe staff parking on Kenner Avenue should be addressed in a separate study aimed at identifying engineering alternatives for pick-up and drop-off traffic at KMS Elementary School.

Pick-up and Drop-Off Congestion

The bus and family vehicle traffic along Kenner Avenue directly in front of the school is not currently separated. Combined with the pedestrian traffic in front of the school at peak times, the mixture of traffic creates congestion and could potentially create an unsafe situation for vehicles, pedestrians and bikers. The full engineering study that will be needed to provide design alternatives is outside the scope of this plan, so the KMS Safe Routes to School Plan is recommending a separate study be done.

Background on the school and the community

Census demographics

Murdock is a small city located in the mostly rural region of Western Minnesota. It is located along U.S. Highway 12 that runs from Aberdeen, Washington to Detroit, Michigan, for almost 2,500 miles. U.S. Highway 12 is a thoroughfare that remains an important road for local and regional travel.

Murdock has seen an overall decrease in population of over 27 percent from 1960-2010. The decrease has been steady despite a slight increase from 1990 to 2000. The population is projected to continue to decrease over the next few decades, however at a slower rate than it has in the past.

A high percentage of the City of Murdock population are in the middle and younger age cohorts. Murdock has a more diverse population than other communities of similar size, with 8% of the population being non-white.

Murdock is part of the KMS School District, which has seen a decrease in enrollment over the past decade, however it has had the second slowest rate of decline of all

school districts in the region. Note that data is only available for public school districts.

Regional Plans

Bicycle friendly streets and paths were a focal point for the Upper Minnesota Valley Regional Trails Plan written in 2013. It identified the large number of communities within the region being asked for trails, touted the economic benefits of bicycle tourism, identified intra-city trails as the number one regional priority (specifically identifying trails connecting to schools, city parks and other recreational areas), and listed providing connectivity between: schools, parks, employment areas, commercial and downtown districts, neighborhoods and recreation areas as a guiding principle.

Swift County SHIP Data

The Statewide Health Improvement Partnership collects health data by county on school-aged children biannually. Swift County currently has six public schools in operation: Benson High School, Benson Area Learning Center, Northside Elementary School, KMS High School, Appleton Elementary School and KMS Elementary School.

According to the 2016 Minnesota Student Survey, 37% of 8th grade students in Swift County are classified as overweight or obese. 26% of the 11th grade students are also overweight or obese. The study also found that 21% of 5th grade students are not currently meeting the American Heart Association's recommendation for overall cardiovascular health. 20% of 11th graders are also not meeting this minimum requirement.

The survey found that there is a significant percentage of students in Swift County classified as overweight or obese, both of which are associated with health risks such as high blood pressure or type 2 diabetes. It also found there are many students who are not currently getting the minimum recommended amount of daily activity to protect their health.

Existing conditions: survey results

Distance as a major barrier

We received 107 responses to the Parent Survey out of the 427 currently enrolled children. Households with multiple children in the district were asked to fill out their survey based on information from their youngest enrolled child. This sample size is large enough to produce results that are statistically significant enough to represent

the school. One of the most striking results was that 85% of students live more than 2 miles from the school. This is a good indication that walking trains or walking school buses are going to have the most impact. 69% of students take the school bus. That indicates that a walking school bus implemented with the bus by the school would also affect most students.

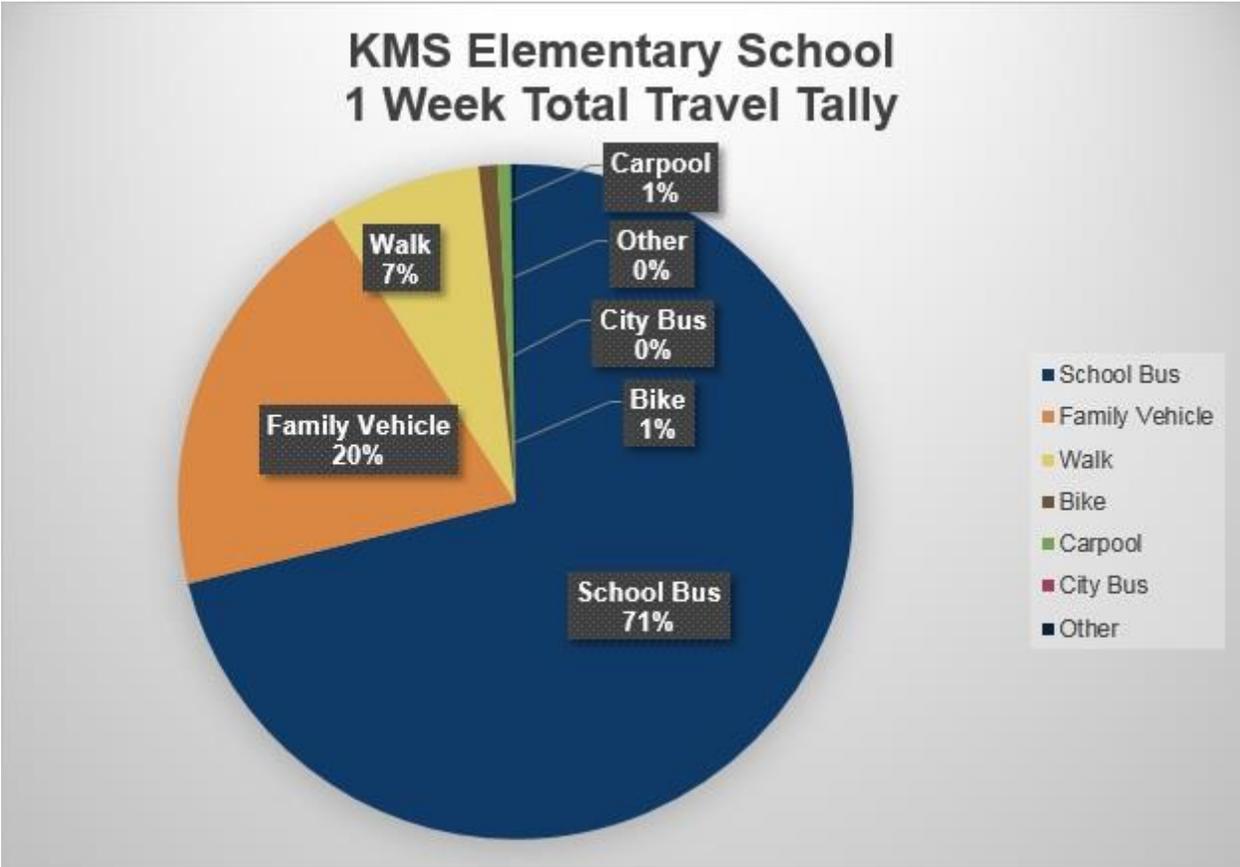
Barriers to walking and biking to school

Parents were polled to determine what changes in the town of Murdock would affect their decision to let their children walk to school. When asked what changes could be made and as a result they would probably let their child walk or bike from school: 22% of parents indicated an appropriate improvement to the amount of traffic, 22% indicated appropriate improvements made to the safety of intersections, 15% indicated appropriate improvements made to the sidewalks, 15% indicated appropriate crossing guards and 9% of parents identified speed of traffic along route as an issue that affects their decision to let their child walk or bike to school.

Student Travel Tally

We received 22 Student Travel Tally responses from 22 unique classrooms over a period of four days (10/3-10/6), which yielded information on 2,554 trips. Mean temperatures were mild- between 46 and 65 degrees each day. The findings from the surveys are illustrated in the charts below.

Student Travel Tally Results Pie Chart

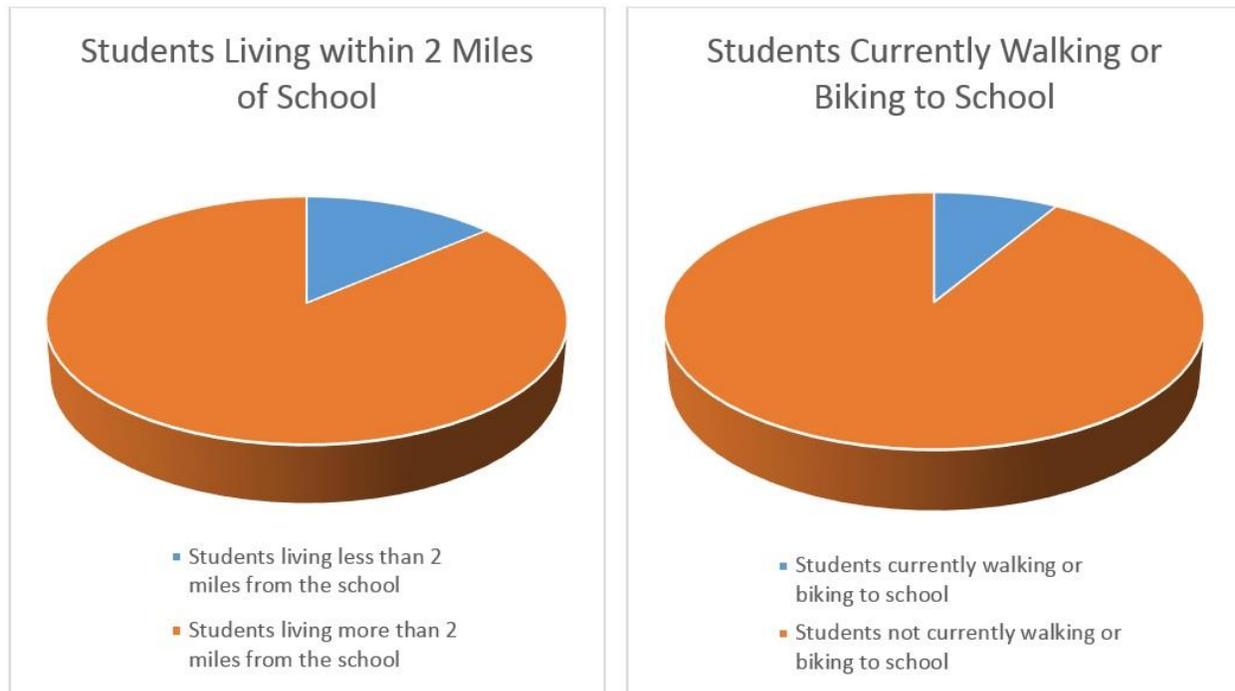


We found most children take the bus or a family vehicle to school- a common thread between the Student Travel Tally and the Parent Survey. The current share of students walking or biking to school is a combined 8%, with walking comprising 7% and bicycle riding the additional 1%. One trend that emerged from morning and afternoon tallies are parents dropping children off in a family car but their child takes the bus home in the afternoon.

Opportunity for mode switch

Our parent survey for the high school found that 14% of students at KMS Elementary School live within 2 miles of the school. Our survey also found that currently only 9% of children that attend KMS High School currently walk or bike to school. That indicates that there is a potential for a 5% increase of students walking or biking to school for children who live within two miles of the school campus. Based on student population of 427, that amounts to just over 21 students.

Percentage of Children Living in Walk/Bike Zone vs. Children Who Walk/Bike Currently



Key findings regarding mode share:

- It appears that if the amount of traffic near the school was reduced or the safety of intersections was improved, we would then enable most of the 15% of students who live within 2 miles of the school to walk or bike to school
- Reducing the amount of traffic and increasing the safety of intersections have the most potential to increase non-motorized mode share
- Based upon the projection from the Parent Survey and based on actual travel patterns from the Student Travel Talley, reducing the amount of traffic children need to navigate on their way to school or increasing the safety of intersections could boost the share of kids walking or biking to school from the current 8% to 14%-17% (based on conservative and liberal estimates, respectively)
- It is difficult to tell what (if any) overlap we have between the two groups
- Sidewalks and pathways were also significant areas where improvements could be made
- Increasing the safety of sidewalks or adding the appropriate crossing guards could boost the share of children walking or biking to school to 11%-15% (a 3-7% increase)

- Reducing the speed of traffic would have less of an impact, increasing the walk/bike share from 8% to 9-11%

Existing conditions: walk and bike audit results

Walking/Biking Audit

The KMS walking and biking audit was completed by Wayne Hurley, Planning Director from West Central Initiative; Ashlie Johnson, Health Educator from Countryside Public Health and Laura Ostlie, Economic Development Planner from Upper Minnesota Valley Regional Development Commission on November 10th, 2017. The audit took place in both the cities of Murdock and Kerkhoven.

Fortunately, the weather turned out to be mild and sunny on that autumn day. Below are a few of the takeaways from the Murdock community:

- There are frequent disruptions in the current sidewalk such as grass grown over, debris covered, etc.
 - The sidewalk in front of the school on the north side of Kenner could potentially use some widening as well as ADA improvements
- There are tall storage sheds adjacent to the NW edge of the school
 - 'No parking' signage could be useful in front of the sheds to offer more visible walking/biking accessibility, specifically during the school drop off and pick up times
- Sidewalks stop prior to the crosswalk to school in multiple locations
 - One potential improvement identified was potentially extending the sidewalk west to the ball fields to provide off street walking and biking to the school amenities
- An unmarked park exists below the city's water tower
 - Signage would be a quick, easy fix to improve the visibility of this existing park space
- The bus loading/unloading is not separated from the parent pick and drop-off. Traffic is regularly congested and disorganized during peak times
 - A potential improvement identified was removing parking directly in front of the school, which would allow for more visibility specifically during pick up and drop off times
- It was observed that the stop sign at the intersection of Clara and North Hollis is hidden behind overgrown trees. Seeing the stop sign is also difficult when a SUV or pickup parks adjacent to the signage

- One potential solution could be a no parking sign go up near the stop sign possibly two-three car lengths in distance
- County Road 105 heading north east out of Murdock had narrow roads without striping on them

Vision: the vision identified by the KMS Safe Routes to School team

We envision safe communities where students, their most valuable resource, can and do walk and bike to school safely

Because regional partners work together creatively to develop the physical and social environment to promote active transportation

Vision: goals identified by the KMS Safe Routes to School team

Goal 1: Increase the number of students walking and biking to school

Goal 2: Increase the number of bicycle and pedestrian facilities and amenities

Goal 3: Educate parents, students, and community members about safe driving, walking and biking practices

Goal 4: Promote walking and biking to school through educational and encouragement programs and events

Goal 5: Increased partnership with local law enforcement

Evaluation plan: detailed plan to evaluate progress over time

Our action plan identified a number of evaluation strategies to measure the success of the KMS Safe Routes to School Plan: administering a student travel tally to benchmark yearly progress, having staff perform pedestrian/bike counts to benchmark yearly progress, distributing a parent survey annually to benchmark yearly progress, evaluating participation in Walk to School Day, meeting to evaluate progress on established Safe Routes Action Plan and working with SHIP to

review county health statistics for school-age children. These strategies all received majority support from our stakeholders. One strategy received minority support, which was: implementing data gathering for other statistics to measure the prevalence of students walking to school. The lead agencies, timeline and costs associated with these evaluation strategies can be found in the implementation steps chart and the action steps section.

Implementation steps: identify timeline and lead agencies or individuals to implement action plan

The UMRDC planning staff compiled a list of suggested strategies based upon public engagement and existing Safe Routes to School Plans from the region. The plan was distributed to the following list of stakeholders to document support for each strategy: the KMS School District School Board, the Murdock City Council, the Kerkhoven City Council and Kerkhoven EDA Board, the KMS School District teaching staff, the Swift County Highway Department, KMS School District Community Members, KMS student parents and the local Statewide Health Improvement Partnership (SHIP) coordinator. We received physical responses from: the KMS School District School Board, the Murdock City Council, the Kerkhoven City Council and Kerkhoven EDA Board, the KMS School District teaching staff and the local SHIP coordinator. We have KMS School District Community Members and KMS student parents represented on the school board as well as well as teaching staff. We also consulted with the Swift County Highway Department on the engineering aspects of the plan affecting the county roads in Murdock. Below is a listing of all the identified strategies and the support they received from the stakeholders listed above.

Action	Strategy Type	Description	Timeline	Cost	Lead/ Partners
Safe Routes Outreach	Education	Use outreach to inform parents, community members, and businesses about the Safe Routes	2017	Low	KMS School District
Walk/Bike to School Map	Education	Distribute a walk/bike to school map	2017	Low	KMS School District/ UMVRDC
Enforce Traffic Laws	Enforcement	Enforce traffic laws on identified state highways and county roads	As needed	Medium	Local law enforcement
Bike Safety Training	Education	Continue to offer bike riding safety training during summer program	Annually	Low	KMS School District/ SHIP
Student Education	Education	Teach students the identified Safe Routes for each school	2017	Low	KMS School District
Safety Patrol Training	Education	Develop safety patrol training for older students	2017	Low	KMS School District
Walk/bike to school days	Encouragement	Establish annual walk/bike to school days to encourage children to try walking to school	2017	Low	KMS School District
Mileage Club	Encouragement	Institute a mileage club that rewards students for increased walking and biking	2017	Low	KMS School District
Walk/Bike Challenge	Encouragement	Institute a walk/bike challenge to promote students walking and biking to school	2017	Low	KMS School District
Crossing guards	Enforcement	Implement adult crossing guards	2017	Medium	KMS School District

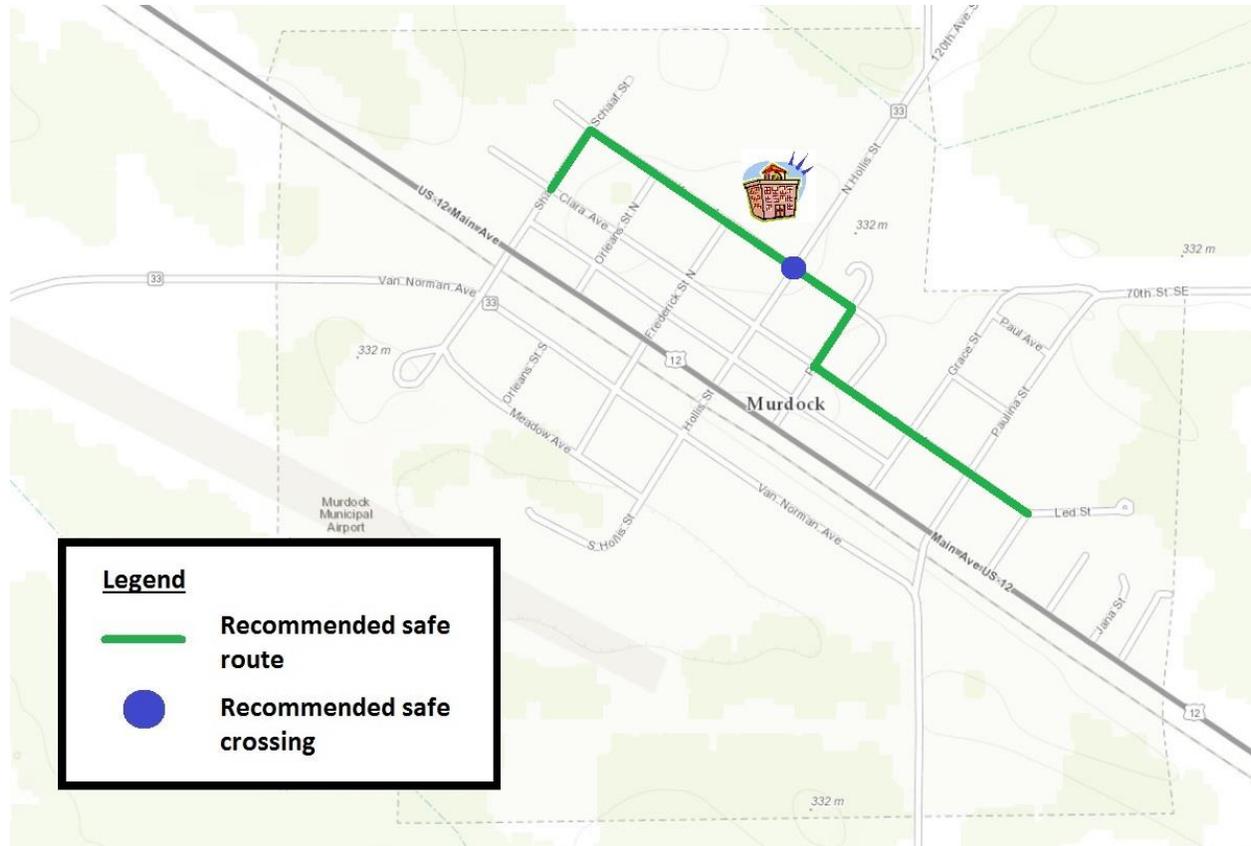
Action	Strategy Type	Description	Timeline	Cost	Lead/ Partners
Pedestrian Warning Signal	Engineering	Install a pedestrian warning signal on N Hollis Street at Kenner or Clara (see example)	As soon as funds are available	High	Swift County Highway Department/ MnDOT
Crosswalks	Engineering	Restripe the crosswalk at the intersection of Kenner Avenue and Frederick Avenue	2017	Medium	City of Murdock
Traffic Study	Engineering	Have a formal study completed to address pick-up/drop-off traffic and identify engineering alternatives	In progress	High	KMS School District
Crosswalks	Engineering	Install a highly visible and adequately marked crossing at Kenner & N Hollis	As soon as funds are available	High	Swift County Highway Department/ MnDOT
Bike Parking	Engineering	Install bike racks and measure utilization	2017	Medium	KMS School District
Yearly Progress	Evaluation	Administer student travel tally to benchmark yearly progress	Annually	Low	KMS School District
Yearly Progress	Evaluation	Have staff perform pedestrian/bike counts to benchmark yearly progress	Annually	Low	KMS School District
Yearly Progress	Evaluation	Distribute parent survey annually to benchmark yearly progress	Annually	Low	KMS School District
Evaluate Participation	Evaluation	Evaluate participation in Walk to School Day	Annually	Low	KMS School District/ SHIP
School Safety	Education	Develop a school safety campaign	2017	Low	KMS School District

Action	Strategy Type	Description	Timeline	Cost	Lead/ Partners
Education in the Classroom	Education	Implement bicycle & pedestrian education in the classroom	2017	Low	KMS School District
Student Safety Patrol	Enforcement	Implement safety patrol program with older students	2017	Low	KMS School District
Enforce Traffic Laws	Enforcement	Enforce traffic laws at identified crossings for improvement	As needed	Medium	Local Law Enforcement
Enforce Traffic Laws	Enforcement	Enforce traffic laws at recommended crossing indicated on the KMS Elementary Safe Routes to School Map	As needed	Medium	Local Law Enforcement
ADA improvements	Engineering	Widen and add ADA improvements on Kenner Ave in front of school	As soon as funds are available	High	KMS School District/ City of Murdock
Signs	Engineering	Add a new 'No Parking' sign on Kenner & N Hollis that will not be obstructed like the current sign	As soon as funds are available	Medium	City of Murdock/ Swift County Highway Department
Sidewalks	Engineering	Identify & fill in missing sidewalk sections	As soon as funds are available	High	City of Murdock
RR Crossing	Engineering	Improve RR crossing intersection	As soon as funds are available	High	City of Murdock and Swift County
Evaluate Progress	Evaluation	Meet to evaluate progress on established Safe Routes Action Plan	Annually	Low	KMS School District
Work with SHIP	Evaluation	Work with SHIP to review county health statistics for school-age children	Annually	Low	KMS School District/ SHIP
Staff Parking Area	Engineering	Construct staff parking area to	As soon as funds are available	High	KMS School District/ City of Murdock

Action	Strategy Type	Description	Timeline	Cost	Lead/ Partners
		accommodate 80 staff vehicles			
Address Congestion	Engineering	Address congestion by providing staff parking	As soon as funds are available	High	KMS School District/ City of Murdock
Traffic Calming	Engineering	Work with SHIP to add trees to N. Hollis Street just NE of Kenner Avenue to calm traffic on County Road 33	2017	Medium	KMS School District/SHIP
Community Education	Education	Place safe route map in the community education brochure	2017-2018	Low	KMS School District
Supervision	Enforcement	Initiate and provide supervision for walkers at end of school day	2017	Medium	KMS School District

Appendix: maps, survey results, assessment data, SRTS funding resources

KMS Elementary School Safe Routes to School Map



Student Travel Tally Results Data Chart

Mode	Morning Tally	Morning Share	Afternoon Tally	Afternoon Share	Total	% of Total
School Bus	886	68%	930	75%	1,816	71%
Family Vehicle	315	24%	190	15%	505	20%
Walk	86	7%	102	8%	188	7%
Bike	12	1%	11	1%	23	1%
Carpool	7	1%	9	1%	16	1%
City Bus	0	0%	0	0%	0	0%
Other	3	0%	3	0%	6	0%

Assessment Data

School Information and Walk/Bike Zone

KMS Elementary School is in the city of Murdock in Swift County, MN. Swift County is located in rural west central Minnesota with a population of 9,783. KMS Elementary School currently has 427 students enrolled that are evenly distributed through the grades of Kindergarten through sixth grade. About 15% of the student population lives in the walk/bike zone of the school district. An unbridged railroad crossing, non-residential streets without sidewalks on both sides, streets with posted speed limits of 40mph or more and streets with gaps in walking biking access can all be found within the town of Murdock. These features all affect the walkability of the City of Murdock.

School Site and Property

KMS Elementary School covers approximately 19 acres and hosts the elementary program. The school can be accessed from two sides on foot or by bike, the northeast and southwest sides (front and back). The school sits on the intersection of a small local road and a county road whose speed limit is 55mph just northeast of the school. The bus loading and unloading are not currently separated from automobile pick-up and drop-off traffic creating congestion along the southwest side of the school during arrival and dismissal times.

Street Profile

Within the City of Murdock there is one U.S. Highway (Highway 12), one county road (County Road 33) and many small, low-traffic local roads. All streets in the City of Murdock are two lanes wide. The curb radii are all classified as small (less than or equal to 15 ft), which can reduce automobile traffic speed. The average daily traffic on County Road 33 adjacent to the school is 580 vehicles per day.

Pedestrian/Bicycle Facilities and Safety

Murdock does not currently have any bicycle facilities in the form of sharrows, dedicated bicycle lanes or otherwise. There are no designated bike routes in the school's walk/bike zone. There are also no existing multi-use paths in the school's walk/bike zone to facilitate biking or create a safe path for children through town. There are some sidewalks, but they are incomplete and completely absent from large areas of the city. Once you leave the school property, sidewalks are in widely varying states of integrity. Most of the sidewalks observed are mostly clear of debris and obstacles. There are two crosswalks in the walk/bike zone, one running parallel to Kenner Avenue crossing N. Hollis Street, and one running parallel to Frederick Street, crossing Kenner Avenue. The crosswalk at Frederick and Kenner has faded and is difficult to identify. The crosswalk at Kenner and Hollis features a

yellow sign. Crossing guards are not present in the morning, but they are present during the afternoon at the intersection of Kenner Avenue and N. Hollis Street. There were no other crosswalks observed in the town other than the two listed. The 2-per-corner ADA ramps were not present at the Murdock Elementary School. All ADA handicap accessible corners observed were 1-per-corner.

Remedial Pedestrian/Bicycle Facilities

There are no pedestrian crossing signals, countdown pedestrian crossing signals, pedestrian hybrid beacons, rectangular rapid flash beacons, raised medians, or pedestrian refuges in the school's walk/bike zone. There are yellow signs placed on Hollis Street as you approach the elementary from the SW or NE direction indicating the speed limit is 20mph when school is in session.

Connectivity and Convenience

Murdock is designed on a traditional grid system that provides direct connectivity. The city is also very compact, dense (497 people per square mile) and mostly located on the north side of U.S. Highway 12. The low traffic volumes on the side streets, combined with the grid system and compact footprint, afford Murdock the opportunity to become a walking and biking friendly town.

Funding Sources:

MnDOT Transportation Alternatives

Infrastructure

The Transportation Alternatives Solicitation is a competitive grant opportunity for local communities and regional agencies to fund projects for pedestrian and bicycle facilities, historic preservation, Safe Routes to School and more. Minnesota will be soliciting projects for approximately \$7.5 million annually in available grant funding across the state.

Non-Infrastructure

Mini-grants award up to \$2,500 to a school to support SRTS activities. This includes training and supplies for school patrol programs, incentives and materials to support walking and biking encouragement events, bicycle racks, and other items to support walking and biking programs at K-12 schools in Minnesota.

Safe Routes to School

MnDOT's planning assistance grant provides planning expertise and plan development support to schools. Planning is completed by the local regional development organization, metropolitan planning organization, or the statewide SRTS planning consultant team. MnDOT will contract directly with the planning organizations and consultant.

BlueCross BlueShield & Center for Prevention Active Places Demonstration Projects:

To make neighborhoods more amenable to walking, biking and other forms of physical activity, BCBS and CFP offer funding for temporary, low-cost projects to help illustrate how small changes to our surroundings make it easier for people to be physically active. And, by giving people opportunities to experience their neighborhoods in a new way, these projects also aim to build support and momentum for more permanent, long-term changes within communities.

PeopleForBikes Community Grant Program:

The PeopleForBikes Community Grant Program supports bicycle infrastructure projects and targeted advocacy initiatives that make it easier and safer for people of all ages and abilities to ride.

PeopleForBikes accepts grant applications from non-profit organizations with a focus on bicycling, active transportation, or community development, from city or county agencies or departments, and from state or federal agencies working locally.

PeopleForBikes focuses most grant funds on bicycle infrastructure projects such as: bike paths, lanes, trails, and bridges; mountain bike facilities, bike parks and pump tracks, BMX facilities, end-of-trip facilities such as bike racks, bike parking, bike repair stations and bike storage.

PeopleForBikes will fund engineering and design work, construction costs including materials, labor, and equipment rental, and reasonable volunteer support costs. For advocacy projects, we will fund staffing that is directly related to accomplishing the goals of the initiative.

PeopleForBikes accepts requests for funding of up to \$10,000. We do not require a specific percentage match, but we do look at leverage and funding partnerships very carefully. We will not consider grant requests in which our funding would amount to 50% or more of the project budget.

SHIP: The Statewide Health Improvement Partnership

SHIP works with communities across Minnesota to make healthy choices possible through locally driven solutions to advance active living. As a result, Minnesota has more communities that are making it easier for residents to integrate walking or biking into daily routines, whether it's for transportation or recreation.

One example of how SHIP gets students moving more is through active classrooms, which integrate physical activity into lessons and increase opportunities for movement during class time. These strategies are proven to enhance students' attention, classroom behavior and academic achievement.

State of state and federal support for SRTS

In 2013, the state legislature allocated \$250,000 per year for Safe Routes to School non-infrastructure programs. In 2014, the state legislature allocated \$1 million per year to the SRTS infrastructure grant program and increased the non-infrastructure funds to \$500,000 per year.