

Addressing Student & Parent Perceptions to Promote Active School Travel

AN OVERVIEW OF MICHIGAN STATE UNIVERSITY'S
SAFE ROUTES TO SCHOOL PROCESS

MICHIGAN STATE
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Executive Summary

A team from Michigan State University has created a unique process for developing Safe Routes to School (SRTS) action plans for Michigan school districts and communities. The goal of SRTS is to promote safe walking and biking to school as well as sustainable transportation modes. The MSU team fosters community engagement through visioning exercises, analyzes data from parent and student surveys and walking audits, and works to address parent and student concerns and perceptions about walking and biking to school. The team uses this data to build consensus, create educational and enforcement interventions, and develop design images and engineering solutions to help communities meet their goals for the program. The MSU team works with schools and communities to develop action plans and strategies to help them prepare SRTS grant applications. This report explores the MSU team’s process through their work with the Manchester Community Schools in Manchester, Michigan.

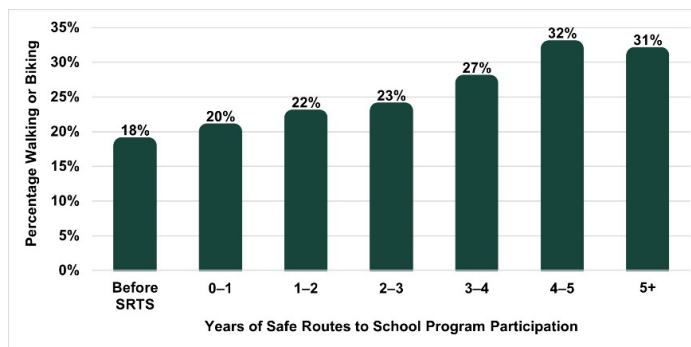
The Safe Routes to School Program

The Safe Routes to School, or SRTS, program is designed to increase the safety and well-being of children who walk and bike to school, with the ultimate goal of encouraging more students to use these active modes of transportation.

The federal SRTS program was created in 2005 in response to the decades-long decline in the percentage of students walking and biking to school. In 1969, about 48% of U.S. students walked or biked to school. By 2009, less than 13% of students were doing so (McDonald et al., 2011).

As part of the SRTS process, local schools, government agencies, businesses, civic organizations, and individuals come together to identify and minimize barriers to active transportation in the community. The partnership is especially helpful for low-income and minority communities that need resources to create and apply sustainable goals that improve children’s health and promote social equity (Lieberman & Zimmerman, 2015). In fact, data from the National Center for Safe Routes to School’s travel mode database showed that after 5 years of SRTS participation, the number of students walking and biking to school increased by an average of 31% (see Figure 1) (McDonald et al., 2014).

Figure 1. Average percentage of students using active transport (walking and biking) to school in the U.S., organized by years of participation in the Safe Routes to School program.



Note. Percentages are rounded to the nearest whole number. Adapted from “Impact of the safe routes to school program on walking and bicycling,” by McDonald, N. C., Steiner, R. L., Lee, C., Rhoulac Smith, T., Zhu, X., & Yang, Y., 2014, *Journal of the American Planning Association*, 80(2), p. 160 (<https://doi.org/10.1080/01944363.2014.956664>). Copyright 2014 by American Planning Association.

The Michigan Fitness Foundation Process & Impacts

In Michigan, the federal SRTS program funding is administered by the Michigan Department of Transportation. MDOT contracts with the Michigan Fitness Foundation to handle day-to-day SRTS administration and programming.

The mission of the MFF is to promote active lifestyles and healthy food choices through education, environmental change, and community programs.

The Foundation (see Figure 2) follows the national SRTS practice of promoting walking and bicycling to school through infrastructure improvements, law enforcement efforts, encouragement tools, safety education, and incentives (SRTS, 2016b). To participate in the SRTS program, a school registers with the Foundation then creates a stakeholder team that includes members of the local community.

One of the tasks of the new team is to help organize three SRTS surveys, which include a student tally, a student survey, and a parent survey.

During the student tally, teachers hand count the number of students arriving and leaving the school building using each of several modes of transportation for three consecutive weekdays (Michigan Fitness Foundation & Michigan Department of Transportation, 2014).



The student and parent surveys are administered online and are designed to measure the perceptions of parents and students related to transportation options to and from school (MFF & MDOT, 2014).

The stakeholder team also organizes a walking audit and an optional bike audit of school routes within about one-half mile of the school. During the walking audit, participants write descriptions and take photos of safety hazards and infrastructure deficiencies.

After the surveys are closed, the MSU Team works with the stakeholder group to create a draft action plan” to a revised sentence reading, After the surveys are closed, the MSU Team/MFF Grant Coordinator works with the stakeholder group to create a draft action plan. The plan incorporates the survey results and addresses the elements of “The Six E’s

Framework” (see Table 1): education, encouragement, enforcement, engineering, evaluation, and equity (SRTS, 2016a).

With the draft action plan in hand, communities are eligible to apply for SRTS grants to help address the issues outlined in the plan.

Of the 3,760 elementary and middle schools in Michigan, 522 have participated in and received grant funding through the SRTS program. Nearly 300,000 Michigan students have participated in or benefited from the SRTS program. The regions with the highest percentage of schools participating in the SRTS program have been the eastern Upper Peninsula and the Lansing area. Figure 3 shows the distribution of all Michigan schools and of those participating in the SRTS program.

Figure 2. The Michigan Fitness Foundation Safe Routes to School process.

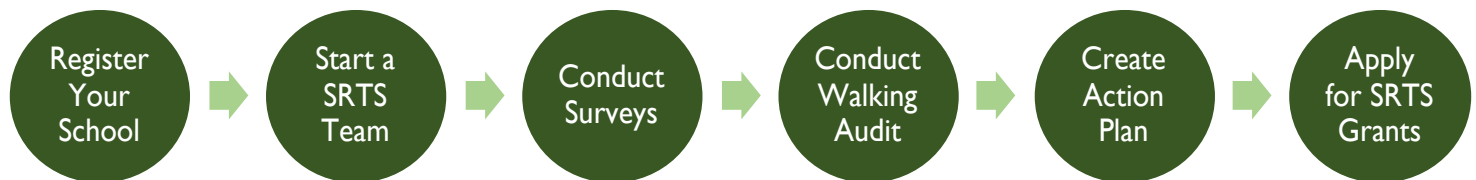
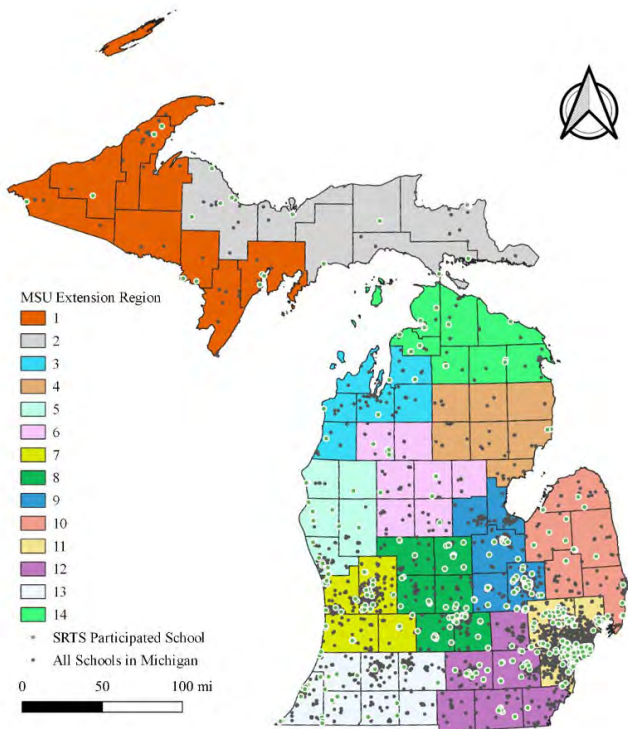


Table 1. The six E’s of the Safe Routes to School program.

Element	Explanations
Engineering	Creating operational and physical improvements to the infrastructure surrounding schools that reduce speeds and potential conflicts with motor vehicle traffic and that establish safer and fully accessible crossings, walkways, trails, and bikeways.
Education	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.
Enforcement	Partnering with local law enforcement to ensure that traffic laws are obeyed in the vicinity of schools (this includes enforcing speed limits, yielding to pedestrians in crosswalks, and proper walking and bicycling behaviors) and initiating community enforcement such as crossing guard programs and student safety patrols.
Encouragement	Using events and activities to promote walking and bicycling and to generate enthusiasm for the program with students, parents, staff, and community members.
Evaluation	Monitoring and documenting outcomes, attitudes and trends through the collection of data before and after the intervention(s).
Equity	Ensuring SRTS initiatives benefit all demographic groups, providing more opportunity for underprivileged students to engage in healthy transportation choices.

Note. Adapted from “Impact of the safe routes to school program on walking and bicycling,” by McDonald, N. C., Steiner, R. L., Lee, C., Rhoulac Smith, T., Zhu, X., & Yang, Y., 2014, *Journal of the American Planning Association*, 80(2), p. 160 (<https://doi.org/10.1080/01944363.2014.956654>). Copyright 2014 by American Planning Association. Adapted with permission. As of 2021, the six E’s framework has been updated. For more information, visit the link <https://saferoutesmichigan.org/getting-started/>.

Figure 3. Distribution of public and private Michigan school districts that have participated in the Safe Routes to School program up to 2019.



Parent & Student Perceptions of Barriers to Active School Travel

As mentioned earlier, parents and students at each school participating in the SRTS program are surveyed to help identify issues keeping students from walking and biking to school. The top three concerns of the just over 4,200 parents who completed the survey were (see Figure 4):

- Traffic volume
- Traffic speed
- Safe crossings at intersections

The Michigan Fitness Foundation also surveyed 4,125 third through eighth grade students to find out what they thought about walking and biking to school. The survey results showed that:

- Many students, if given the choice, would opt for active transportation modes (see Figure 5).
- Most students agreed that walking and biking to school is fun, safe, cool, and healthy.
- Students indicated the top three ways to create a friendlier environment for them to walk and bicycle to school were to have 1) friends to walk or bike with, 2) sidewalks present all the way to school, and 3) sidewalks clear of snow (see Figure 6).



Addressing the issues related to walking and biking to school that matter most to parents and students takes a combination of four of the Six E's Framework: education, enforcement, encouragement, and engineering (SRTS, 2016a). The MSU Team has developed a unique process to help communities create SRTS action plans and design alternatives that address parent and student needs and perceptions.

Figure 4. Issues affecting parent decisions to allow their children to walk or bike to school.

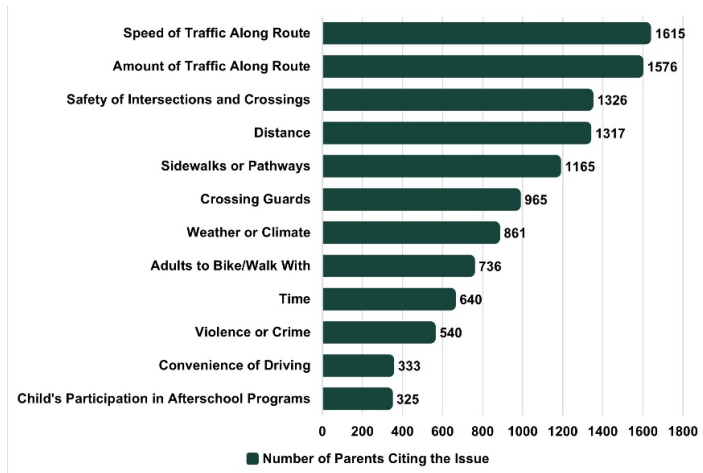


Figure 5. Percentages of students reporting each of several travel methods between home and school that they normally use compared to the percentage of students who say they would prefer to use those methods.

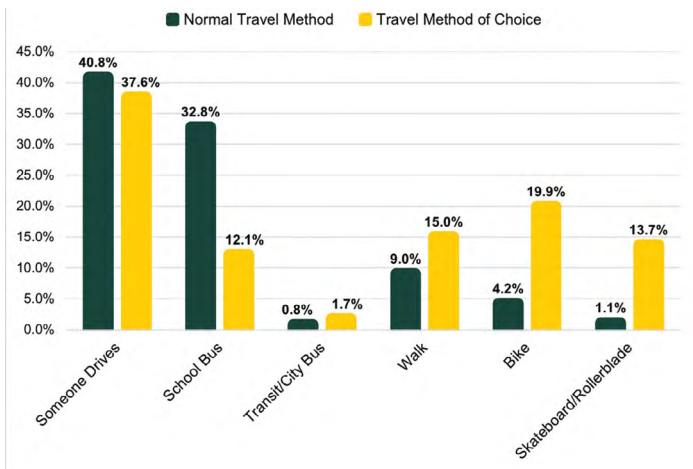
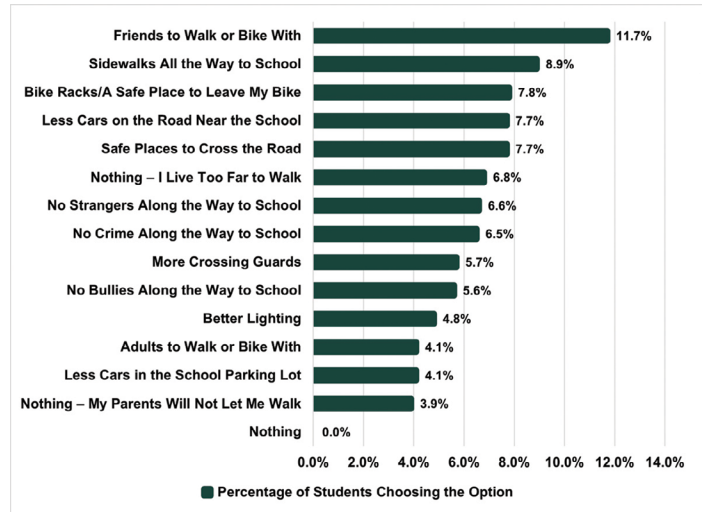


Figure 6. Student rankings of several factors when deciding to walk or bike to school.



The MSU Team Process

Michigan schools that are participating in the SRTS program have the opportunity to work with a team of experts from Michigan State University. The MSU Team helps communities identify barriers to walking and biking to school, offers planning and design assistance, and helps schools prepare an action plan leading to an SRTS grant application. The MSU Team process (see Figure 7) includes the following steps:

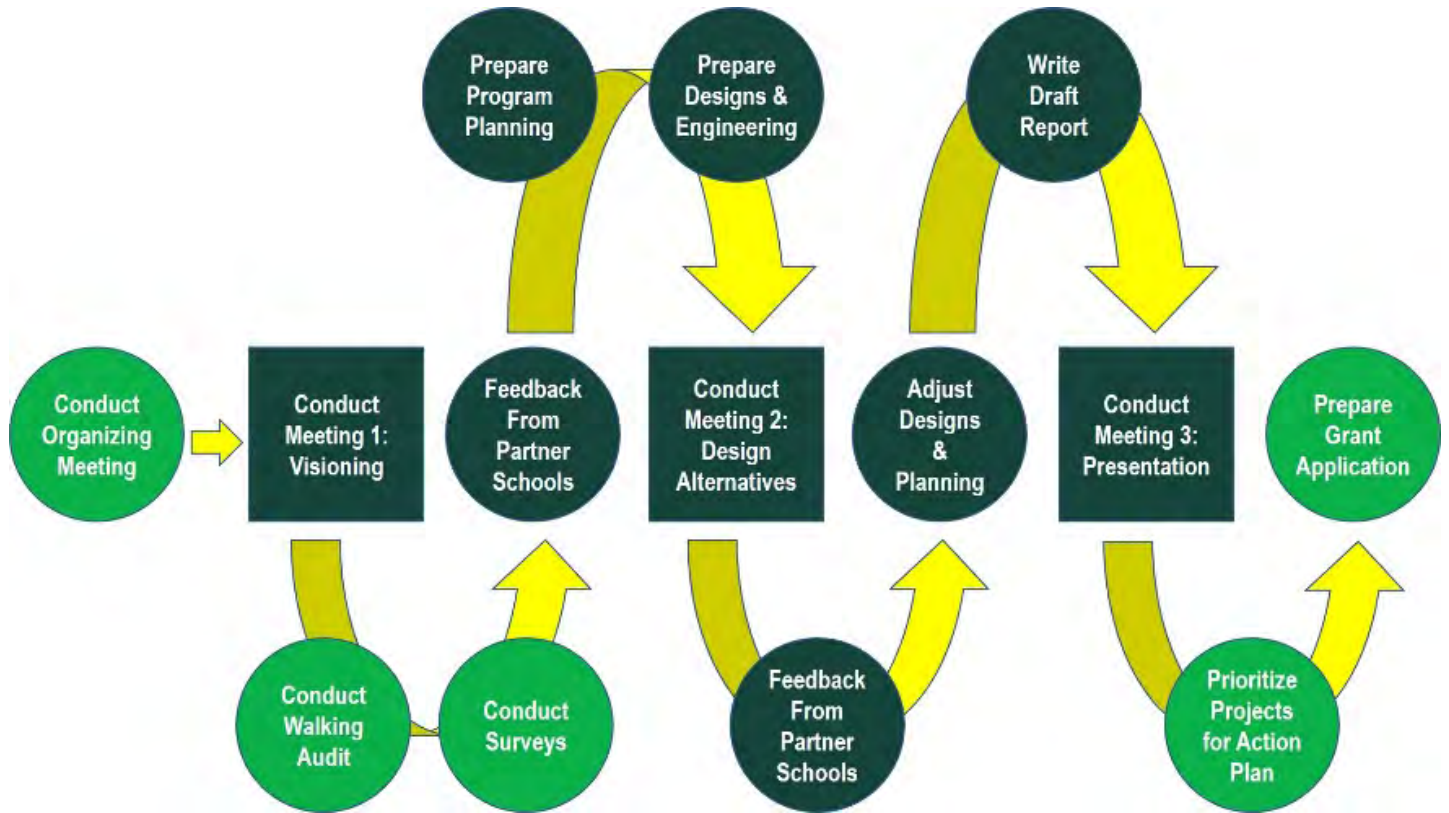
- Organizational Meeting
- Community Meeting 1: Visioning
- Program Recommendations
- Engineering and Design
- Community Meeting 2: Planning and Design Alternatives
- Community Meeting 3: Final Presentation

WHO (OR WHAT) IS “THE MSU TEAM”?

“The MSU Team” members who work with Michigan schools that are participating in the Safe Routes to School program are from these units at Michigan State University:

- MSU College of Engineering (<https://www.egr.msu.edu/>)
- MSU Extension (www.extension.msu.edu)
- MSU School of Planning, Design, and Construction (<https://www.canr.msu.edu/spdc/>)

Figure 7. The Safe Routes to School design process.



ORGANIZATIONAL MEETING

The MSU Team process begins with an organizational meeting of key community members to coordinate the overall SRTS planning process and identify stakeholder responsibilities (Beyea et al., 2016).

COMMUNITY MEETING 1: VISIONING

First, the MSU Team gathers stakeholders, community members, parents, and students for an initial visioning input meeting. The MSU Team uses this meeting to build purposeful engagement focusing on building trust and communication within the community before any statistics are gathered or any decisions are made.

Participants are prompted with three questions to communicate their issues and concerns:

- **What is working well?** This simple but leading question helps participants identify existing infrastructure that helps students travel safely and current programs and activities that encourage safe walking and biking practices.
- **What is not working well?** This question encourages community members to talk about their

COMMUNITY VISIONING QUESTIONS

- What is working well?
- What is not working well?
- What are some improvements you would like to see?

fears and concerns related to student participation in active transportation modes. When asked this question, participants often point out specific threats to student safety or problems with the built environment around the school building.

- **What are some improvements you would like to see?** Asking this allows participants to suggest short- and long-term fixes that could transform their communities for the better.

These visioning questions help the MSU Team create better preliminary program and design recommendations. They also help increase stakeholder understanding of local issues and conditions, which can eventually inspire greater community buy-in related to the design ideas and action plan.



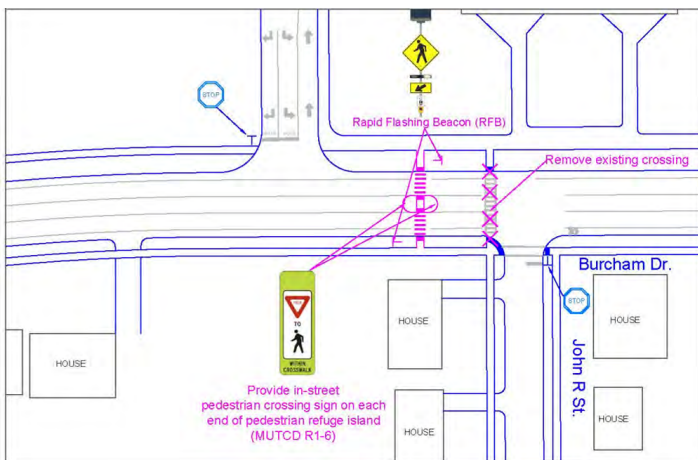
PROGRAM RECOMMENDATIONS

Once an understanding of the community’s needs is established through the visioning input meeting, the MSU Team creates an interdisciplinary list of preliminary programmatic interventions based around “The Six E’s Framework” (SRTS, 2016a). The MSU planning team synthesizes the responses of the community and their suggestions for improvement, while incorporating information from student and parent surveys provided by the Michigan Fitness Foundation, the walking audits, and additional visits to the priority routes to and from the schools.

From the MSU Team’s experience, some of the most popular “education” strategies are to spread awareness about SRTS through distribution of promotional materials to students and parents, increase in-class discussion about safe walking and biking, and encourage publicity through local media. Some of the most popular “encouragement” strategies are to organize a bicycle rodeo, organize a bicycle train or walking school bus, and promote a biannual walk and bike to school day competition.

Lastly, popular “enforcement” strategies include creating a neighborhood speed watch, inviting local law enforcement to school for a safety demonstration, recruiting more adult crossing guards, and developing or reinvigorating a student safety patrol.

Figure 8. A site or concept drawing for crossing upgrades near Marble Elementary School in East Lansing, Michigan, from an MSU Safe Routes to School action plan.



ENGINEERING & DESIGN

The MSU Team uses the feedback from the student tally, the parent and student surveys, the walking audits, and the public meetings to create custom before-and-after design imaging and engineering recommendations. Based on the collective recommendations of the community, in addition to information obtained during the site audits, the engineering team recommends appropriate infrastructure improvements in a series of site or concept drawings for the affected areas (see Figures 8 and 9).

Some of the most popular engineering strategies are focused on the improvement of infrastructure, such as new sidewalks or paths, crosswalk enhancements, traffic control device upgrades, and new bicycle infrastructure (such as installing bike racks).

The design team then creates design images of these recommendations (see Figures 10, 11, and 12) to help community members visualize the suggested changes. Seeing such images can help build consensus and shift parent perceptions (Crawford et al., 2018).

Figure 9. A site or concept drawing for a new pathway to school from an MSU Safe Routes to School action plan for Madison Public Schools in Adrian, Michigan.

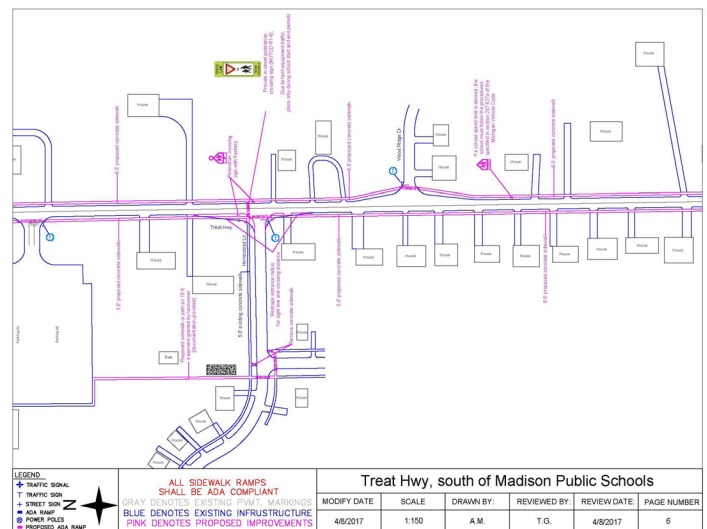


Figure 10. Before (left) and after (right) design imaging for a primary school crossing upgrade from an MSU Safe Routes to School action plan. (Photos by MSU SPDC)



Figure 11. Before (left) and after (right) design imaging for a new pathway to school from an MSU Safe Routes to School action plan. (Photos by MSU SPDC)



Figure 12. Before (left) and after (right) design imaging for school bicycle racks from an MSU Safe Routes to School action plan. (Photos by MSU SPDC)





COMMUNITY MEETING 2: PLANNING & DESIGN ALTERNATIVES

Program recommendations, design images, and survey and walking audit results are presented at the second meeting of community stakeholders. The MSU Team uses community feedback from this meeting to draft an action plan. Stakeholders and the public can review and offer feedback on before-and-after design images at this meeting.

After the meeting, the MSU Team incorporates the meeting feedback into the design imaging and individual school plans, then prepares a draft report for the final presentation meeting.

COMMUNITY MEETING 3: FINAL PRESENTATION

During the final presentation meeting, the MSU Team presents their improved planning, design, and engineering recommendations to the community, along with recommendations about the next steps to take to implement the plan. To help the community prepare an SRTS Michigan Fitness Foundation grant application, the MSU Team delivers a final written report with recommendations on how to allocate funds and implement programmatic solutions.

The MSU Team has worked with 12.2% of all Michigan SRTS participating schools. About 133,000 Michigan students have been affected by the MSU Team's SRTS program.



Case Study: Safe Routes to School in Manchester Community Schools

One of the success stories related to the MSU Team SRTS process comes from the team's work with the Manchester Community Schools.

Manchester, Michigan, is about 25 miles southwest of Ann Arbor and has about 2,100 residents. Manchester is a regional leader in fitness practices. It is a member of the 5 Healthy Towns Foundation fitness alliance with Chelsea, Dexter, Grass Lake, and Stockbridge (Jenks, 2017; U.S. Census Bureau, 2018).

In 2013, when Manchester worked with the MSU Team, the school district had about 1,000 students in three schools:

- Luther C. Klager Elementary School (grades K-2)
- Riverside Intermediate School (grades 3-6)
- Junior/Senior High School (grades 7-12; did not participate in the SRTS process)

That year, the MSU Team facilitated an initial community visioning meeting and a walking audit that identified a variety of improvements that were needed to improve access to the participating schools. Safety issues were also identified, such as traffic speed, faded crosswalk lines, sidewalk distance to road, limited signage, and degraded infrastructure such as potholes and pavement cracks (Jenks, 2017).

Manchester parent surveys identified obstacles to active school travel such as long distances to travel between the school and student residences, traffic speed and volume along student routes, and a lack of sidewalks (Jenks, 2017). Manchester student surveys indicated that if given the chance, most students would choose a method of active transportation (such as walking, biking, skateboarding, or inline skating).

The parent responses indicated that safety issues were preventing them from allowing their children to participate in active transportation (Jenks, 2017). To address the barriers that students and parents perceived, the MSU Team prioritized safety improvements on routes that students use to walk and bike to school. This both addressed parent's concerns and provided greater access for students.

The MSU Team took into account community feedback gathered at the visioning meeting in developing before-and-after design images and strategies to address community concerns in meeting 2. Figure 13 shows a before-and-after set of design images that was created for Manchester. The improved "after" image highlights the increased safety of the crossing at an intersection after crosswalks were zebra striped and crosswalk alert signs, truncated domes, and detectable warning

Figure 13. Before (left) and after (right) design imaging for street crossing upgrades from the MSU Safe Routes to School action plan for Manchester Middle School. (Photos by MSU SPDC)



pavers (to alert people with visual impairments that they are about to enter the roadway) were installed. Groups of students are also seen walking together in a walking school bus formation (a popular encouragement strategy).

With guidance from the MSU Team’s final report and assistance and cooperation from local partners, the Village of Manchester applied for and was awarded more than \$350,000 in SRTS grants to implement more of their action plan (Jenks, 2017). The Manchester community drew on the SRTS “Six E’s Framework” in establishing “Walk to School Wednesdays,” participating in “International Walk to School Day,” and conducting a bike rodeo (Jenks, 2017).

At the bike rodeo, Manchester students were taught important bicycling and other safety skills to encourage and equip them to bike safely between home and school (Jenks, 2017). Providing bicycle skill training and safety information helps to educate students and also increases parents’ comfort levels with their children’s participation in active transportation.

The Village of Manchester also made infrastructure improvements such as sidewalk repair and replacement.

In interviews after the formal SRTS process ended, respondents reported that their perceptions of general safety increased and that they and their children were using active transportation more. The majority of respondents described the program as “very successful” (Jenks, 2017). The Manchester SRTS program increased residents’ feelings of health and safety thanks to the MSU Team’s effective collaboration, engineering and design expertise and technical skills, and planning best practices that engaged the community.

Conclusion

Michigan State University has assisted communities in the SRTS program by:

- Engaging community stakeholders.
- Addressing the barriers to walking and biking to school that students and parents identified.
- Developing action plans that have gained community acceptance.
- Guiding communities through the SRTS grant process.

The designs, strategies, and recommendations the MSU Team develops:

- Are tailored to meet each community’s specific needs.
- Align closely with the Michigan Fitness Foundation’s Safe Routes to School program outline to help increase the grant approval success rate.

The MSU Team uses community discussions and feedback, survey data, infrastructure assessments, and four of the six elements of the Six E’s Framework (education, encouragement, enforcement, and engineering) to develop and recommend action plans that address community needs. The MSU Team’s approach includes public awareness campaigns and community outreach efforts, as well as fun, educational activities and events that help encourage students to walk and bike to school.

Clearly, the SRTS program has the potential to fundamentally shift the travel behavior of students and parents by creating positive perceptions of walking and biking to school.



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ADDITIONAL RESOURCES

The following resources offer more information on the history, policies, procedures, research base, and successes of the federal Safe Routes to School program.

- **Safe Routes: National Center for Safe Routes to School** (saferoutesinfo.org) - The National Center is part of the University of North Carolina Highway Safety Research Center.
- **Safe Routes Partnership** (saferoutespartnership.org)
- **Our Work: Safe Routes to School** (<https://michiganfitness.org/places/safe-routes-to-school>) - This web page offers a brief overview of how the Michigan Fitness Foundation administers the SRTS program in Michigan.





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