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CAPSTONE PROJECT REPORT

UCLA Institute of Transportation Studies

Safe Routes to School

St. Louis & Beyond

Project Lead: Jin Zhang
Faculty Advisor: Anastasia Loukaitou-Sideris
Client: Trailnet

June 2023

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16. Abstract

Since the passing of the Bipartisan Infrastructure Bill in 2021, high schools and nonprofits are now (re)eligible for Safe Routes to School (SRTS) funding. This capstone's client, Trailnet, is an active transportation non-profit based in St. Louis, Missouri, where the capstone project will center its work. Trailnet has tasked this project with addressing three questions: 1) why there is a lack of programmatic funding in the St. Louis region 2) how current successful/engaged SRTS programs around the nation are operating and 3) how Trailnet could practically support local school districts.

In pursuit of these questions, this capstone followed a three-prong approach. By conducting informational interviews with national SRTS practitioners, working with a local school district (Bayless), and researching funding evaluation criteria in the region, we were able to highlight both challenges and opportunities for kids walking and biking to school in St. Louis. Specifically, we address the challenges that resource-scarce school districts face in applying for national funding and the importance of building coalitions and having champions at the school level. To tackle these resource constraints, we propose the creation of a planning assistance fund and an administrative support fund, similar to those of Oregon, for communities that could be classified as "support priority". The first will provide resources to help schools compile initial resources necessary to be competitive for national funding while the latter will help sustain schools with programming support upon receipt of grant money. Additionally, this capstone pursued an extensive evaluation of current funding criteria and made recommendations for updated priorities that highlight environmental and transportation justice considerations.

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Safe Routes to School in St. Louis & Beyond

A comprehensive project submitted in partial satisfaction of the requirements for the degree Master of Urban and Regional Planning.

Authored By: Jin Zhang
Faculty Advisor: Anastasia Loukaitou-Sideris
Sponsored Client: Trailnet

Disclaimer:

This report was prepared in partial fulfillment of the requirements for the Master in Urban and Regional Planning degree in the Department of Urban Planning at the University of California, Los Angeles. It was prepared at the direction of the Department and of Trailnet as a planning client. The views expressed herein are those of the authors and not necessarily those of the Department, the UCLA Luskin School of Public Affairs, UCLA as a whole, or the client.

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Executive Summary:

Since the passing of the Bipartisan Infrastructure Bill in 2021, high schools and nonprofits are now (re)eligible for Safe Routes to School (SRTS) funding. This capstone's client, Trailnet, is an active transportation non-profit based in St. Louis, Missouri, where the capstone project will center its work. Trailnet has tasked this project with addressing three questions: 1) why there is a lack of programmatic funding in the St. Louis region 2) how current successful/engaged SRTS programs around the nation are operating and 3) how Trailnet could practically support local school districts.

In pursuit of these questions, this capstone followed a three-prong approach. By conducting informational interviews with national SRTS practitioners, working with a local school district (Bayless), and researching funding evaluation criteria in the region, we were able to highlight both challenges and opportunities for kids walking and biking to school in St. Louis. Specifically, we address the challenges that resource-scarce school districts face in applying for national funding and the importance of building coalitions and having champions at the school level. To tackle these resource constraints, we propose the creation of a planning assistance fund and an administrative support fund, similar to those of Oregon, for communities that could be classified as "support priority". The first will provide resources to help schools compile initial resources necessary to be competitive for national funding while the latter will help sustain schools with programming support upon receipt of grant money. Additionally, this capstone pursued an extensive evaluation of current funding criteria and made recommendations for updated priorities that highlight environmental and transportation justice considerations.

Introduction:

Public school districts around St. Louis have had problems sustaining their schools in the last decade. After years of declining enrollment, St. Louis Public School District closed six schools in the 2021 school year – four elementary schools, one middle school, and one high school[1]. As a result, students who attended those schools were shuffled around for other viable alternatives. This reconfiguration, compounded by the bussing shortage and the school district's reliance on independently organized transport vehicles (club, religious, parent) vans and gas vouchers, has increased a sense of general anxiety among parents about how students get to school.[2] Simultaneously, programmatic interventions

[1] Ryan Delaney, "St. Louis Public Schools Will Close 8 Schools, Sparing 3."
[2] Bernhard, "School Bus Driver Shortage Means No Rides for Thousands of St. Louis Students."

that could provide alternative solutions to this safety issue such as Safe Routes to School (SRTS) programs, have not been funded in the Eastern Missouri region for the last ten years[3]. SRTS programs effectively fund school programming that focuses on children's commutes to and from school through active means of transportation (walking, biking, rolling, etc.).

As such, this capstone project pursued three methods to respond to the above questions. It examined Missouri's funding landscape comparatively across other states through a national scorecard and followed up by examining St. Louis' metropolitan planning organization evaluation criteria for specific regional research. Secondly, it gathered qualitative interviews with two groups of national SRTS practitioners – one group highly engaged with their SRTS programs and the other group with varying levels of engagement but with similar state support mechanisms as Missouri. Lastly, it worked with Bayless School District, a public school district containing one elementary, middle, and high school to gather student commute data and parent preferences on active transportation options (among others).

Both research and qualitative interviews highlight the importance of including more equity-centered evaluation criteria and state support mechanisms as well as the importance of local champions and partnerships when programs start running. This capstone took a holistic approach to examining SRTSS and makes recommendations on state, regional, and local levels to hopefully capture the different opportunities in which various stakeholders could engage. As such, this capstone is also limited to only these recommendations and subsequent follow up studies and work are necessary to actualize these suggestions.

What is Safe Routes to School?

More than just a transportation or education issue, the dialogue surrounding safe routes to school (SRTS) simultaneously tackles problems related to: youth health indicators, public safety within the built environment, environmental hazards, multi-modal transportation, and much more. While SRTS has been a federally funded program for more than a decade now, there is still limited academic research on its impacts on overall community views towards active transportation, and a lack of examination of specific SRTS programs within Missouri. Consequently, while this literature review will serve to evaluate the current landscape of research devoted to studying the concerns and habits of parents, children, and schools as it relates to SRTS

[3] SRTS distinguishes between programmatic and infrastructure interventions. While the Eastern Missouri region has not funded programmatic SRTS within the last decade, it has been funding infrastructural SRTS interventions.

and its impacts, a more comprehensive perspective of SRTS would not be complete without an evaluation of successful case studies and sustained programs.

The safe routes to school concept originated in Odense, Denmark in the 1970s upon growing concerns about the safety of children walking and biking to school[4]. Two decades later, Bronx in New York City piloted the first ever Safe Route to School (SRTS) program in the United States (1997), while the same year saw the state of Florida commissioning its own pilot programs. Congress subsequently funded two pilots in August of 2000 through the National Highway Traffic Safety Administration (NHTSA), successfully generating momentum and interest for a nationally funded federal program. As states began to build and sustain their own programs, federal transportation legislation SAFETEA-LU devoted $612M for a national SRTS Program in 2005. Since its initial funding, SRTS has also been included in the Moving Ahead for Progress in the 21st Century (MAP-21) initiatives as eligible for funding alongside other alternative transportation programs. Most recently, the passing of the Bipartisan Infrastructure Bill (2022) has allowed nonprofit organizations and high schools to vye for SRTS funding.

Multiple studies have shown declines in the use of active school transportation (AST) over the last fifty years. According to a study by McDonald in 2011, "in the United States, nearly half (49%) of children aged 5 to 14 (i.e. kindergarten to grade 8) actively traveled to school in 1969, but by 2009, only 13% engaged in active school travel (AST)"[5]. Rothman and colleagues' systematic review of the decrease in AST and its related factors for school travel in North America examines the results of 72 papers published over the course of 1990-2016. Selected from an original pool of 13,709 papers, Rothman's publication is one of the most rigorously reviewed and comprehensive-in-scope papers. Rothman and colleagues found that 'car access' and 'distance' were the only two variables that were strongly (negatively) correlated with AST, with a wide range of other variables as moderately associated (age, grade, race, children's attitudes, parents education, parents attitudes, income levels). They highlight a thread that is continuously reiterated throughout the academic research on SRTS: distance is the greatest inhibitor to active school transportation. These findings parallel Ham's studies in Rothman et. al, that "34.7% of students aged 5–18 years lived within one mile of their schools in 1969, dropping to 19.4% by 2001 [and that] the percentage of students living 3.0 miles or more away from their schools increased from 32.6% to 52.0% over the same period"[6].

McDonald & Aalborg build off Rothman's work with more nuanced findings by conducting phone interviews with 403 sets of parents of children ages 10-14 in the San Francisco Bay Area to determine why they drive their children to school. Also tackling the topic of distance inhibiting AST, McDonald & Aalborg find that: "for trips under 2

[4] Pedestrian and Bicycle Information Center of the University of North Carolina, and Highway Safety Research Center, "Safe Routes to School Guide."
[5] Noreen McDonald et al., "US School Travel, 2009: An Assessment of Trends."
[6] Linda Rothman et al., "The Decline in Active School Transportation (AST): A Systematic Review of the Factors Related to AST and Changes in School Transport over Time in North America."

miles, 42% of children in our study walked or biked to school, a rate comparable to the overall U.S. average for this distance … [while] approximately three fourths of children living less than one half mile from school walked or biked. This declined to 18% for trips of between 1 mile and 1.5 miles."[7] More importantly, they found that 75% of parents driving their kids less than 2 miles to school did so because of convenience, specifically due to distance and time saved, as 46% of this group did not allow their kids to walk to school without adult supervision. At the same time, 30% of parents living within 2 miles of school did so because of safety, specifically due to stranger danger, as 75% of this group did not allow their kids to walk to school without adult supervision.[8]

The importance of distance is particularly important to consider within the St. Louis context, where school closures have effectively shuffled hundreds of students to schools that are (potentially) farther from their home. How do stakeholders create effects of safety and supervision during the trip to school? While both authors pick up on indicators and motivations behind why students do not engage in AST, they do not discuss the equity issues that underlie those who live farther away from school and those who need to leverage AST as a last resort versus the choice riders/walkers. Any interventions that encourage SRTS participation thus need to incorporate frameworks of equity (income, race, etc.) in relation to conversations centered on distance and safety. While stakeholders are unable to physically shorten distances, there are a variety of different interventions that may create better experiences for students and parents during their AST engagements, such as better built infrastructure, checkpoints around schools, programs like supervised bikepool pods, and more.

Methodology:

I conducted three main research methods to address the three main questions within the project. The first was online research, with an aim to evaluate every state's safe routes capabilities so that I could contextualize Missouri more broadly. I spoke with East-West Gateway (the Metropolitan Planning Organization for the St. Louis region) and received their evaluation criteria to assess funding and equity distribution concerns. I then cross-compared these evaluation criteria with Missouri's policy infrastructure for supporting safe routes programs. Secondly, I conducted interviews with safe routes practitioners across the country. These practitioners were initially categorized into two groups (states that looked like Missouri and states that did not). Interviews were recorded on Zoom, transcribed, and coded for themes. No differences in themes emerged from these two groups. Lastly, I sent out surveys to parents and teachers of students attending Bayless Elementary, Junior High, and High Schools (the Bayless School District). I asked

[7] Noreen McDonald and Anette Aalborg, "Why Parents Drive Children to School: Implications for Safe Routes to School Programs."
[8] Noreen McDonald and Anette Aalborg.

for commuting preferences, reasons for those preferences, and specific barriers parents could point to on a local level.

Interviews with National SRTS Practitioners:

I conducted 13 total interviews, with safe routes practitioners who were separated in two categories. All interviews were asked the same set of questions (aside from the earliest two, that deviated slightly because of additional context questions).

One category of interviews focused on individuals who were highly engaged with their programs because as a way to gather trends and information on national safe route trends. I added myself to a national SRTS listserv that has constant emails from practitioners asking and answering questions based on their own experiences with SRTS. I would receive about 3-4 emails per week from this listserv and collect the emails of those who were the most active and recently engaged. I consciously looked for those among different geographies. The second category of interviews focused on individuals who were practicing SRTS programs in states with similar state support/funding as Missouri. I referred to the state-by-state report card and made a list of states that were in the same "lacing up" category as Missouri.[9] I then did research on SRTS programs in each state and reached out to those programs with the most online presence in each state. I conducted all interviews in February 2023 via Zoom.

I received permission to record both audio and video for all the interviews with the exception of three. For the recorded interviews, I uploaded audio recordings onto Otter and received the transcriptions. Then I uploaded the transcripts on the data analysis software, Dedoose. For those interviews that I was not allowed to record, I uploaded my notes onto Dedoose for analysis purposes.

Bayless School District Teacher/Parent Surveys:

To set up Bayless Elementary, Junior High, and High Schools for possible SRTS funding opportunities, data collection efforts were based out of TAP (Transportation Alternatives Program) application data requirements. TAP is the federal fund that sustains SRTS programs nation-wide, with strict requirements on what types of data should be collected before and during the implementation process of SRTS program. As such, I sent out the two required surveys to various stakeholders:

[9] "2022 State Report Cards."

The first survey was distributed to all teachers in all three schools. Teachers asked students about their morning and planned afternoon commute patterns to and from school and collected tallies on two days of the same week. Elementary school teachers completed the tallies digitally, while junior high and high school teachers completed the tallies in person, as data collectors (Bayless physical education teacher and myself) input findings digitally. While this original survey required that teachers collect data on Tuesday-Thursdays, avoiding Mondays and Fridays, this original survey was formalized before SRTS funding was open to high school students. As such, considering how high school students have schedules that do not take them to a consistent homeroom every day, I opted for the advisory periods that happened on Tuesdays and Fridays. Out of 39 elementary school homerooms, 9 completed the surveys. Out of 20 junior high homerooms, 13 completed the surveys. Out of 23 high school advisory classrooms, 14 completed the surveys. Some data discrepancies included teachers completing the surveys on one weekday but not completing it again on another weekday of that same school week. More specifically, four teachers in the elementary school and two teachers in the high school only completed these surveys once. Additionally some students attended class but did not participate in the survey.

After collecting all the information, I broke down the surveys into individual school levels to collect commuting mode choice percentages from two levels: by individual schools and by the aggregated school district. I calculated commuting mode choice percentages by counting the number of students who reported per mode choice and dividing each mode choice count by the number of students who attended class that day, as opposed to the number of students on the classroom roster.

The other survey was distributed to all parents in all three schools through email.. One part of this survey asked typical questions required of the National Safe Routes Programming on: parents preferences, motivators, and challenges of various commuting options when considering how they send their children to and from school. The second part of this survey incorporated additional questions that asked the degree and extent to which these options encouraged or inhibited their preferences for/against active transportation and which specific intersections they believed required specific interventions. All responses were collected digitally. Similar to how teacher tallies were disaggregated, I separated out the data by a school level to supplement and discovered trends along district-wide level analyses. Considering how all three schools are within a few blocks/intersections of each other, I believe that the analysis on the school district level provides helpful supplementary information for school-specific programming interventions but may not significantly impact infrastructural recommendations.

State and Regional Funding/Policy Landscape:

Research that informed my understanding of Missouri state and St. Louis' regional funding and policy landscape was done by analyzing secondary research data. For research on the state landscape, this project used data collected by The Safe Routes Partnership, a national nonprofit that works to advance active forms of commute to and from school for children. The Safe Routes Partnership collected data from various sources such as: the Safe Routes Partnership and National Complete Streets Coalition (NCSC), the League of American Bicyclists' 2021 Bicycle Friendly State Survey, the Federal Highway Administration's Financial Management Information System (FMIS), publicly available information from each state's Department of Transportation, and more. For research on the regional landscape, this project used evaluation criteria provided by East West Gateway Council of Governments (EWG), the metropolitan planning organization of the St. Louis region.

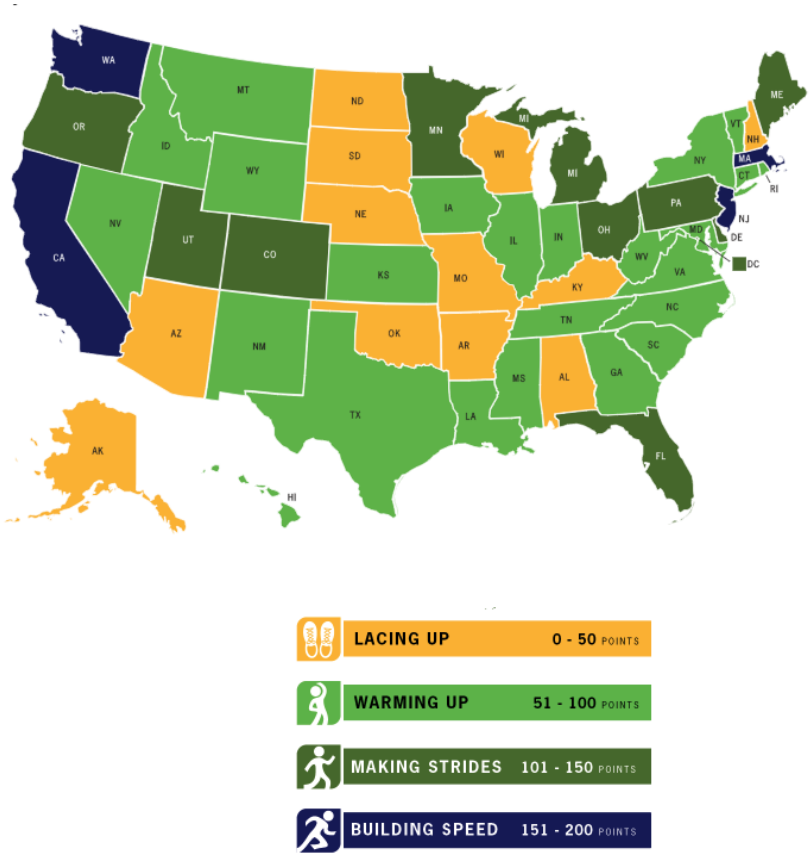
Findings (part 1): National, State, and Regional Landscape

A State-By-State Examination:

Today's safe routes programs are evaluated and supported at the national level by a number of different organizations, including the Safe Routes Partnership. This nonprofit alliance works to endorse active modes of transportation to improve health outcomes for peoples of all different identities and capabilities through researching the positive impacts of active mobility and evaluating states' safe routes ecosystems. The Safe Routes Partnership is one of the only organizations that consistently monitors state progress on safe routes planning and programming, releasing national scorecards every two years that evaluates four key areas: Complete Streets and Active Transportation Policy and Planning, Federal and State Active Transportation Funding, Safe Routes to School Funding and Supportive Practices, and Active Neighborhoods and Schools.[10] States are then placed into one of four buckets, depending on how they score. These evaluations, while helpful, are only based on state-policies and there exists no current effective strategy for monitoring the programmatic/infrastructure implementation of these programs across the nation.

[10] Jones and Lieberman, "Safe Routes Partnership: Active Paths for Equity & Health."

Exhibit 1: "Making Strides: State Report Cards on Support for Walking, Bicycling, and Active Kids and Communities" (2022)



As of 2022, Missouri scored 28 out of 200 total points among the four categories, with the specific breakdown as follows[11]:

[11] Jones and Lieberman.

Exhibit 2: "Making Strides: State Report Cards on Support for Walking, Bicycling, and Active Kids and Communities" Missouri Only

Missouri 2022

LACING UP

OVERALL SCORE

28 / 200

Scoring Key: LACING UP | WARMING UP | MAKING STRIDES | BUILDING SPEED | 100%

COMPLETE STREETS AND ACTIVE TRANSPORTATION POLICY AND PLANNING		
Complete Streets Policies	Adopted state Complete Streets policy(ies)	4 / 5
	Has strong state Complete Streets policy	2 / 20
Active Transportation Goals and Planning	Adopted goals to increase walking and bicycling mode share	0 / 5
	Adopted a state pedestrian, bicycle, or active transportation plan	0 / 10
		6 / 40
FEDERAL AND STATE ACTIVE TRANSPORTATION FUNDING		
Use of Federal Funding for Active Transportation	Retained TAP funding without transfers	-8 /10
	Awarded TAP projects	10 /10
	Obligated state-controlled TAP funds	6 /10
	Provides special consideration for high-need communities in TAP awards	0 / 5
	Provides matching funds for high-need communities	0 / 5
	Provides support to TAP applicants	0 / 5
	Sets aside other federal (non-TAP) funding for active transportation	0 / 5
State Funding for Active Transportation	Dedicates state funding for active transportation	0 /10
	Amount of state funding for active transportation	0 /10
	Provides special consideration for high-need communities in state awards	0 / 5
		8 /75
SAFE ROUTES TO SCHOOL FUNDING AND SUPPORTIVE PRACTICES		
Safe Routes to School Funding	Provides special consideration for Safe Routes to School projects using TAP funds	0 / 5
	Dedicates state or other funding for Safe Routes to School	0 / 5
	Funds SRTS non-infrastructure projects	0 / 5
	Provides Safe Routes to School planning grants or minigrants	0 / 3
Safe Routes to School Supportive Practices	Staffs state Safe Routes to School program with state employees or consultants	1 / 5
	Provides a resource center or technical assistance to Safe Routes to School initiatives	0 / 7
	Adopted a state SRTS plan or incorporated SRTS into a state active transportation plan	0 / 5
	Supports equitable access to Safe Routes to School programming	0 / 5
		1 /40
ACTIVE NEIGHBORHOODS AND SCHOOLS		
Shared Use of School Facilities	Adopted state policy supporting shared use of school facilities	6 /10
	Provides funding/incentives in support of shared use of school facilities	0 / 5
School Siting and Design	Requires large school sites (minimum acreage guideline)	0 / 0
	Supports walking, bicycling and physical activity in school design guidelines	0 /15
Physical Education	Adopted PE minutes and graduation requirements	7 /15
		13 /45

To review a quick summary of the report cards' scoring structure, click here: **Understanding the Scores and Grading**

47 Safe Routes Partnership | Making Strides: 2022 State Report Cards

Ranking 48th out of 51 scored states (plus Washington DC), Missouri sees immense opportunities for improvement among all areas of its active transit landscape.

- *Complete Streets and Active Transportation Policy and Planning*: while the Missouri House and Senate passed a concurrent resolution back in 2011 that strongly recommended to all governing agencies (MoDOT, cities, counties, MPOs, regional planning commissions) to adopt complete street policies, today, only ⅓ of all Missourians live in a municipality with a complete streets policy[12]. Furthermore, for those who do currently live within a complete streets policy, the Safe Routes Partnership has ranked these existing policies as extremely low in strength. They additionally lack any goals that explicitly call for increasing the adoption of active transit mode shares and implementing a state-wide active transit transportation plan. Rank: 45/51.
- *Active Neighborhoods and Schools:* promising tools such as shared use agreements (SUAs) allow various entities to share usage of recreational facilities such as: play structures, fields, courts, indoor gyms, and more.[13] These tools help keep maintenance costs low, as to increase the accessibility of closeby infrastructure that aids students in increasing physical activities. While Missouri currently offers no funding incentives to support shared use school facilities, there are state-wide policies that encourage SUAs between schools and other entities. Additionally, Missouri has some type of physical activity graduation requirement, but the strength of these physical education requirements is also scored on the lower end of the national average. Rank: 25/51.

Missouri's Safe Routes Funding Landscape:

The last two categories that relate to state and federal funding make up a majority (approximately 57%) of the overall states' safe routes scores, and I thought it especially imperative to dedicate separate considerations regarding Missouri's funding landscape.

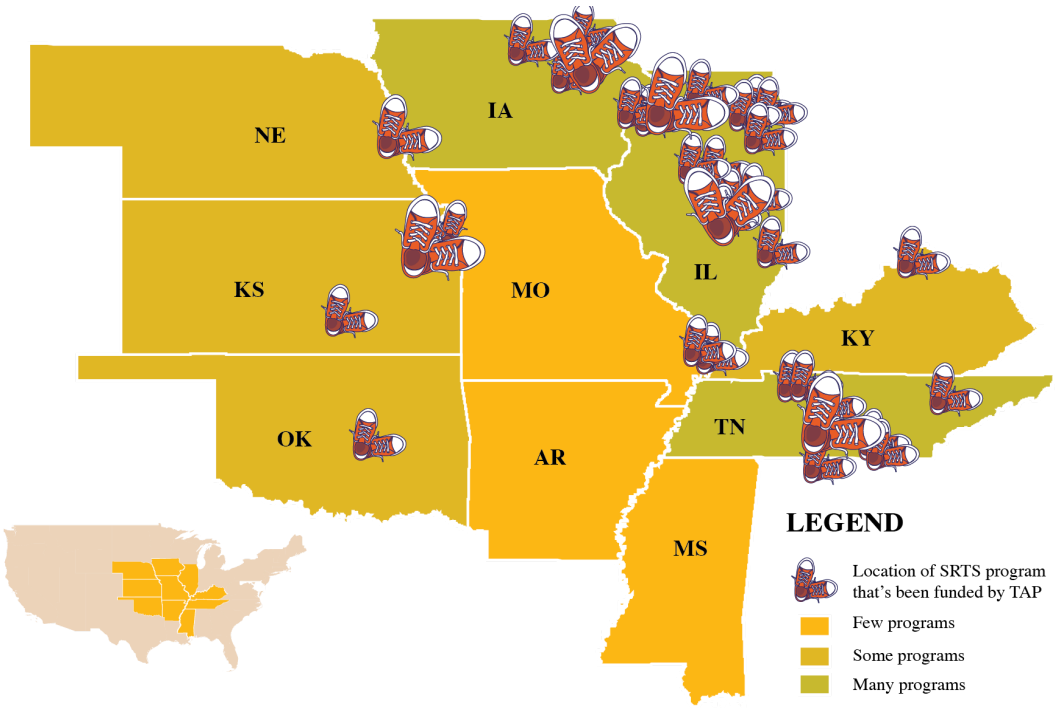
The highlight of the *Federal and State Active Transportation Funding* category is that Missouri has awarded (and seems to consistently) out TAP projects and has done a moderately effective job at obligating these funds. The higher the obligation rate, the more funds are getting out to local communities and projects. However, what is especially concerning is that Missouri currently receives a -8/10 for the sub-category "Retained TAP Funding Without Transfers". Out of fifty-one states and territories

[12] "Missouri Complete Streets Information Center."
[13] "Shared Use of School and Community Facilities | Addressing Childhood Obesity Through Shared School Facilities."

evaluated, 20 had negative scores for this sub-category, with nine states having a score as low as or lower than Missouri's current -8 (other states having -8 or -10). This is a part of a larger trend of states transferring more funds away from TAP, which transfers resources away from active transportation projects related to biking and walking and towards projects that enable roads and bridges. Specifically, six states transferred more than 50% of their TAP funding out of the program, an occurrence that had never occurred prior to 2022[14]. Meanwhile, 25 states transferred less than 10% of TAP funding. From the context of other states' scores and the larger transfer numbers mentioned in the States Report, we can assume that Missouri has transferred between 10-50% of their TAP funding outside of the program, with the exact number most likely being on the higher end (25-50%).

Missouri additionally currently provides no equity considerations on prioritizing TAP resources, as seen through zeros as scores in sub-categories: "provides special consideration for high-need communities in TAP awards", "provides matching funds for high-need communities", and "provides support to TAP applicants".

Exhibit 3: Locations of SRTS Programs in the Missouri and Adjacent States, Shown by Sneaker Location, as of July 24, 2019[15]



[14] Jones and Lieberman, "Safe Routes Partnership: Active Paths for Equity & Health."
[15] "Safe Routes to School Program Census."

This graphic shows how inaccessible funds have been in Missouri, and especially the St. Louis Metro region, since 2013. There is a visible doughnut effect showing the lack of safe routes programs around St. Louis, despite increasing regional needs and grassroots efforts to meet those needs. Specifically, the only programmatic Safe Routes to School proposal in the Transit Alternatives Programs grant was rejected due to funding constraints in the most recent round of funding for the CY 2022 grant year by the evaluation team of East-West Gateway Council of Governments, St. Louis' metropolitan planning organization. This grant proposal aimed to build regional capacity to establish an educational and programmatic hub within the St. Louis region so as to better reach out to, advocate on behalf of, and collaborate with schools for potential safe routes projects.

In a debriefing conversation with planners from the evaluation team, Trailnet (project client) learned that reasons for this grant denial included the following (among others):

- Lack of a firm scope of how listed activities could further safe routes programs in the region
- Lack of a firm process on why certain schools were selected over others as potential partners
- Lack of certainty of what potential projects and stakeholders would be
- Lack of baseline data on potential impacts of projects

This feedback aligns with the current scoring criteria for SRTS non-infrastructure projects.

Exhibit 4: TAP Funding for SRTS Non-Infrastructure Criteria in St. Louis Region[16] [17]

Safe Routes to School Non-Infrastructure Scoring Criteria

The following criteria will be used to evaluate SRTS non-infrastructure projects.

Local Match: 3 points	
3	35% local match or greater
2	30% - 34.9%
1	25% - 29.9%
0	20.1% 24.9%
Budget: 2 points	
2	Budget is complete and in-kind/donations listed. Budget is very detailed and comprehensive justifications for expenses are provided.
0	Budget is not reasonable and/or has insufficient detail, and/or contains ineligible costs
Serving Economically Disadvantaged Populations: 5 points	
Percent of students that qualify for a free or reduced price lunch	
5	40% or greater
3	25% - 39.9%
1	10% - 24.9%
0	Less than 10%
Students served: 10 points total	
Student proximity to the school(s) (within two miles)	
2	25% or greater
0	Less than 25%
Percent of students currently walking and bicycling to school	
3	5% or greater
2	2% - 4.9%
1	Less than 2%
Percent of students at school(s) expected to benefit from the project	
5	70% or greater
3	50% - 69.9%
1	30% - 49.9%
0	Less than 30%
Planning: 10 points total	
5	The project is supported by a SRTS plan, safety audit, or other local planning effort, the municipality has adopted a Complete Streets Policy, or the municipality has an ADA Transition Plan for transportation (sidewalks and curb ramps in the public right-of-way)
5	Pre-Student Travel Tally and Parent Survey completed and attached
Project Partners: 20 points total	
5	Application includes other letters of support (letter of support from the school superintendent or principal is required) Several: 5 Few: 2
5	Partners do not simply support project, but are responsible for some aspect of the project. If there is support, but partners are not responsible for any aspects of the project, 2 points will be awarded.
5	Project includes partnership with local law enforcement
5	The local municipality and/or the school has demonstrated support for walking and bicycling through events like Walk to School Day, bicycle rodeos, walk audits, etc.
Existing Conditions and Problem Identification: 10 points	
10	The problem is described in sufficient detail. Information should include physical and perceived obstacles and risks to children, including children with disabilities. Applicant provides applicable background information (e.g., crash data, traffic counts, number of students that currently walk or bike to/from school each day). If the demonstration of need is not provided, zero points.

Action Plan: 20 points total	
10	Project outcomes are identified. Changes that will occur at the school(s) or district as a result of the project are clearly stated in the project's goals and objectives. Action plan is described clearly and in sufficient detail to provide an understanding of the proposed program with goals, objectives, desired outcomes, measurement of deliverable, timeframe, and responsible person. If action plan is not clearly identified, zero points.
5	The action plan is extensive and includes multiple engagement activities (e.g., instruction/rodeos, campaigns, encouragement activities, crossing guard program, walking school bus/bicycle train)
5	Project manager is clearly identified and signed statement on roles and responsibilities and relevant experience and qualifications is attached
Multi-Modal: 5 points	
5	Project educates on both walking and bicycling safety
Evaluation: 10 points total	
5	Post-Student Travel Tally and Parent Survey will be conducted
5	The response describes an accurate method for measuring or determining the success of the program, and the measures are appropriate to the project
Commitment: 5 points	
5	The school is committed to continue the program after federal funding is expended (e.g., train the trainers, bike/pedestrian safety lessons, wellness committees)
100	Total Points

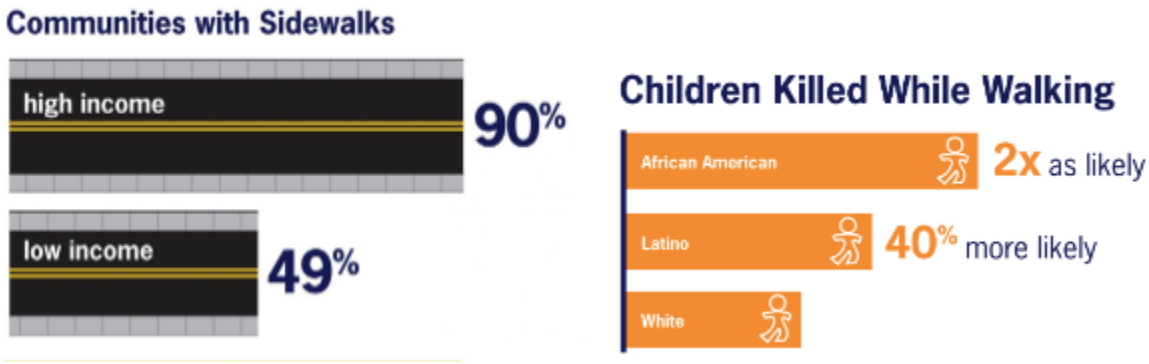
[16] "Project Development Workbook: Transportation Alternatives Program (2022 Call for Projects for the St. Louis Region)."

[17] Note that non-infrastructure criteria is different from the SRTS infrastructure evaluation criteria, see appendix

How Missouri's Current Funding Landscape and (Lack of) Supportive Processes Exacerbate Equity Issues

It has been by and large shown that communities who lack the resources to cultivate successful public programs are often those who are most in need of those programs. For low-income communities and communities of color especially, walking and biking are mode choices associated with basic needs such as foods, employment, and education as opposed to leisure/recreational activities. These school systems may see larger than average shares of households without vehicles, unsupportive transit networks, school bus shortages, and students scattered across district lines living far from their schools. According to studies done by the Safe Routes Partnership, it has also been found that high-income communities have approximately two times as many sidewalks as low-income communities and that African American children are two times more likely to be killed while walking than white children.[18]

Exhibit 5: Importance of Equity Considerations in SRTS Dialogue



Yet simultaneously, the burden of proof is borne by these very same communities to prove their need when applying and implementing Safe Routes to School Grants. If we examine just some of the criteria associated with the TAP grant, we can conclude the following:

- *Local match*: schools/organizations either need to have their own funding to be able to match grant money or exist within communities that have private actors willing to match potentially awarded grant money, which would have required outreach, advocacy, and partnership resources
- *Students served (student proximity to the school <2 miles)*: school districts need to be well funded enough to be able to retain students who live closeby; the St. Louis

[18] "Equity in Safe Routes to School."

region is currently experiencing various closure of schools because of funding problems, which forced existing students to transfer to schools farther from where they live

- *Students served (% students current walking and biking to school):* communities need to already have supportive bicyclist/pedestrian networks and infrastructure which is often time-consuming, costly, and unpopular among residents and the capacity of teachers/planners/organizers to have taken school or district-wide surveys on student commuting behavior
- *Students served (% of students at schools expected to benefit from the project):* an estimation of this type would require data from other "students served" categories which compounds constraints and equity issues. Additionally, the minimum tier for points starts at 30% expected impact, a high bar for organizations or schools not looking to do programs that are tied in with the physical education curriculum (i.e., walking school buses)
- *Planning:* requires heavy upfront time-consuming coordination efforts among local planners, engineers, and local schools. Parent involvement and school teacher involvement are also necessary to complete both: teacher tallies and parent surveys as requested.
- *Project Partners:* project advocates/partners are often physical education teachers in these schools rather than someone specifically designated to take responsibility for these programs, which places a greater burden on teachers who may already be overworked to support extracurricular school activities, particularly in low income communities. Additionally, points awarded for partnerships with local law enforcement also significantly adversely affect low-income communities of color that have historically been unsupported and targeted by racist law enforcement policies[19]
- *Existing Conditions and Problem Identification:* existing condition audits are incredibly costly and time consuming and require the expertise of planning and engineering experts

In sum, these criteria call for an immense amount of upfront monetary and time investment from local planning experts, interested schools/districts/stakeholders, and regional advocacy groups. This is only the first step, as schools/organizations will then need to further comply with federal regulations, requiring more expertise and personnel upon time of program implementation. Furthermore, the program is operated on an reimbursement basis, meaning that schools and organizations must expend their own funds before waiting for disbursement of grant money.

[19] William G. Gale, "Reflections on What Makes a Policy Racist."

This evaluation is not meant to deny the logic behind many of these criteria – we have also found through our own interviews with national practitioners that one of the most important aspects of a successful Safe Routes to School program is engagement from supportive advocates and champions inside and outside of the school. This evaluation rightly considers the importance of a supportive ecosystem that could implement and sustain an effective safe routes program. Yet states and regions need to simultaneously invest in equity measures that increase accessibility and lower costs for communities who do not have the resources to ensure success independent of aid and/or funding prioritization.

[Update]: as of April 20, 2023, St. Louis' MPO has changed its evaluation criteria to reflect some of the equity concerns stated within this capstone project as a part of a regulatory exploratory check-in after a call for projects closes. Specifically, it has mainly:

- Eliminated points for local match above 20% and the 2-mile proximity to school
- Creation of "project benefit category" to benefit underserved communities
- Partnerships with planners was moved to the planning category
- Language on partnerships with law enforcement was removed to reflect the updated priorities of the national Safe Routes Partnership in 2020 (enforcement to engagement)

Findings (part 2): Interviews with SRTS Practitioners

The same list of questions (Appendix D) was asked to all practitioners interviewed, with the exception of the conversation with KCBikeWalk, because this conversation was so early in the process of this capstone project. Among the thirteen completed interviews, ten worked directly with safe routes programming or infrastructural interventions (public school districts, city transportation department, nonprofits, regional planning organizations), one dealt only with infrastructural interventions, and two consulted for safe route programs for state/regional organizations.

COVID's Impacts on SRTS Programs

Of the ten who worked directly with safe routes programming, five mentioned that they are currently rebuilding their safe routes programming due to the impacts of COVID. These interviewees report a loss of relations and champions within schools they originally had a strong presence. Scott Bohemier of Carson City had approximately 40 programs running in the Western Nevada region before COVID, but now has only approximately 20 active programs, 50% of his original number. While there currently

exists no literature or studies on the impacts of COVID on safe routes programs, what my interviews revealed was that COVID presented a challenge not because of a decrease in student participation when programs restarted, but rather because .safe routes coordinators are facing a rebuilding process today because of the loss of momentum among stakeholders who had originally existed in these schools. As a result, safe routes teams are needing to re-form relations and re-acquire stakeholders to champion these programs in their respective schools. During the COVID years, however, many SRTS programs were successfully resilient, and various programs continued to engage with their students by painting murals around towns within walking distance of each other, for children to find and mark down on bingo cards or take photos in front of, promoting physical activity despite the programs' inability to be in schools .

Programmatic Interventions:

Among those practitioners who worked with programmatic interventions, most agreed that walking safe routes programs are, by and large, easier to acquire buy-in for and implement than biking programs. One exception to this observation is when cities already have highly active bicycling communities. To this regard, most practitioners mentioned that walking school buses/walk to school days were some of the most active parts of their safe routes' programs, with frequency ranging from twice a week to once a month. Bike trains were far less common, albeit still present. Communities that reported having regular bike trains had either long-established and well-supported safe routes programs or were highly engaged in bicycling culture (i.e., Durango, Colorado).

The other large category of programmatic interventions were educational lessons or assemblies that targeted safe walking/bicycling practices. Most of those practitioners who engaged in educational programming had a wide range of engagement with various schools, depending on the capacity of each school. They had different programs that offered a variety of educational resources; their involvement would range from hands-on educational assemblies to distributing resources that schools could take and disperse among their students. Two educational programs deviated from typical educational (in-school) programming and were well-liked by their implementation teams. The first is a program that focuses on caretakers of children. It provides parents and guardians with lessons and resources on the equipment and skills needed to bike with a child, and is the first program that SFMTA launched that targeted caretakers rather than children. While this was a well-received program by its intended audience, Crysta Highfield of SFMTA commended that this program is still young and it may only be targeting a limited segment of those parents/guardians who were already comfortable biking on their own but haven't quite figured out what is the safest way in bringing their children along for

their rides. The second educational program that deviated from traditional in-school classes and assemblies was one offering summer camps and/or after-school camps that provided a "Bike Drivers' Ed" curriculum from the Wisconsin Bike Fed. These after school clubs and summer camps provide students with bike safety, bike handling, and road crossing skills, among other skills.

Infrastructural Interventions

Of the eight interviewees who worked directly with safe routes' infrastructure, most reported very similar processes and interventions for establishing safer active tranportation commuting conditions. Seven of the eight practitioners who worked with infrastructure mentioned some type of community survey, walk audits, or community plan prior to the implementation of any device or infrastructural change. Depending on the needs that are revealed from these points of feedback, interventions such as: wayfinding, new crosswalks, traffic circles, speed radar feedback signs, rectangular rapid flashing beacon crosswalks, and more take place. Two processes that stood out among these interviews in particular were quick-build pilot projects and the classification of infrastructural projects. Nora Stoelting of Alta Planning + Design is currently working with the Oregon Department of Transportation on quick-build projects that maintain the flexibility of pop-ups but have greater permanence. These projects could be painted curb extensions or wayfinding that signals specific safe routes to school in the physical environment in a low-cost and easy-to-implement kind of way, as opposed to the usual heavy financial and infrastructural burdens from full-fledged construction projects. The second process is a method of classification of infrastructure projects into primary, middle, and high resource-intensive categories. By separating possible interventions into what are quick wins (signage) versus long-term projects (separated bike lanes), programs are able to more effectively communicate to stakeholders and funders the ways in which they distribute their funding depending on a community's needs, making for a more compelling case for future funding opportunities.

What Constitutes Successes

When practitioners were asked what wins they had in the time they have been running their programs and why those wins occurred, two key themes appeared. The first theme captured the various programs that these practitioners ran – depending on the needs of the schools and the strength of the programs, different programmatic interventions (walk/bike to school days, educational assemblies, etc.) were highlighted. These responses usually went hand-in-hand with comments about the increase of SRTS recognition among kids and parents in the area. The second theme was the importance of a supportive ecosystem.

From a programmatic perspective, practitioners attributed their success to passionate staff in the SRTS office and schools; engaged PE teachers, librarians, or parents; and receptive school districts who were all willing to champion these SRTS interventions. From an infrastructural perspective, various practitioners talked about the importance of having some type of supporting planning document, whether that be a community transportation plan or school specific needs assessment.

As a part of the interviewing process, a tertiary curiosity from this capstone project was whether or not SRTS programs (programmatic or infrastructural) had an impact on communities beyond safely getting kids to and from school. This could mean increasing rates of socialization among children or increasing rates of active transportation among faculty and parents. While there is no research currently on these potential ancillary benefits, practitioners shared anecdotal stories about the relationships among parents that emerged from walking/biking school buses. Specifically the few interviewees who had also biked to school with their children regularly as a part of SRTS programming reported SRTS as an opportunity to meet other parents they would otherwise not have met and noticing different levels of engagement among parents participating in SRTS programming from parents who do not. One of them talked about how parents who engage with their children's biking also began to more regularly maintain their own bikes and go on rides with adults after dropping off their kids in bike buses. Of course these anecdotes are not enough to support a narrative about the impacts of SRTS, beyond kids getting to and from school safely, and there are certain skewed characteristics of parents who are willing to participate in SRTS in the first place. Further work is necessary to explore ancillary benefits of SRTS.

Challenges

In addition to the COVID years impacting and constraining SRTS programs, as discussed earlier in the report, two consistent challenges among most of the practitioners were stakeholder engagement and impact measurement issues. Regardless of levels of state funding/policy support, eight of the ten practitioners who worked with programmatic interventions reported some type of competing priorities/stakeholder challenge. This echoes the importance of having on-the-ground champions who are willing to make SRTS a priority for a school among the myriad of other priorities that schools have. Hearing about these challenges indicates that successful SRTS programs have stakeholders in all facets of their planning and implementation process – from city planning organizations and dedicated SRTS staff to school teachers and administrators. The second challenge was not as widely discussed as the first, but became apparent when the portions of the interview asked how practitioners measured the impacts of their SRTS

work either programmatically or infrastructurally. Responses typically involved the quantity of students biking/walking to school and the quality of their experiences from a programmatic perspective and the decrease of collisions from an infrastructural perspective. Yet many practitioners highlighted that it was challenging to establish causal relationships between SRTS programs and better health and safety of children. Some practitioners are beginning to organize community focus groups to collect more nuanced community-level feedback for infrastructure projects and potential health impact assessments such as the SRTS health impact assessment done by Columbus' City Schools, Columbus Public Health, and Ohio Department of Transportation in the 2013-2014 academic year[20].

Findings (part 3): Data from Parent/Teacher Surveys in Bayless School District

Both teacher tallies and parent surveys were built off of existing tallies and surveys that the national safe routes guide provides to programs across the US to meet funding criteria. For parent surveys specifically, I supplemented the original with additional questions on "how much" certain factors are prioritized when parents consider active transportation and "which streets/intersections" locally most concerned parents. The current parent survey only asked questions categorically, such as "which of these factors influence your decisions to let your child walk/bike to school" but does not quantify how important these factors are and where these factors are most considered relative to the local geography.

Both surveys were distributed by Bobby Kelting and Stephen Terrill of Bayless School District through both email and paper copies for one week in April. Teachers submitted these surveys back to Bobby through email or a dropbox in front of his classroom.

[20] "Safe Routes to School: Health Impact Assessment Executive Summary."

Teacher Tallies:

From a district-wide perspective, at a 99% response rate, with 36 classrooms and 1,861 students surveyed, mode choice breakdown is as follows:

Exhibit 5: Teacher Tallies (part 1)

Total Students	Walk	Bike	School Bus	Family vehicle	Carpooled vehicle	Transit	Other
1,861	9.03%	0.91%	47.39%	38.31%	2.96%	0.27%	0.21%

Elementary school:

Total Students	Walk	Bike	School Bus	Family vehicle	Carpooled vehicle	Transit	Other
533	5.44%	0.00%	60.60%	30.77%	1.69%	0.00%	0.75%

Junior high school:

Total Students	Walk	Bike	School Bus	Family vehicle	Carpooled vehicle	Transit	Other
837	12.07%	1.67%	51.14%	34.29%	1.67%	0.24%	0.00%

Senior high school:

Total Students	Walk	Bike	School Bus	Family vehicle	Carpooled vehicle	Transit	Other
888	11.6%	0.45%	35.25%	45.50%	5.25%	0.34%	0.00%

The school by school data breakdown does not deviate significantly from the school district data breakdown. All three schools examined see the majority of 85%-90% of their mode choices in either the “school bus” or “family vehicle” categories, as consistent with district-wide level data.

Elementary and junior high schools see the biggest percentage of commutes through school buses, followed by family vehicles shortly behind, walking, carpooling, transit, biking, and then others. High schools see a reverse in top two mode choices, with family vehicles ranking first and school buses second but the rest of the prioritization is the same as elementary and junior high schools. This flip of the top two mode shares may be contributed to the fact that there are a significantly higher number of afterschool or before school activities that occur in high school, which makes school buses more challenging for students to take. This could additionally be attributed to some high school students beginning to drive themselves to school.

Active transit mode shares are consistent with what was discovered during qualitative interviews. The majority of how students are engaging with active transportation are through walking, while "bike" modes share is close to zero. Bayless' average number of students (5%-15%) who walk are consistent with the national average of around 11%.[21] However, when we consider programmatic and infrastructural interventions for pedestrians/bicyclists, it is important to note that these are the combined results of morning commutes and afternoon commutes. If we break down morning and afternoon commute mode shares, the amount of walkers/pedestrians increases dramatically.

On a district-wide level:

Exhibit 5: Teacher Tallies (part 2)

		Total Students	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Tues	Morn	596	6.71%	0.34%	46.14%	42.28%	2.18%	0.17%	0.00%
	Aftern	563	15.63%	2.49%	52.40%	27.18%	3.20%	0.53%	0.00%
Wed	Morn	72	4.17%	0.00%	50.00%	41.67%	4.17%	0.00%	0.00%
	Aftern	72	5.56%	0.00%	58.33%	29.17%	4.17%	0.00%	2.78%
Thurs	Morn	71	2.82%	0.00%	50.70%	47.89%	0.00%	0.00%	0.00%
	Aftern	71	5.63%	0.00%	52.11%	35.21%	2.82%	0.00%	2.82%
Fri	Morn	416	6.49%	0.24%	38.70%	47.60%	3.85%	0.24%	0.00%
	Aftern	416	15.63%	0.24%	43.75%	34.13%	4.09%	0.00%	0.00%

[21] Greg Bruno, "Young Children Who Walk or Bike to School Are More Likely to Continue the Habit as They Age | Rutgers University."

While the highest active transportation mode share for elementary school students is approximately 10% walking on afternoons, junior high students saw 20% in those who walk home on certain afternoons and high school students saw 17% in those who plan to walk home on certain afternoons. The increase in walkers is mostly coming from those who would have taken family vehicles (as seen by the numbers held constant in all other mode choices and the decrease in percentage of those taking family vehicles) and is true for all three schools across the district.

Parent Surveys:

The survey was open for a week (February 27, 2023 - March 3, 2023) and received 77 responses total (approximate 10% response rate), with 58% of responses coming from elementary school parents and 21% of responses coming from middle school parents, and 21% of responses coming from high school parents. Survey questions ranged from open-ended questions to questions that offered a list of options for parents/teachers to choose from. We provided 15 questions directly sourced from the national SRTS foundation (Appendix A) and an additional 6 (Appendix C) that asked more qualitative, open-ended, and localized questions.

The surveys were distributed through digital newsletters that linked to a Google Form, with the help of Bayless' Marketing Team led by Stephen Terrill.

Around 12% lived less than ¼ mile from school, 21% lived between ¼ and ½ mile from school, 31% lived between ½ and 1 mile from school, 27% lived between 1 and 2 miles from school, and 6% lived further than 2 miles from school.

Responses regarding morning and afternoon commuting patterns were largely consistent with what students had reported in the teacher tallies, with the majority of mode choice coming from family vehicles and/or school buses. Parent responses saw the same change in "walking" as a mode choice between morning and afternoon commutes, as mode choice numbers for "walking" changed from 10% in the morning to 25% in the afternoon.

The most compelling part of the parent surveys, however, captured how significant each of the proposed variables was in parents dissuading or encouraging their students from walking/biking to and from school. Parents were asked the question "On a scale from 1-5, how significant are these factors in allowing/not allowing your children to bike/walk to school? (1 = least significant and 5 = most significant)". Variables provided included: distance, convenience of driving, time, child's before/after school activities, speed of traffic along route, amount of traffic along route, adults to walk/bike with, sidewalks or

pathways, safety of intersections/crossings, crossing guards, violence or crime, weather or climate. For the purposes of this analysis, we will only consider how parents ranked variables in significance levels: 4 and 5.

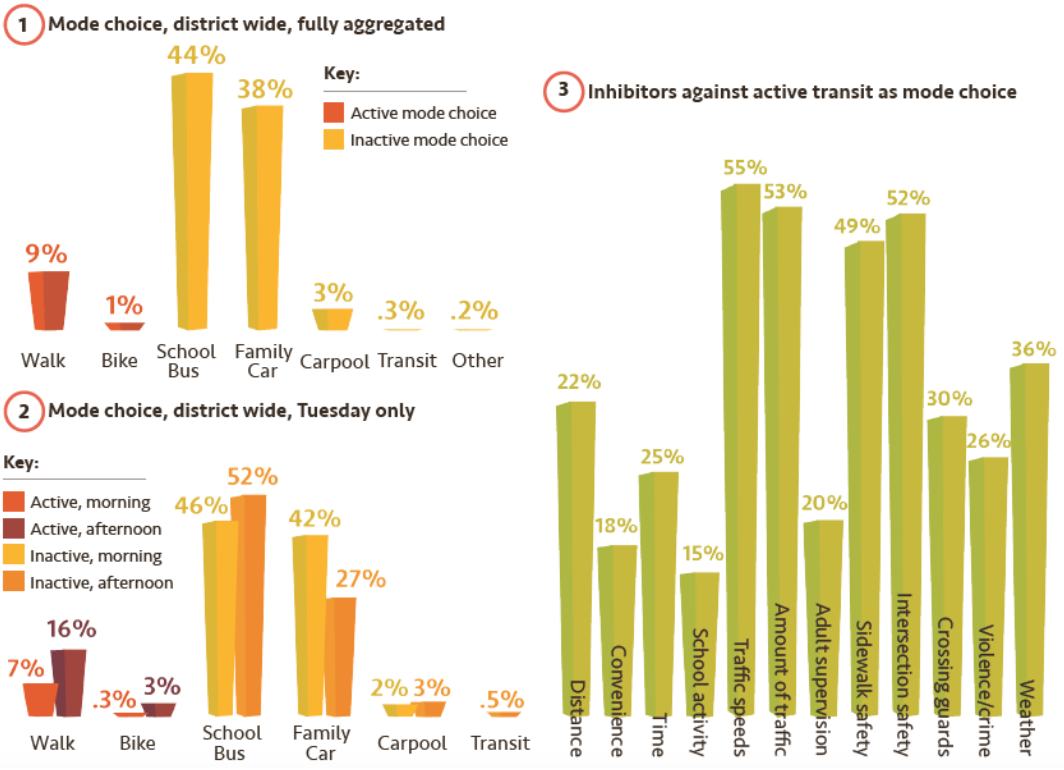
From a district-wide level, parents were the most concerned about (significance level 5) safety of intersections and crossings, amount of traffic along routes, speed of traffic along routes, sidewalk or pathways, and weather or climate conditions. Subsequently, parents were most concerned about (significance level 4) amount of traffic along route, speed of traffic along routes, sidewalk or pathways, weather or climate, and crossing guards. Per individual school levels, high school parents and elementary school parents followed these ranking trends, while junior high parents had scattered responses throughout.

When we evaluated the qualitative responses that parents gave to the questions "which streets/intersections have [variable] that most significantly impact your decision to allow/not allow your children to bike/walk to school? Does it create a positive or negative impact on your decision?". Variables included: speed of vehicles, amount of traffic, sidewalks, intersection quality, crossing guards. Parents in large highlighted sidewalk quality and amount/speed of traffic as main deterrents against allowing their children to bike/walk to school, which are responses consistent with the quantitative preferences they provided earlier in the survey. Specific streets and intersections that were consistently highlighted as being problematic were as follows:

- Bayless cited by parents: 9 times on speed and 15 times on amount of traffic
- Union cited by parents: 8 times on speed and 9 times on amount of traffic
- Weber cited by parents: 30 times on speed and 32 times on amount of traffic and 17 times on sidewalks

While responses to the question on sidewalks (46 responses) were 50% of those of amount of traffic and speed of traffic (approximately 85 responses each), many of the responses to 'amount of traffic' and 'speed of traffic' and 'additional comments' addressed the lack of sidewalks contributing to feelings of danger and anxiety when sending students walking or biking. These sentiments were further highlighted in the "additional comments" category, where parents made obvious the hesitations they had when poor pedestrian infrastructure was combined with higher vehicular traffic and high vehicular traffic speeds.

Exhibit 6: Results from Parent Surveys and Teacher Tallies



Discussion and Recommendations:

Recommendations to Extend Safe Routes to School Evaluation Criteria to Transportation, Environmental, and Land-Use Justice Considerations:

In today's discourse, Safe Routes to School is primarily evaluated and prioritized through the lens of physical health and wellness and street safety for children. Physical inactivity is an especially critical problem that policymakers are compelled to address because of the relation between physical and mental health and wellness (healthy body, healthy mind) for student educational attainment. Traffic safety is determined from the number of collisions experienced near a site, and is crucial to minimize near the premise of each school; it is also essential to teach students about traffic safety as they venture into the world and make mobility choices of their own. Yet student health and safety along morning and afternoon commutes extend far beyond healthy physical activity levels and arriving at a destination without visible harm. Specifically, complete and living streets, investments in environmental equity standards, and equitable access of various

transportation mode choices along class/racial lines can all positively impact the health and safety of these young commuters.

In the 1990s, six systematic studies[22] in the Los Angeles region on environmental racism suggested that people of color were disproportionately exposed to pollutants in Los Angeles, with further studies showing that these results were not by chance, but instead, by decisions that were a response to conditions created by a racist state and capital market.[23] These were the first results in a long line of studies that continued to highlight how communities of color stand at the front lines of environmental impacts and experience disproportionate health and safety risks everyday. Hurricanes Katrina and Harvey disproportionately harmed black neighborhoods, with 4 of the 7 zip codes that suffered the costliest flood damage from Katrina over 75% black.[24] In 2016, Pittsburgh's Allegheny County found that 22% of kids in their region have asthma compared to the national 8%, with higher rates of asthma among kids who live closer to the region's largest industrial polluters.[25] In 2021, the EPA discovered that Black individuals are projected to face higher impacts of climate change for all indicators analyzed in the report. They are 34% more likely to live in areas with highest projected childhood asthma diagnoses (41% under global warming projections), and they are 40% more likely to live in areas with highest projected increases in extreme temperature related deaths (59% under global warming projections).[26] Injustices such as: hazardous waste siting, disaster recovery efforts, and public space materials and infrastructure are just a few examples of how children living in certain spaces regularly experience health and safety risks. These forms of violence, while less visible and immediate than a collision, are just as costly to public health and wellness.

Slow violence is defined as a violence that occurs gradually and out of sight, dispersed across space and time that is attritional and non explosive or spectacular. Our assumptions that violence is a highly visible act that is newsworthy because it is event-focused, time-bound, and body bound limits the reactions, interventions, and aid that we provide to communities experiencing slow, invisible harms.

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[22] "'Every Breath You Take... ': The Demographics of Toxic Air Releases in Southern California - James L. Sadd, Manuel Pastor, J. Thomas Boer, Lori D. Snyder, 1999"; "Is There Environmental Racism? The Demographics of Hazardous Waste in Los Angeles County on JSTOR"; Pulido, "Rethinking Environmental Racism"; Burke, "Environmental Equity in Los Angeles (93-6)"; Szasz and Meuser, "Environmental Inequalities"; United Church of Christ, Commission for Racial Justice, "Toxic Wastes and Race in the United States: A National Report on the Racial and Socio-Economic Characteristics of Communities with Hazardous Waste Sites."

[23] Pulido, "Rethinking Environmental Racism."

[24] Frank, "Flooding Disproportionately Harms Black Neighborhoods - Scientific American."

[25] Marusic, "Breathless."

[26] US EPA, "EPA Report Shows Disproportionate Impacts of Climate Change on Socially Vulnerable Populations in the United States."

This report includes several suggestions including additional criteria to the safes routes scoring rubric, effectively expanding the overall discussion of what safety and wellness commuting to school could look like.

Suggested evaluation criteria include:

- "Serving Environmentally Disadvantaged Populations" with potential data including:
    - Pollution burdens (diesel particulate matter, drinking water contaminants, PM2.5, toxic releases from facilities) on the census tract level
    - Population health characteristics (asthma, cardiovascular diseases, low birth weight) on the census tract level
- "Serving Transportation Disadvantaged Populations" with potential data including:
    - High rates of "low vehicle access" among school district zip codes
    - High rates of "no vehicle access" among school district zip codes
- "Serving Historically Affected Lands and Spaces" with potential data including:
    - Proximity to industrial and commercial zones
    - Proximity to highways and large arterial corridors

There are also a number of different implications for the ways in which safe routes' programmatic and infrastructural interventions could expand and encompass environmental, transportation, and land-use justice principles. From a programmatic perspective, especially with safe routes to schools now available to high school students, environmental justice curriculum could enable present and future generations to better understand social and environmental issues, based on diverse experiences and cultural perspectives.[27] The ways they commute to and from school are parts of a larger relation they have to their space, neighbors, and peers both locally and regionally. From an infrastructural perspective, there is an incredible opportunity to pair safe routes funding with EPA funding that could prioritize commuting corridors as complete and living streets with not only bicyclist and pedestrian safety infrastructure but also climate resilience components. Interventions like bioswales may aid increasing flood hazards, cooling/permeable pavements could address urban heat effects, road diets may give opportunity to urban reforestation and overall better air quality. Ultimately, complete and living streets improvements could reduce levels of carbon dioxide exposure along commuting routes and beyond.

[27] "17 Principles of Environmental Justice | Environmental Working Group."

Lastly, we must think of our community investments through a reparative framework. The TAP scoring criteria referenced earlier in the report only considered economically disadvantaged communities, totalling five points out of one hundred (5%) which is the same weight given to a community's willingness to partner with local law enforcement agencies.[28] When I read over those criteria again, I wonder: how many communities and schools could score 5/5 points on the economically disadvantaged criteria and simultaneously be able to have: a local match, planning completed, partner coordination, and existing problem identification work completed for a reimbursement-based program? If these evaluation criteria do not expand to more comprehensively examine the different forms of violence and need communities face, how many more proposals from low-income communities of color will be abandoned in favor of higher-income predominantly white neighborhoods or larger bridge and road projects that move away from safe routes to school altogether?

Planning Preparedness and Planning Administration Funds

During qualitative interviews, this project learned from national practitioners that supportive ecosystems such as champions and community plans are crucial conditions for success, which supports the existing funding criteria that EWG has set out for the larger St. Louis region. This capstone agrees upon the importance of a supportive ecosystem, but has recommendations for maintaining supportive conditions while simultaneously lowering the barriers of entry for high-needs communities.

Specifically, the St. Louis region could
1) create a planning assistance funding category for under-resourced communities; and
2) offer continued administrative and programmatic support for those communities classified as "support priority"

The first recommendation tackles the problem of how to launch an SRTS program off the ground when TAP funding requires too much upfront monetary and temporal investment from communities that can't necessarily afford to spare that type of expense. Modeled off of Oregon's Safe Routes to Schools Planning Assistance Program (Project Identification Program), EWG's Planning Assistance Fund could help agencies, school districts, and/or nonprofits identify potential projects by funding walk-audits, secondary data-collection, initial stakeholder/champion advocacy, the creation of a district transportation plan and more. This is different from existing infrastructure and non-infrastructure SRTS TAP funding in that it is used to help communities prepare for the planning necessary in order

[28] EWG considers Environmental Justice within its SRTS infrastructure funding evaluation criteria, also at 5% of total (5/100)

to apply to these two existing sources of funding. An assistance program could aid resource-scarce schools in answering questions such as: What needs to be done? Where? Why? What is the expected impact? Even for those communities that already have the resources to answer these step zero questions (questions needed to answer prior to applying for any TAP funding), taking more time to fulfill the due diligence of these requirements means less costly mistakes upon actual implementation of either SRTS programs or infrastructure.

The second recommendation tackles the problem of communities not having enough resources to maintain administration of programmatic interventions. As we know, low-income communities of color are those that may need SRTS programs the most, but are often those same ones with over-stretched teachers and administrators without adequate support. Consequently, SRTS programs may be considered unjust burdens for these educators/faculty members. Modeled after the two priority groups by SFMTA's SRTS programs, EWG's Administrative Assistance Fund could help agencies, school districts, and/or nonprofits continue to run programmatic interventions by owning the cost of SRTS Coordinator positions, programming budgets, and more. The Administrative Assistance Fund should apply to those organizations that have shown demonstrated need per the newly updated evaluation criteria that center equity considerations, as proposed earlier in the capstone project.

Lastly, this project is one of a few ongoing advocacy efforts to determine the equitable distribution of TAP funding across the region. Specifically, Missourians for Responsible Transportation has focused its "Movement is Life" project on alternative transportation resources for rural communities. They are similarly working with Regional Planning Commissions and the Metropolitan Planning Organization to effect more positive changes for walking, biking, and transit access on a regional level. Organizations and agencies currently doing work along similar lines have an opportunity to collaborate and work with each other. Coalition building is one of the keys to a comprehensive and sustainable advocacy strategy.

Conclusion:

In conclusion, this study has shed light on the need for safe routes to school programs in St. Louis, with a particular focus on the Bayless School District. St. Louis have not been funded in a decade due to the unsupportive planning and funding infrastructure within the state and region in addition to school closures and bus shortage issues. Despite these challenges, we believe that by working together, we can create a safer and more supportive environment for our students. Through our interviews with practitioners

across the nation, we have identified that: stakeholder engagement, supportive state/regional ecosystems, and parent/teacher involvement are crucial components to creating and maintaining successful programs. Through our quantitative surveys with teachers and parents in Bayless, we found that the district is a prime example of a school district that has a higher percentage of children walking to/from school and could greatly benefit from a safe routes to school program. Our learnings from these surveys will advise future transportation plans in the neighborhood and provide the basis for a needs-based assessment on how SRTS could aid the district both programmatically and infrastructurally. Our advocacy-based recommendations focus on more equity-based considerations for funding evaluation criteria and the creation of planning assistance funds to aid low-resourced communities to complete the pre-planning work prior to applying for SRTS funding. Ultimately, we urge local officials, educators, and community members to advocate for funding and support for safe routes to school programs in St. Louis. By doing so, we can ensure that our children have access to safe and healthy transportation options, especially during times of school closures and bus shortages. Together, we can create a brighter future for the St. Louis community as a whole.

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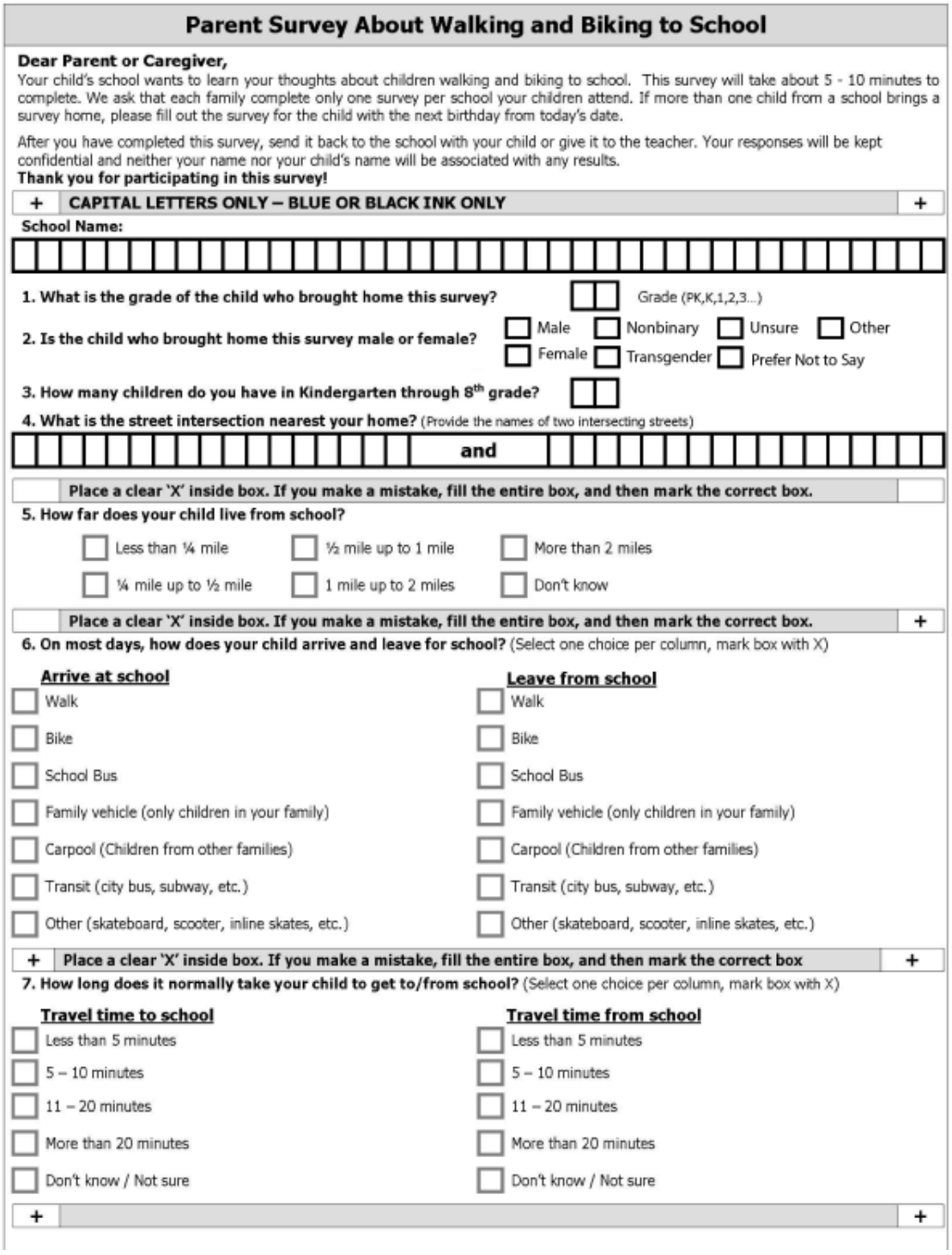
APPENDIX

Appendix A: Parent Surveys[29]



Parent Survey About Walking and Biking to School

Dear Parent or Caregiver,

Your child's school wants to learn your thoughts about children walking and biking to school. This survey will take about 5 - 10 minutes to complete. We ask that each family complete only one survey per school your children attend. If more than one child from a school brings a survey home, please fill out the survey for the child with the next birthday from today's date.

After you have completed this survey, send it back to the school with your child or give it to the teacher. Your responses will be kept confidential and neither your name nor your child's name will be associated with any results.

Thank you for participating in this survey!

+ CAPITAL LETTERS ONLY – BLUE OR BLACK INK ONLY +

School Name:

1. What is the grade of the child who brought home this survey? Grade (PK,K,1,2,3…)

2. Is the child who brought home this survey male or female? Male Nonbinary Unsure Other Female Transgender Prefer Not to Say

3. How many children do you have in Kindergarten through 8th grade?

4. What is the street intersection nearest your home? (Provide the names of two intersecting streets)

and

Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box.

5. How far does your child live from school?

Less than ¼ mile ½ mile up to 1 mile More than 2 miles
¼ mile up to ½ mile 1 mile up to 2 miles Don't know

Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box. +

6. On most days, how does your child arrive and leave for school? (Select one choice per column, mark box with X)

Arrive at school	Leave from school
Walk	Walk
Bike	Bike
School Bus	School Bus
Family vehicle (only children in your family)	Family vehicle (only children in your family)
Carpool (Children from other families)	Carpool (Children from other families)
Transit (city bus, subway, etc.)	Transit (city bus, subway, etc.)
Other (skateboard, scooter, inline skates, etc.)	Other (skateboard, scooter, inline skates, etc.)

+ Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box +

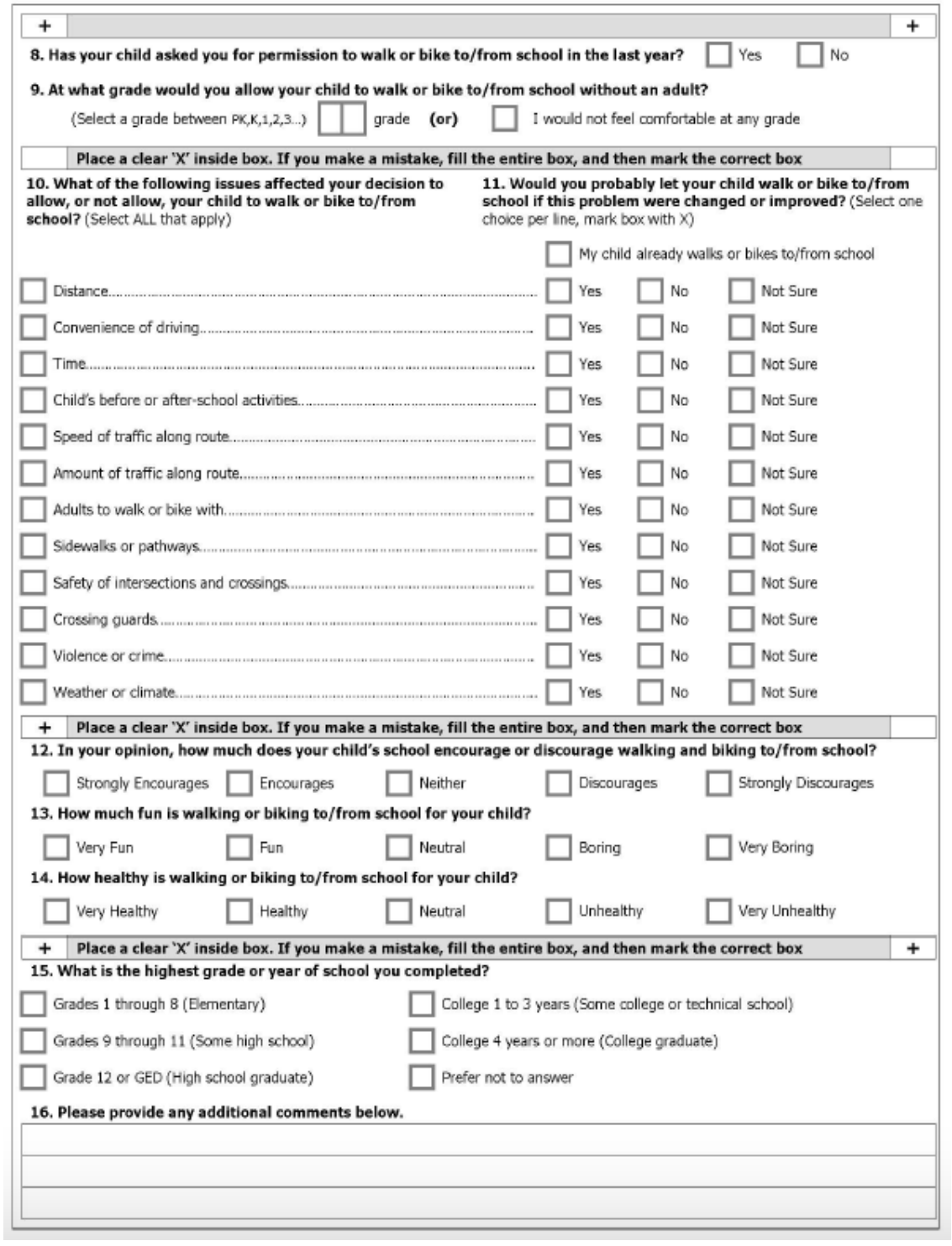
7. How long does it normally take your child to get to/from school? (Select one choice per column, mark box with X)

Travel time to school	Travel time from school
Less than 5 minutes	Less than 5 minutes
5 – 10 minutes	5 – 10 minutes
11 – 20 minutes	11 – 20 minutes
More than 20 minutes	More than 20 minutes
Don't know / Not sure	Don't know / Not sure

+ +

[29] "SRTS Guide: B. Safe Routes to School Parent Survey."

Appendix A (Continued)



8. Has your child asked you for permission to walk or bike to/from school in the last year? ☐ Yes ☐ No

9. At what grade would you allow your child to walk or bike to/from school without an adult?
(Select a grade between PK,K,1,2,3...) ☐☐ grade **(or)** ☐ I would not feel comfortable at any grade

Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box

10. What of the following issues affected your decision to allow, or not allow, your child to walk or bike to/from school? (Select ALL that apply)	11. Would you probably let your child walk or bike to/from school if this problem were changed or improved? (Select one choice per line, mark box with X)		
	☐ My child already walks or bikes to/from school		
☐ Distance	☐ Yes	☐ No	☐ Not Sure
☐ Convenience of driving	☐ Yes	☐ No	☐ Not Sure
☐ Time	☐ Yes	☐ No	☐ Not Sure
☐ Child's before or after-school activities	☐ Yes	☐ No	☐ Not Sure
☐ Speed of traffic along route	☐ Yes	☐ No	☐ Not Sure
☐ Amount of traffic along route	☐ Yes	☐ No	☐ Not Sure
☐ Adults to walk or bike with	☐ Yes	☐ No	☐ Not Sure
☐ Sidewalks or pathways	☐ Yes	☐ No	☐ Not Sure
☐ Safety of intersections and crossings	☐ Yes	☐ No	☐ Not Sure
☐ Crossing guards	☐ Yes	☐ No	☐ Not Sure
☐ Violence or crime	☐ Yes	☐ No	☐ Not Sure
☐ Weather or climate	☐ Yes	☐ No	☐ Not Sure

Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box

12. In your opinion, how much does your child's school encourage or discourage walking and biking to/from school?
☐ Strongly Encourages ☐ Encourages ☐ Neither ☐ Discourages ☐ Strongly Discourages

13. How much fun is walking or biking to/from school for your child?
☐ Very Fun ☐ Fun ☐ Neutral ☐ Boring ☐ Very Boring

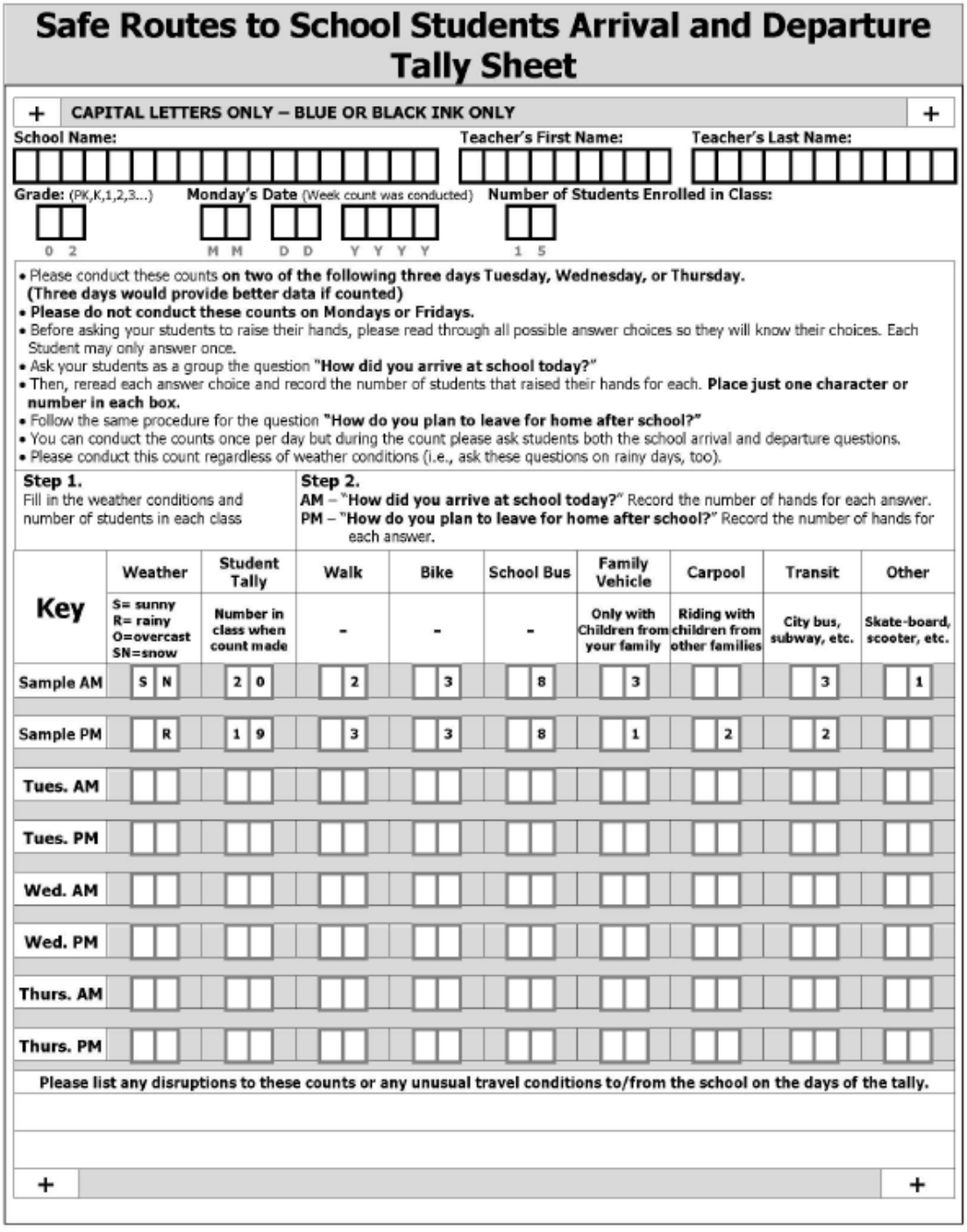
14. How healthy is walking or biking to/from school for your child?
☐ Very Healthy ☐ Healthy ☐ Neutral ☐ Unhealthy ☐ Very Unhealthy

Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box

15. What is the highest grade or year of school you completed?
☐ Grades 1 through 8 (Elementary)
☐ Grades 9 through 11 (Some high school)
☐ Grade 12 or GED (High school graduate)
☐ College 1 to 3 years (Some college or technical school)
☐ College 4 years or more (College graduate)
☐ Prefer not to answer

16. Please provide any additional comments below.

Appendix B: Teacher Tallies[30]



Safe Routes to School Students Arrival and Departure Tally Sheet

CAPITAL LETTERS ONLY – BLUE OR BLACK INK ONLY

School Name: | Teacher's First Name: | Teacher's Last Name:

Grade: (PK,K,1,2,3...) 0 2 | Monday's Date (Week count was conducted) M M D D Y Y Y Y | Number of Students Enrolled in Class: 1 5

- Please conduct these counts **on two of the following three days Tuesday, Wednesday, or Thursday. (Three days would provide better data if counted)**
- **Please do not conduct these counts on Mondays or Fridays.**
- Before asking your students to raise their hands, please read through all possible answer choices so they will know their choices. Each Student may only answer once.
- Ask your students as a group the question **"How did you arrive at school today?"**
- Then, reread each answer choice and record the number of students that raised their hands for each. **Place just one character or number in each box.**
- Follow the same procedure for the question **"How do you plan to leave for home after school?"**
- You can conduct the counts once per day but during the count please ask students both the school arrival and departure questions.
- Please conduct this count regardless of weather conditions (i.e., ask these questions on rainy days, too).

Step 1. Fill in the weather conditions and number of students in each class

Step 2. **AM** – "**How did you arrive at school today?**" Record the number of hands for each answer. **PM** – "**How do you plan to leave for home after school?**" Record the number of hands for each answer.

Key	Weather	Student Tally	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
	S= sunny R= rainy O=overcast SN=snow	Number in class when count made	-	-	-	Only with Children from your family	Riding with children from other families	City bus, subway, etc.	Skate-board, scooter, etc.
Sample AM	S N	2 0	2	3	8	3		3	1
Sample PM	R	1 9	3	3	8	1	2	2	
Tues. AM									
Tues. PM									
Wed. AM									
Wed. PM									
Thurs. AM									
Thurs. PM									

Please list any disruptions to these counts or any unusual travel conditions to/from the school on the days of the tally.

[30] National Center for Safe Routes to School, "SRTS Two Day Tally."

Appendix C: Additional Survey Questions for Bayless Parents/Guardians

Additional Survey Questions:

1. On a scale from 1-10 (1 = least significant and 10 = most significant) how significant are these factors in allowing/not allowing your children to bike/walk to school?
   - Distance _____
   - Convenience of Driving _____
   - Time _____
   - Child's before-or-after school activities _____
   - Speed of traffic along route _____
   - Amount of traffic along route _____
   - Adults to walk or bike with _____
   - Sidewalks or pathways _____
   - Safety of intersection/crossings _____
   - Cross guards _____
   - Violence or crime _____
   - Weather or climate _____
2. On a scale from 1-10, if your child begins to walk/bike to school, how much more likely are you to walk/bike in general? (1 = least likely and 10 = most likely)
3. _____

The following questions ask you to name specific routes. It would be helpful if you could provide street names, specific intersections, side of the street/direction, and specify the stretch of street being mentioned. (Ex: Grand Blvd. from Chippewa to Osage, side of the street that goes southbound)

4. Which streets have **vehicle speeds** that most significantly impact your decision to allow/not allow your children to bike/walk to school? Does it create a positive or negative impact on your decision? *(positive = more inclined to bike/walk, negative = less inclined to bike/walk)*

   _____
   _____
   _____
   _____

3. Which streets have the **amounts of traffic** that most significantly impact your decision to allow/not allow your children to bike/walk to school? Does it create a positive or negative impact on your decision? *(positive = more inclined to bike/walk, negative = less inclined to bike/walk)*

   _____
   _____
   _____
   _____

4. Which streets have the **sidewalks** that most significantly impact your decision to allow/not allow your children to bike/walk to school? Does it create a positive or negative impact on your decision? *(positive = more inclined to bike/walk, negative = less inclined to bike/walk)*

   _____
   _____

Appendix C Continued

_____
_____

5. Which **intersections/crossings** most significantly impact your decision to allow/not allow your children to bike/walk to school? Does it create a positive or negative impact on your decision? *(positive = more inclined to bike/walk, negative = less inclined to bike/walk)*

_____
_____
_____
_____

6. Which intersections/routes do you believe we should implement **additional crossing guards**? *(positive = more inclined to bike/walk, negative = less inclined to bike/walk)*

_____
_____
_____
_____

Appendix D: Interview Questions with SRTS National Practitioners

SRTS National Practitioners Survey

Name:
Role:
Organization:

Context:

- Would you mind sharing a bit of context about the program and your involvement? When did it begin and what were some of the things that motivated the program to start?
- Are there things about your program that you find particular to your geography/school district/municipality?

About the Program

- What grade levels is the SRTS program open to? Students of which grade levels see the most participation, if that information is available?
- What does the SRTS program look like? Which programmatic and infrastructural interventions areas are involved?
- Why those interventions?
- What were some of the challenges and wins (headwinds/tailwinds) during the implementation phase? What are some of the learnings looking back now?

Effectiveness of the Program

- What does success look like for the SRTS program? How did you all come to define success, or what has that dialogue sounded like, if any?
    - Ex: What are participation rates and levels, if any? Is there a way to measure quality of engagement? Has this changed behaviors outside of school commuting?
- What measures are you taking to monitor/track effectiveness of the program, if any? What has the dialogue around monitoring sounded like, if any?
- Since the implementation of the SRTS program, would you say that student/parent/community behaviors have changed as well, if any? This is an admittedly challenging question to answer, and may not be possible to answer
- If possible, would it be possible to share access to any data collected, if any?

Appendix E: East-West Gateway, TAP Funding, Infrastructure Programs Criteria (As of April 2023)[31]

Local Match: 3 points *(based on local match of federal funds for each federally funded phase)*	
3	35% local match or greater
2	30% - 34.9%
1	25% - 29.9%
0	20.1% - 24.9%
Environmental Justice (EJ): 5 points *(see map on page 15)*	
5	Minority or poverty tract
3	Zero car or disability tract
1	Elderly tract
0	Not located in an EJ tract
Planning: 5 points	
5	Project is cited as a priority in an adopted plan, and plan was developed and adopted within five years of application deadline (submit applicable pages from plan)
4	Project is cited as a priority in an adopted plan, and plan was developed and adopted more than five years prior to application deadline (submit applicable pages from plan)
3	Project is consistent with planning document (submit applicable pages from plan)
2	The municipality has a Complete Streets ordinance or policy (submit ordinance or policy)
0	Project is not consistent or not mentioned in a locally adopted plan, or is a stand-alone, isolated idea
Multi-jurisdictional Projects: 2 points	
2	Project constructed in multiple jurisdictions (letter of support required)
0	Project constructed in one jurisdiction
Land Use - Population and Employment Index (PEI) (½ mile buffer): 8 points *(see map on page 16)*	
8	PEI 3+
6	PEI 2 - 2.9
4	PEI 1 - 1.9
2	PEI 0 - 0.9
Schools (K-12; university): 5 points	
5	Within ¼ mile of school
3	Within ½ mile of school
0	Not within ½ mile of school
Community Resources: 5 points *(see examples on page 14)*	
5	Within ¼ mile of community resource
3	Within ½ mile of community resource
0	Not within ½ mile of community resource
Tourism, Cultural or Environmental Resources: 3 points	
3	Within ¼ mile or project is on a "Main Street"
1	Within ½ mile
0	Not within ½ mile
System Connectivity: 25 points *(see examples on page 14)*	
25	New facility provides a high level of connectivity
23	Upgrade provides a high level of connectivity
20	New facility provides a medium level of connectivity
18	Upgrade provides a medium level of connectivity
15	New facility provides a low level of connectivity
13	Upgrade provides a low level of connectivity
5	No connectivity

[31] "Project Development Workbook: Transportation Alternatives Program (2023 Call for Projects for the St. Louis Region)."

Appendix E: East-West Gateway, TAP Funding, Infrastructure Programs Criteria (As of April 2023) Continued[32]

Safety: 10 points *(see FHWA proven bicycle/pedestrian or STEP "Spectacular Seven" countermeasures below)*	
10	High speed/volume corridor has locations with documented pedestrian or bicycle crashes (2017-2021) and project addresses the safety issue with FHWA proven bicycle/pedestrian countermeasure(s) or STEP "Spectacular Seven" countermeasure(s)
8	Low speed/volume corridor has locations with documented pedestrian or bicycle crashes (2017-2021) and project addresses the safety issue with FHWA proven bicycle/pedestrian countermeasure(s) or STEP "Spectacular Seven" countermeasure(s)
6	No documented crashes, but project includes preventive FHWA proven bicycle/pedestrian countermeasure(s) or STEP "Spectacular Seven" countermeasure(s)
0	No crashes and no FHWA/STEP bicycle or pedestrian countermeasure
Pedestrian-scale lighting (lighting directed towards sidewalk, luminaries are mount 12' to 14' above sidewalk): 2 points	
2	New/upgraded pedestrian-scale lighting along bicycle/pedestrian facility
0	No pedestrian-scale lighting as part of scope
Barrier Elimination: 2 points	
2	Removal of total barrier (i.e., a person physically cannot get to a location by walking or bicycling; there is no other reasonably direct, suitable route alternative within a ½ mile radius)
1	Removal of minor barrier (i.e., a person must take a less direct route than desirable, within a ½ mile radius)
0	Does not eliminate barrier or no barrier present
Facility Measure: up to 20 points *(see examples on page 15)*	
Up to 20	The before level of traffic stress will be evaluated, followed by a prospective evaluation of the post-project level of traffic stress. The difference between these two conditions will provide a measure of the magnitude of improvements. The difference between these two conditions will be multiplied by 5, for a total of 20 possible pts. Low stress - - 4 Medium-low stress - - 3 Medium stress - - 2 Medium-high stress - - 1 High stress - - 0
Facility Buffer: 3 points *(see examples on page 15)*	
3	Buffer between road and facility on high speed/volume corridor
1	Buffer between road and facility on low speed/volume corridor
0	No buffer
Environmental Quality: 2 points	
2	Multiple green infrastructure elements https://www.epa.gov/green-infrastructure/what-green-infrastructure
1	One element
0	None
100	Total Points

[32] "Project Development Workbook: Transportation Alternatives Program (2023 Call for Projects for the St. Louis Region)."

Appendix F: East-West Gateway, TAP Funding, Programmatic Programs Criteria (As of April 2023) [33]

Safe Routes to School Non-Infrastructure Scoring Criteria

The following criteria will be used to evaluate SRTS non-infrastructure projects.

Budget: 2 points	
2	Budget is complete and in-kind/donations listed. Budget is very detailed and comprehensive justifications for expenses are provided.
0	Budget is not reasonable and/or has insufficient detail, and/or contains ineligible costs
Serving Economically Disadvantaged Populations: 3 points	
Percent of students that qualify for a free or reduced price lunch	
3	40% or greater
2	25% - 39.9%
1	10% - 24.9%
0	Less than 10%
Students served: 6 points total	
Percent of students currently walking and bicycling to school	
3	5% or greater
2	2% - 4.9%
1	Less than 2%
Percent of students at school(s) expected to benefit from the project	
3	50% or greater
1	30% - 49.9%
0	Less than 30%
Project Partners: 15 points total	
5	Application includes other letters of support **(letter of support from the school superintendent or principal is required)** Several: 5 Few: 2
5	Partners do not simply support project, but are responsible for some aspect of the project. If there is support, but partners are not responsible for any aspects of the project, 2 points will be awarded.
5	Project engages the broader community beyond the school, students, faculty/staff, and parents
Planning: 10 points total	
3	The project is supported by a SRTS plan, safety audit, or other local planning effort, the municipality has adopted a Complete Streets Policy, or the municipality has an ADA Transition Plan for transportation (sidewalks and curb ramps in the public right-of-way)
2	Pre-Student Travel Tally and Parent Survey completed and attached
5	The local municipality and/or the school has demonstrated support for walking and bicycling through events like Walk to School Day, bicycle rodeos, walk audits, etc.
Existing Conditions and Problem Identification: 10 points	
10	The problem is described in sufficient detail. Information should include physical and perceived obstacles and risks to children, including children with disabilities. Applicant provides applicable background information (e.g., crash data, traffic counts, number of students that currently walk or bike to/from school each day). If the demonstration of need is not provided, zero points.
Action Plan: 15 points total	
10	The action plan is described clearly and in sufficient detail to provide an understanding of the proposed program with goals, objectives and outcomes, measurement of deliverable, timeframe, and responsible person. Changes that will occur at the school(s) or district as a result of the project are clearly stated to the project's goals and objectives. If action plan is not clearly identified, zero points.
5	Project manager is clearly identified and signed statement on roles and responsibilities and relevant experience and qualifications is attached
Project Benefits: 20 points total	
5	Project benefits a low-income or underserved community
5	Project provides safety education
5	Project includes multiple engagement activities
5	Project improves the skills needed for students to safely walk and/or bike to school

[33] "Project Development Workbook: Transportation Alternatives Program (2022 Call for Projects for the St. Louis Region)."

Appendix F: East-West Gateway, TAP Funding, Programmatic Programs Criteria (As of April 2023) Continued

Multi-Modal: 2 points	
2	Project supports both walking and bicycling activities
Evaluation: 7 points total	
2	Post-Student Travel Tally and Parent Survey will be conducted
5	The response describes an accurate method for measuring or determining the success of the program, and the measures are appropriate to the project
Commitment: 10 points	
10	The school is committed to continue the program after federal funding is expended (e.g., train the trainers, bike/pedestrian safety lessons, wellness committees)
100	**Total Points**

Appendix G: East-West Gateway, TAP Funding, Infrastructure Programs Criteria (Prior to April 2023)[34]

APPENDIX C. SCORING CRITERIA

Bicycle and Pedestrian Facility Scoring Criteria

The following criteria will be used to evaluate all bicycle and pedestrian projects, including SRTS infrastructure projects. SRTS non-infrastructure has separate criteria, which is described under the SRTS non-infrastructure project criteria.

Local Match: 3 points *(based on local match of federal funds for each federally funded phase)*	
3	35% local match or greater
2	30% - 34.9%
1	25% - 29.9%
0	20.1% - 24.9%
Environmental Justice (EJ): 5 points *(see map on page 15)*	
5	Minority or poverty tract
3	Zero car or disability tract
1	Elderly tract
0	Not located in an EJ tract
Planning: 5 points	
5	Project is cited as a priority in an adopted plan, and plan was developed and adopted within five years of application deadline (submit applicable pages from plan)
4	Project is cited as a priority in an adopted plan, and plan was developed and adopted more than five years prior to application deadline (submit applicable pages from plan)
3	Project is consistent with planning document (submit applicable pages from plan)
2	The municipality has a Complete Streets ordinance or policy (submit ordinance or policy)
0	Project is not consistent or not mentioned in a locally adopted plan, or is a stand-alone, isolated idea
Multi-jurisdictional Projects: 2 points	
2	Project constructed in multiple jurisdictions (letter of support required)
0	Project constructed in one jurisdiction
Land Use - Population and Employment Index (PEI) (½ mile buffer): 8 points *(see map on page 16)*	
8	PEI 3+
6	PEI 2 - 2.9
4	PEI 1 - 1.9
2	PEI 0 - 0.9
Schools (K-12; university): 5 points	
5	Within ¼ mile and there is contiguous sidewalk from end of project limits to school
3	Within ½ mile and there is contiguous sidewalk from end of project limits to school
1	Within ½ mile
0	Not within ½ mile
Community Resources: 5 points *(see examples on page 14)*	
5	Direct access to multiple
3	Direct access to one
1	Within ½ mile
0	Not within ½ mile
Tourism, Cultural or Environmental Resources: 3 points	
3	Direct access or project is on a "Main Street"
1	Within ½ mile
0	Not within ½ mile
System Connectivity: 25 points *(see examples on page 14)*	
25	New facility provides a high level of connectivity
23	Upgrade provides a high level of connectivity
20	New facility provides a medium level of connectivity
18	Upgrade provides a medium level of connectivity
15	New facility provides a low level of connectivity
13	Upgrade provides a low level of connectivity
5	No connectivity

[34] "Project Development Workbook: Transportation Alternatives Program (2022 Call for Projects for the St. Louis Region)."

Appendix G: East-West Gateway, TAP Funding, Infrastructure Programs Criteria (Prior to April 2023) Continued

Safety: 10 points *(see FHWA proven bicycle/pedestrian or STEP "Spectacular Seven" countermeasures below)*	
10	High speed/volume corridor has locations with documented pedestrian or bicycle crashes (2016-2020) and project addresses the safety issue with FHWA proven bicycle/pedestrian countermeasure(s) or STEP "Spectacular Seven" countermeasure(s)
8	Low speed/volume corridor has locations with documented pedestrian or bicycle crashes (2016-2020) and project addresses the safety issue with FHWA proven bicycle/pedestrian countermeasure(s) or STEP "Spectacular Seven" countermeasure(s)
6	No documented crashes, but project includes preventive FHWA proven bicycle/pedestrian countermeasure(s) or STEP "Spectacular Seven" countermeasure(s)
0	No crashes and no FHWA/STEP bicycle or pedestrian countermeasure
Pedestrian-scale lighting (lighting directed towards sidewalk, luminaries are mount 12' to 14' above sidewalk): 2 points	
2	New/upgraded pedestrian-scale lighting along bicycle/pedestrian facility
0	No pedestrian-scale lighting as part of scope
Barrier Elimination: 2 points	
2	Removal of total barrier (i.e., a person physically cannot get to a location by walking or bicycling; there is no other reasonably direct, suitable route alternative within a ½ mile radius)
1	Removal of minor barrier (i.e., a person must take a less direct route than desirable, within a ½ mile radius)
0	Does not eliminate barrier or no barrier present
Facility Measure: up to 20 points *(see examples on page 15)*	
Up to 20	The before level of traffic stress will be evaluated, followed by a prospective evaluation of the post-project level of traffic stress. The difference between these two conditions will provide a measure of the magnitude of improvements. The difference between these two conditions will be multiplied by 5, for a total of 20 possible pts. Low stress - - 4 Medium-low stress - - 3 Medium stress - - 2 Medium-high stress - - 1 High stress - - 0
Facility Buffer: 3 points *(see examples on page 15)*	
3	Buffer between road and facility on high speed/volume corridor
1	Buffer between road and facility on low speed/volume corridor
0	No buffer
Environmental Quality: 2 points	
2	Multiple green infrastructure elements https://www.epa.gov/green-infrastructure/what-green-infrastructure
1	One element
0	None
100	Total Points

Appendix H: East-West Gateway, TAP Funding, Programmatic Programs Criteria (Prior to April 2023) [35]

Safe Routes to School Non-Infrastructure Scoring Criteria

The following criteria will be used to evaluate SRTS non-infrastructure projects.

Local Match: 3 points	
3	35% local match or greater
2	30% - 34.9%
1	25% - 29.9%
0	20.1% - 24.9%
Budget: 2 points	
2	Budget is complete and in-kind/donations listed. Budget is very detailed and comprehensive justifications for expenses are provided.
0	Budget is not reasonable and/or has insufficient detail, and/or contains ineligible costs
Serving Economically Disadvantaged Populations: 5 points	
Percent of students that qualify for a free or reduced price lunch	
5	40% or greater
3	25% - 39.9%
1	10% - 24.9%
0	Less than 10%
Students served: 10 points total	
Student proximity to the school(s) (within two miles)	
2	25% or greater
0	Less than 25%
Percent of students currently walking and bicycling to school	
3	5% or greater
2	2% - 4.9%
1	Less than 2%
Percent of students at school(s) expected to benefit from the project	
5	70% or greater
3	50% - 69.9%
1	30% - 49.9%
0	Less than 30%
Planning: 10 points total	
5	The project is supported by a SRTS plan, safety audit, or other local planning effort, the municipality has adopted a Complete Streets Policy, or the municipality has an ADA Transition Plan for transportation (sidewalks and curb ramps in the public right-of-way)
5	Pre-Student Travel Tally and Parent Survey completed and attached
Project Partners: 20 points total	
5	Application includes other letters of support (letter of support from the school superintendent or principal is required) Several: 5 Few: 2
5	Partners do not simply support project, but are responsible for some aspect of the project. If there is support, but partners are not responsible for any aspects of the project, 2 points will be awarded.
5	Project includes partnership with local law enforcement
5	The local municipality and/or the school has demonstrated support for walking and bicycling through events like Walk to School Day, bicycle rodeos, walk audits, etc.
Existing Conditions and Problem Identification: 10 points	
10	The problem is described in sufficient detail. Information should include physical and perceived obstacles and risks to children, including children with disabilities. Applicant provides applicable background information (e.g., crash data, traffic counts, number of students that currently walk or bike to/from school each day). If the demonstration of need is not provided, zero points.

[35] "Project Development Workbook: Transportation Alternatives Program (2022 Call for Projects for the St. Louis Region)."

Appendix H: East-West Gateway, TAP Funding, Programmatic Programs Criteria (Prior to April 2023) Continued

Action Plan: 20 points total	
10	Project outcomes are identified. Changes that will occur at the school(s) or district as a result of the project are clearly stated to the project's goals and objectives. Action plan is described clearly and in sufficient detail to provide an understanding of the proposed program with goals, objectives, desired outcomes, measurement of deliverable, timeframe, and responsible person. If action plan is not clearly identified, zero points.
5	The action plan is extensive and includes multiple engagement activities (e.g., instruction/rodeos, campaigns, encouragement activities, crossing guard program, walking school bus/bicycle train)
5	Project manager is clearly identified and signed statement on roles and responsibilities and relevant experience and qualifications is attached
Multi-Modal: 5 points	
5	Project educates on both walking and bicycling safety
Evaluation: 10 points total	
5	Post-Student Travel Tally and Parent Survey will be conducted
5	The response describes an accurate method for measuring or determining the success of the program, and the measures are appropriate to the project
Commitment: 5 points	
5	The school is committed to continue the program after federal funding is expended (e.g., train the trainers, bike/pedestrian safety lessons, wellness committees)
100	**Total Points**