



SAFE ROUTES TO SCHOOL

RICHFIELD ENGINEERING STUDY

April, 2021



EXECUTIVE SUMMARY

The Richfield Safe Routes to School (SRTS) Engineering Study focused on the school campus of the Richfield Dual Language School and the Richfield Science, Technology, Engineering, and Math (STEM) School. The Study's objective was to complete a technical analysis of parking lot improvements, as well as multimodal enhancements on, or adjacent to, the school property. As a part of Safe Routes to School (SRTS), proposed infrastructure specifically focused upon improving the safety, comfort, and convenience for children walking, rolling, or bicycling to school. SRTS is a national program intended to improve safety for children to access school and encourage a more active lifestyle through physical activity.

The Richfield Safe Routes to School Engineering Study was led by Richfield Public Schools and the City of Richfield. It illustrates strategies and potential improvements as recommended by the school district's Safe Routes to School Coordinator and the City's Transportation Engineer. The Study organizes needs and justifies potential improvements for future funding requests by the City of Richfield and/or Richfield Public Schools to implement the potential projects identified.

EXISTING CONDITIONS

Project Location and Focus Schools

The focus schools include Richfield Dual Language School and Richfield STEM School which are two pre-kindergarten through 5th grade schools located in the east side of the City of Richfield. The Richfield Dual Language School and Richfield STEM School have 341 families and 509 families enrolled, respectively, which in total accounts for approximately 20 percent of the school district's enrollment in 2020 (4,411 students).

The approximate three city block site that includes both schools is bound by 70th Street to the north, 71st Street to the south, Elliot Avenue to the west, and 12th Avenue to the east. The surrounding area is primarily low- and medium-density residential with pockets of nearby commercial retail. The densest student population nodes correspond with denser housing found along Chicago Avenue near 71st Street immediately southwest of the schools, as well as along Portland Avenue.

Previous Plans and Other Studies

Other applicable studies were reviewed as a part of the planning process including:

- *Richfield Bicycle Master Plan (2012)*
- *Richfield Safe Routes to School Comprehensive Plan (2014)*
- *Richfield Pedestrian Master Plan (2018)*

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One item included in both Richfield's *Safe Routes to School Comprehensive Plan* and *Pedestrian Master Plan* is implementing a sidewalk along 71st Street from Elliot Avenue to 12th Avenue.

Parent survey responses collected in early 2020 from both schools were also studied. Of the top three concerns, the perception of unsafe conditions at intersections or roadway crossings pertained to this Study. Infrastructure improvements that would sway parents to consider allowing their child(ren) to walk, roll, or bike were also collected, and include:

- Intersections and roadway crossings
- Sidewalk connectivity
- Speed reduction

Note that most students at either school live further away than the typical threshold for a child to walk or bike (i.e., greater than one mile) and most students access their school by family vehicle or school bus.

Transportation Network

The transportation network was reviewed to identify existing infrastructure for walking, rolling, bicycling, and driving on, and adjacent to, the school property. Existing multimodal facilities include some sidewalk and bicycle facilities, as well as marked crossings at adjacent intersections along the 70th Street and 12th Avenue corridors. Some inter-neighborhood sidewalks exist as well along adjacent streets.

School access and connectivity on the school campus is primarily auto focused with three wide driveways accessing the north parking lot. Limited internal queueing capacity and existing circulation patterns within the north parking lot results in congestion during peak arrival and dismissal periods. Parking is available adjacent to the school campus on-street along one, or both sides of the road, as well as off-street in the school's north parking lot which has approximately 140 total spaces.

Ten years of vehicle-to-bicycle and vehicle-to-pedestrian crashes were reviewed as well as all crashes over the last five years. A total of 16 crashes were recorded immediately surrounding the schools, with 75 percent occurring at intersections. The crashes were evenly distributed by time of day and day of week, and the severity of most crashes included possible injury or property damage only (PDO). The manner of collision was also studied which details the way in which the crash occurred (e.g., rear end).

Additional analysis of multimodal elements, turning movement counts, traffic operations, school access and circulation, parking, and safety is covered in Chapter 2.

IDENTIFIED NEEDS

Broadly identified issues were recorded from the existing conditions analysis and included access and circulation deficiencies of the shared parking lot and conflicts with pedestrians and bicyclists, as well as difficult crossings and sidewalk gaps. Key needs developed to address those issues include:

School Property Access (all modes) and Parking Lot Circulation (both schools)

Improve school parking lot access to reduce vehicular operational issues. Construct multimodal crossing enhancements at driveways and sidewalk connectivity through and across the parking lot for safer and more convenient access to both schools.

Improve vehicular circulation and internal queuing capacity during peak drop-off and pick-up periods to limit conflicts with pedestrians and bicyclists. Enhance overall parking lot safety and operations via streamlined circulation enhancements.

Crossing Improvements or Sidewalk Upgrades

Implement crossing infrastructure improvements at adjacent intersections to enhance pedestrian and bicyclist safety and comfort, as well as upgrade sidewalk to improve accessibility via sidewalk widening or maintenance or filling a sidewalk gap.

ALTERNATIVE EVALUATION

Potential alternatives are based upon evaluated opportunities that would improve or eliminate identified needs and issues. Chapter 4 organizes potential improvements and project opportunities to address the two high-level needs identified by the Study. Potential projects were vetted using engineering judgment and reviewed by both Richfield Public Schools and the City of Richfield.

School Property Access (all modes) and Parking Lot Circulation (both schools)

Review access improvements to the north parking lot for all transportation modes including safer and more convenient access to the schools by walking, rolling, or bicycling, as well as streamlined vehicular access.

Evaluation of parking lot circulation to improve vehicular operations inter- and intra-the north parking lot, as well as provide adequate internal queueing space for peak drop-off/pick-up periods.

Crossing Improvements and Sidewalk Upgrades

Analysis of crossing infrastructure upgrades at key intersections along 70th Street including Elliot Avenue and 12th Avenue, as well as Elliot Avenue at 71st Street. Review sidewalk infrastructure and propose locations for upgrades or maintenance.

School Property Access and Circulation

The focus of the Study is primarily on the shared parking lot between both schools and improving the access, circulation, and multimodal connectivity. Four alternatives were studied using a decision matrix to identify the most favorable alternative which was also confirmed by the school district. The access operations and circulation as well as multimodal was further analyzed for the preferred alternative. Additional project details can be found in Chapter 5.

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Crossing Improvements and Sidewalk Upgrades

The study of crossing improvements and sidewalk upgrades adjacent to the school was performed. This included both uncontrolled and controlled crossings of 70th Street, ADA-improvements to crossings and sidewalks on Elliot Avenue, and filling a sidewalk gap along 71st Street. Additional project details can be found in Chapter 5.

POTENTIAL PROJECTS

This Study offers a range of potential infrastructure improvements including a redesign of the parking lot to improve vehicular and multimodal safety and connectivity, as well as crossing enhancements at adjacent intersections, filling a sidewalk gap along 71st Street, and upgrading sidewalk along Elliot Avenue and 71st Street (see Table 1 and Figure 1). Detailed summaries of each potential project are included in Chapter 5.

Table 1. Potential Safe Routes to School Projects

ID ¹	Location	Project Type	Description	Estimated Cost ²
C1	Elliot Avenue	Uncontrolled Crossing	Crossing of 70 th Street at the intersection.	\$40,000
C2	70 th Street and 12 th Avenue	Major Intersection	Crossing upgrades to an all-way stop.	\$35,000
C3	Elliot Avenue	Uncontrolled Crossing	Crossing of Elliot Avenue at 71 st Street.	\$6,500 (crossing only) \$120,000 (crossing+sidewalk) ³
S1a	71 st Street	Sidewalk	Construction of sidewalk from Elliot Avenue to 12 th Avenue.	\$110,000
S1b	71 st Street	Sidewalk	Construction of sidewalk from Elliot Avenue to 12 th Avenue.	\$165,000
S2	12 th Avenue	Sidewalk	Reconstruct sidewalk from 70 th Street to 71 st Street and add a bus pullout.	\$90,000
P1	RDLS/STEM Parking Lot	Parking Lot	Parking lot rehabilitation or reconstruction (two options).	\$175,000 (mill & overlay) \$830,000 (preserve curb) \$1,050,000 (full reconstruct)

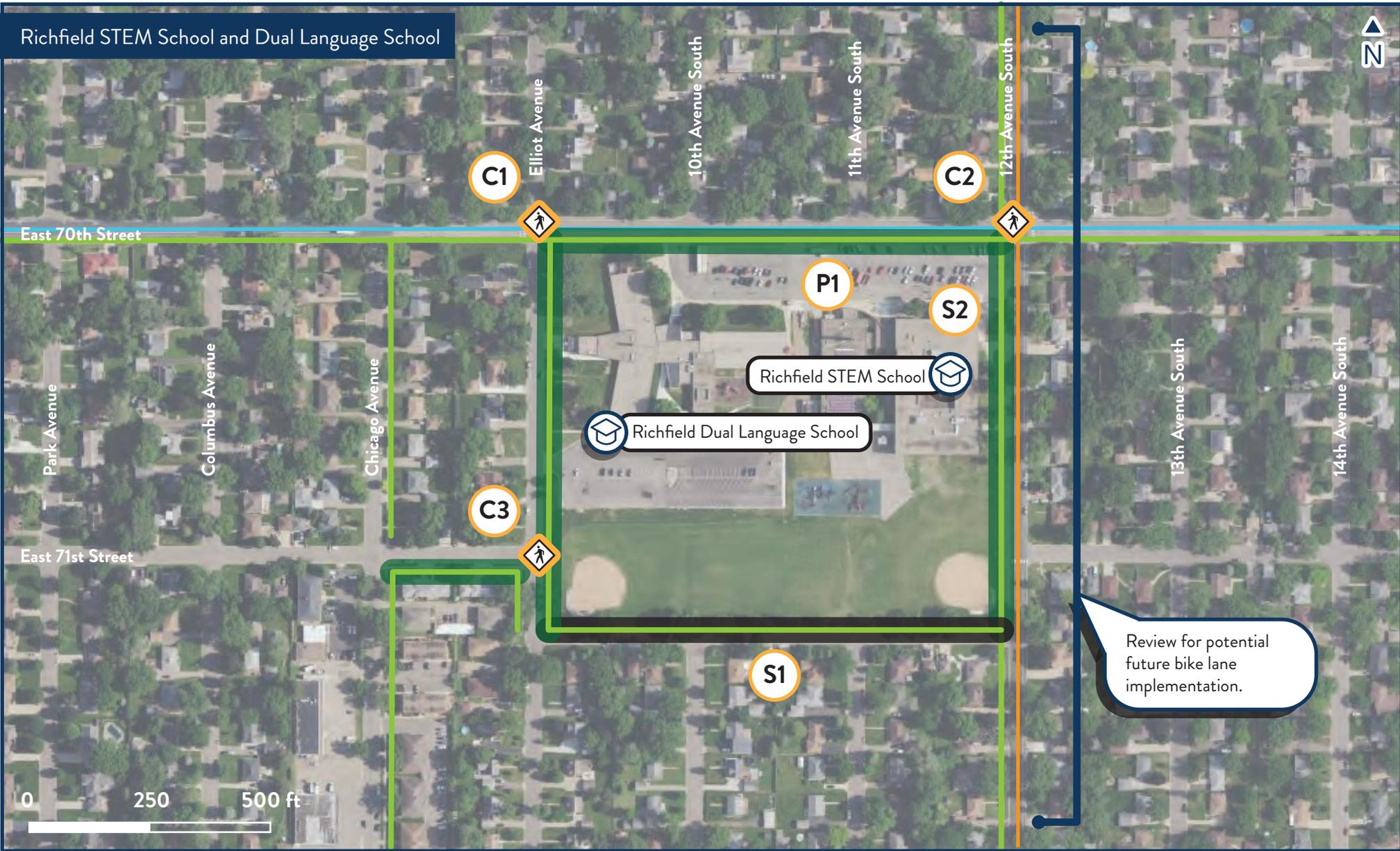
¹ Order does not denote priority.

² Cost estimates for crossing infrastructure does not include pedestrian-scale lighting and were developed using the concept designs produced by SRF Consulting Group. Parking lot cost range denotes efficiencies described in the project page.

³ Includes construction of new sidewalk along Elliot Avenue from 70th Street to 71st Street and 71st Street from Elliot Avenue to Chicago Avenue.

Source: SRF Consulting Group, 2020

Other considerations are detailed in Chapter 5 that organize additional potential enhancements for vehicular and multimodal elements of the parking lot redesign, as well as other multimodal items for future review.



Potential Safe Routes to School Projects
 Richfield, MN
 Figure 1

-  Focus School
-  Improvement ID
-  Proposed Enhanced Crossing
-  Proposed Sidewalk
-  Proposed Sidewalk Upgrade
-  Existing Sidewalk
-  Existing Buffered Bike Lane
-  Existing Shared Lane (Sharrow)

Lowered speed limits along 70th Street and 12th Avenue could potentially enhance the safety and comfort of children walking, rolling, or bicycling along and across the corridors. School zone speeds could also be further reviewed as none are present in the City.

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NEXT STEPS

This Study offers a range of potential infrastructure improvements to improve access to the Richfield Dual Language School and Richfield STEM School. Actionable next steps were organized to ensure this document is fully utilized and implemented to the best of the Richfield School District and City of Richfield's ability.

- **Agency Coordination:** Identify a champion and regularly coordinate within a small team that includes various agency and school district representatives as well as other key area stakeholders.
- **Identify Priorities:** Prioritize projects using the Study and small group discussion.
- **Focused Timeline and Action Plan:** Create a timeline and action plan that identifies planned improvements, responsible parties, the estimated cost, and associated schedule. The action plan will focus on implementation, identify synergies with other planned projects, and allow agencies to be prepared for funding opportunities.

Celebrate wins!



70th Street and 12th Avenue intersections looking northeast. Source: SRF Consulting Group, 2020