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Richard Henry Lee Elementary School Safe Routes to School Accessibility Study: Existing Conditions and Recommendations

August 17, 2023

Anne Arundel Safe Routes to School Accessibility Study

Anne Arundel County (AACO) and Anne Arundel County Public Schools (AACPS) recognize that schools are vital community resources. To improve safety and transportation choices for all residents, the County and school district partnered to conduct a Safe Routes to School Accessibility Study at 17 schools identified in *Move Anne Arundel!*, the County's Transportation Functional Master Plan.

The studies were overseen by a Project Management Team consisting of County, State and School District representatives. They focused on infrastructure within the school walk zone but also assessed opportunities within the school attendance area to expand active transportation to school.

Studies were conducted October 24, 2022 through February 8, 2023, and included one-day site visits to observe school arrival and dismissal and to assess existing walking and bicycling infrastructure. Surveys were also conducted to assess travel modes and barriers to walking or bicycling to and from school.

This report summarizes existing conditions and recommendations for added infrastructure, education, or encouragement programs to increase the number of children that could safely walk or ride bikes to school.

Richard Henry Lee Elementary Accessibility Study

Report findings are derived from:

School site visits	<ul style="list-style-type: none">• Observation of school arrival and dismissal conducted December 6, 2022• Assessment of pedestrian and bicycling infrastructure within the current school walk zone and roads immediately adjacent (as connectivity allows) conducted December 6, 2022
Parent Survey	<ul style="list-style-type: none">• Administered January 26 – February 19, 2023• Available online in English, Spanish, Chinese, and Korean• Survey link was provided via email

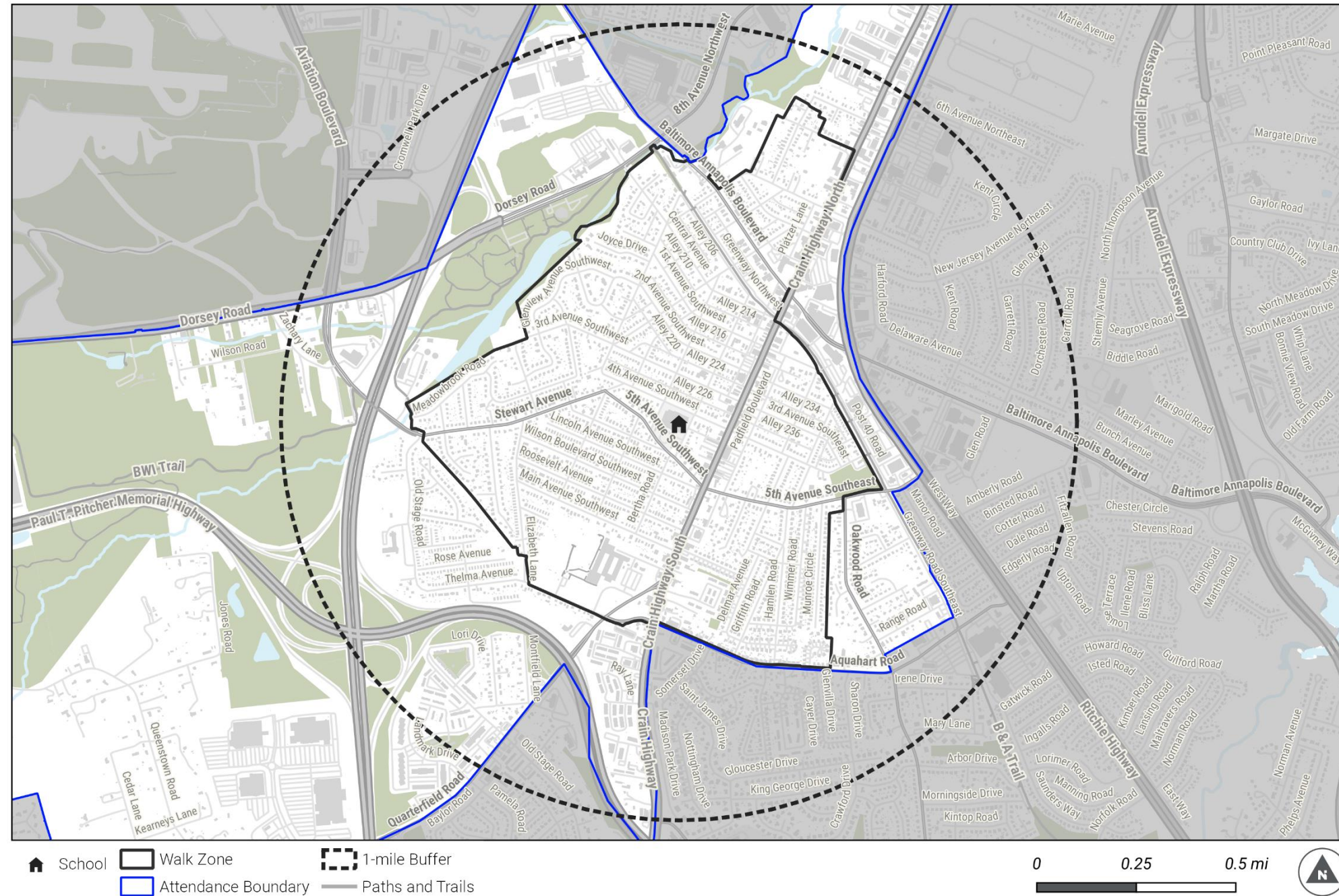
Recommendations were shared with the school community during a virtual open house in October 2023.

SCHOOL OVERVIEW

Study Area

- Field work was conducted on roads within a half mile of the school; desk-level review was conducted on roads within a one-mile radius of the school that fall within the school attendance area.
- Opportunities to expand school connectivity for pedestrians and bicyclists beyond the existing walk zone are limited.
 - The current walk zone extends to the limits of the school attendance area to the south and east
 - Walking distance from residences beyond the west and southwest walk zone border exceed 1 mile and to the west are separated by Interstate 97.

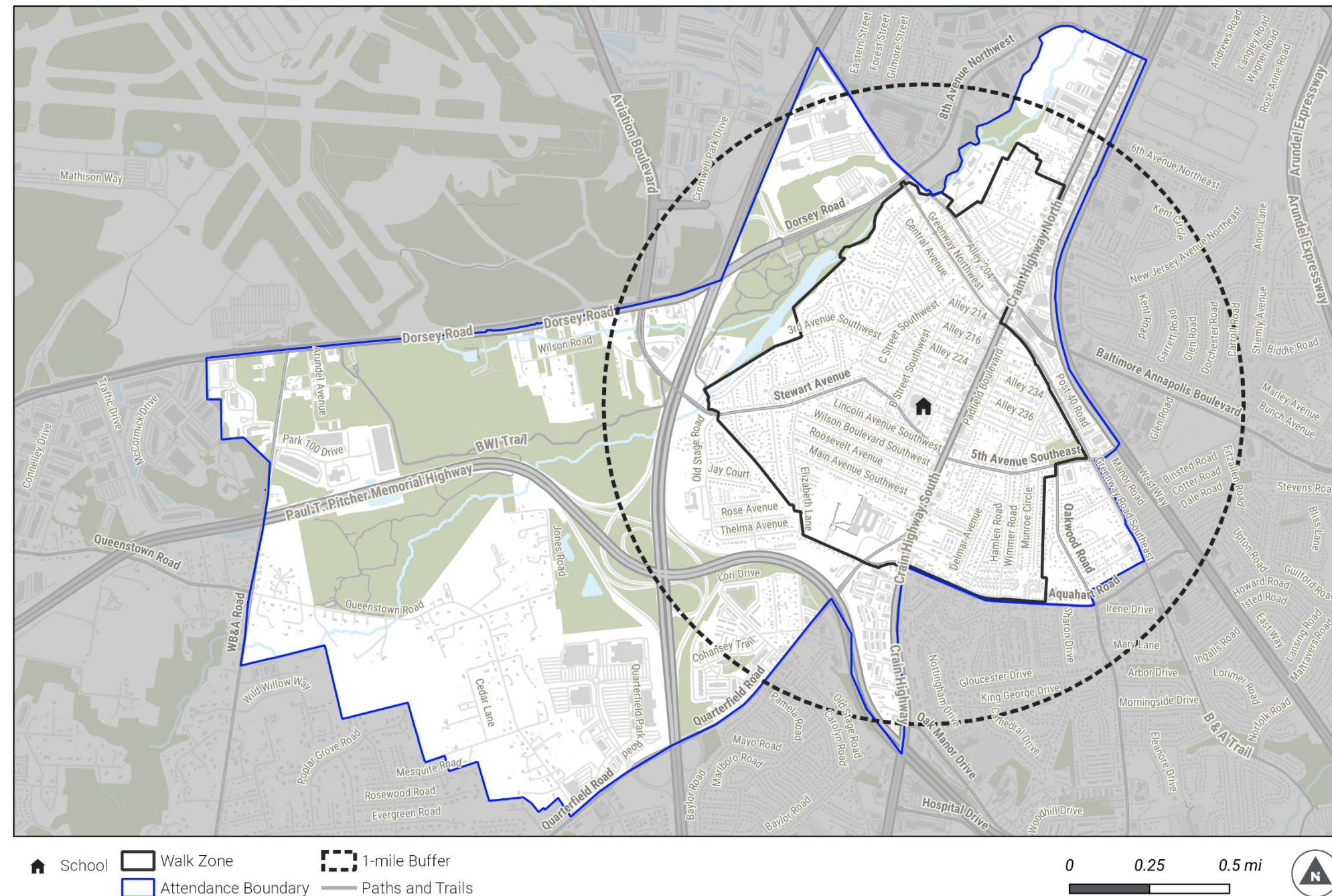
Richard Henry Lee Elementary School - 1-mile Radius



Student Attendance Area and Enrollment

- Richard Henry Lee Elementary School serves 510 students in grades PreK–5.
- 33% of students are registered for bus transportation*

Richard Henry Lee Elementary School - Attendance Boundary



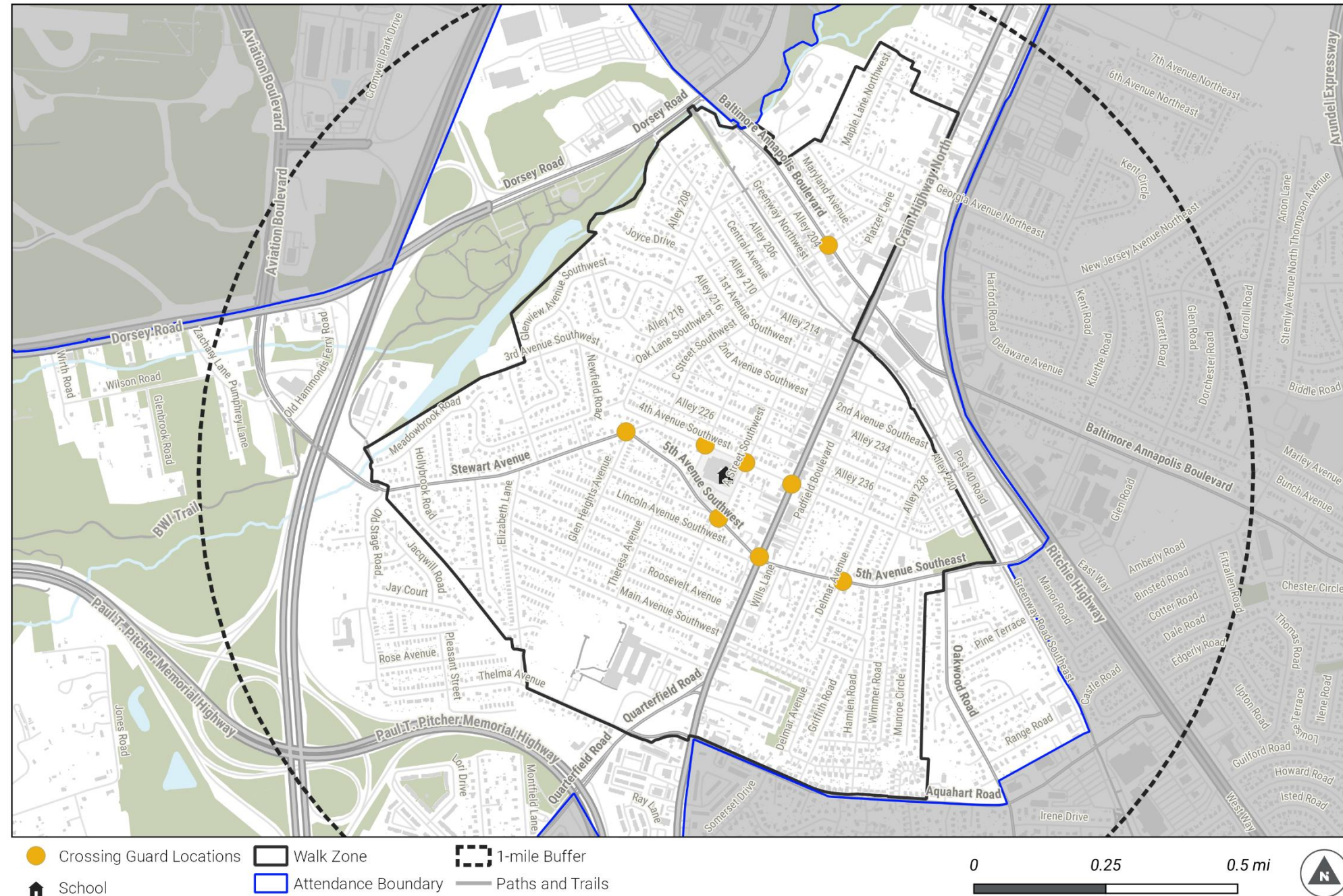
*AACPS provides transportation from designated bus stops for students who reside within the school's attendance area. At elementary schools, transportation is provided for Pre-K students who live more than ½ mile from school, Kindergarten students who live more than ½ mile from school, and students of all other grades who live more than one mile from school.

Source: AACPS 2022-2023 Parent Handbook

School Location and Layout

- Linthicum Elementary School is located on A Street SW just off Crain Highway (MD 3 Business) in Glen Burnie.
- Neighboring areas largely consist of single-family homes.
- Most of the area within and outside of the walk zone consists of gridded streets that provide network connectivity.
- A Street SW is a neighborhood street that with a posted speed limit of 25 mph.
- Crossing Crain Highway is a barrier for students who live in the east end of the current walk zone.

Richard Henry Lee Elementary School - Walk Zone



School Access

Walkers and Bicyclists:

- Walkers and bicyclists access the school via 4th Ave SW, where there is one door for K-2nd graders and another door for 3rd–5th graders.

Buses:

- Buses drop students off on B Street SW, where there is a side entrance for bus riders.

Parent/Guardian Drop-Off:

- Parents/guardians use the school driveway from A Street SW to access a drop-off loop at the school's main entrance.
- Signage prohibits making left turns off A Street SW into the drop-off loop.

Note aerial imagery available for the school access map is dated.

Staff Vehicles:

- Staff who drive access the school via the main driveway on A Street SW and park in the school parking lot.



PARENT-REPORTED STUDENT TRAVEL MODES AND BARRIERS

Richard Henry Lee Elementary - Parent Survey Response Overview

- 15 total survey responses received*
- 93% of respondents live in the area zoned to the school

Reported Distance from Home to School	
Distance	Number of Respondents
< ¼ mile	1
¼ mile – ½ mile	2
½ mile – 1 mile	5
1 mile – 1 ½ miles	3
>1 ½ miles	3

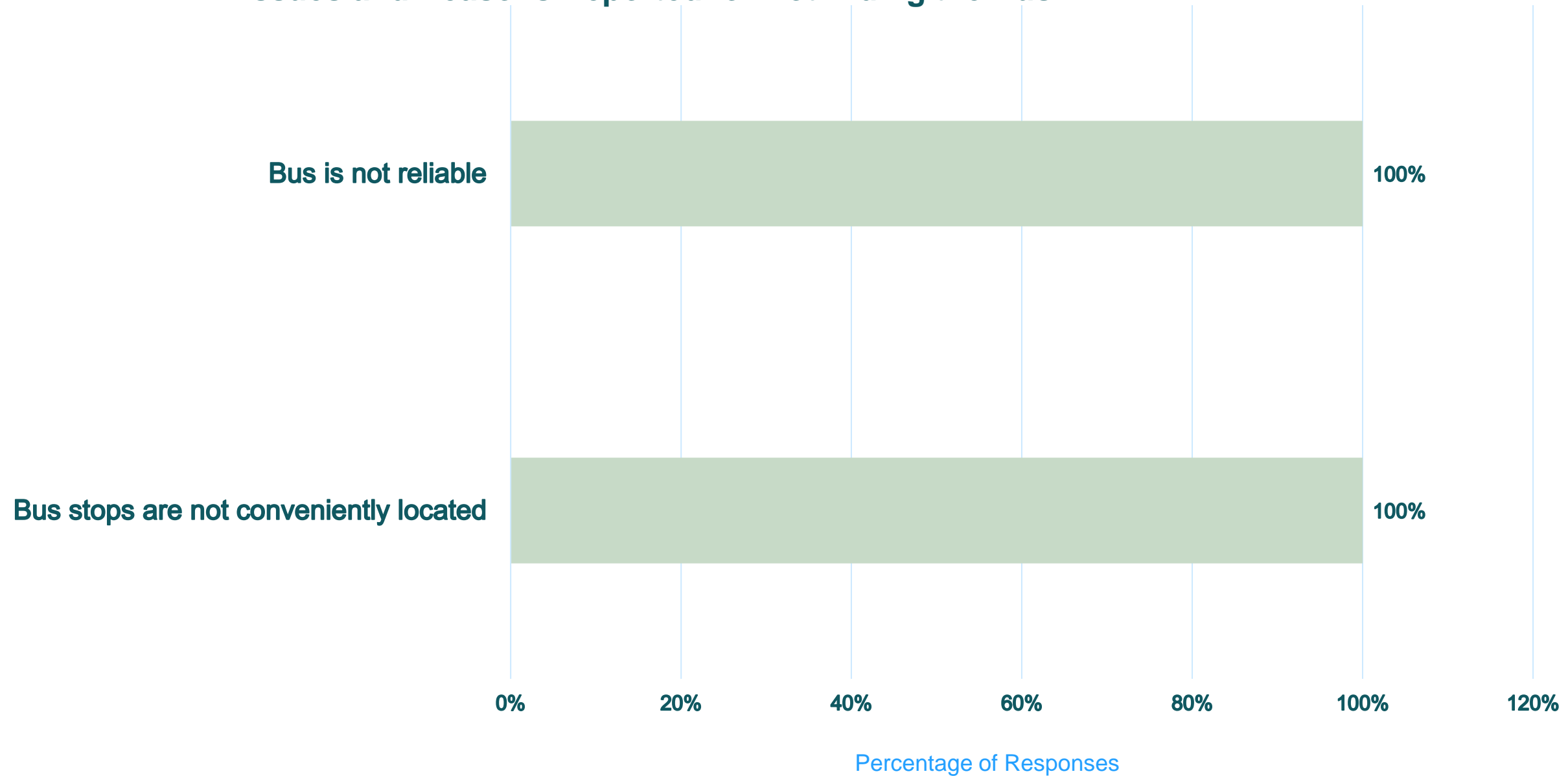
**Note that the survey response rate represents a fraction of the student population and may not reflect the experiences and perspectives of all families.*

Parent Survey Results

School Bus Eligibility and Use

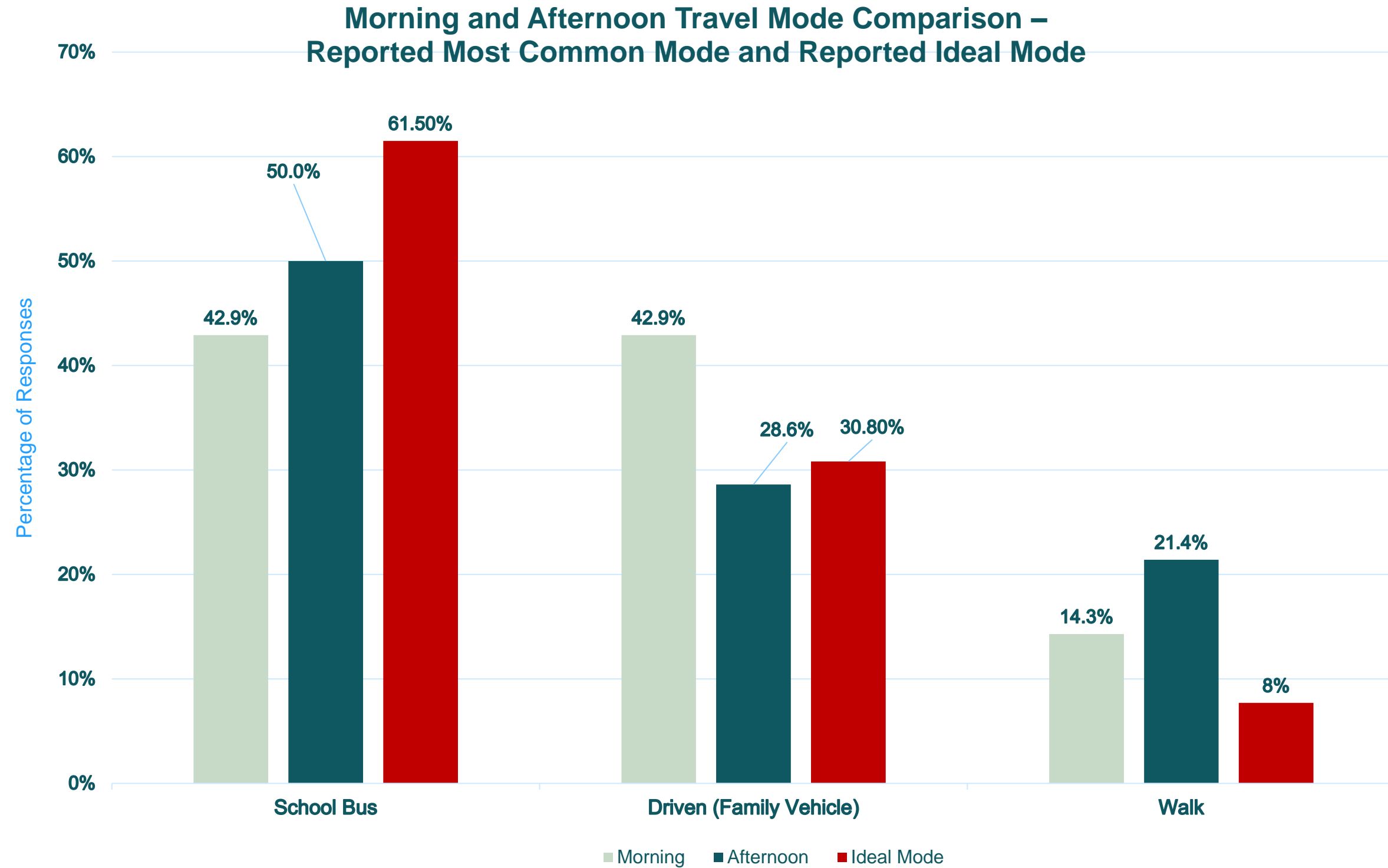
60% of respondents reported being eligible for school bus transportation;
43% reported riding the school bus to school.

Issues and Reasons Reported for Not Riding the Bus



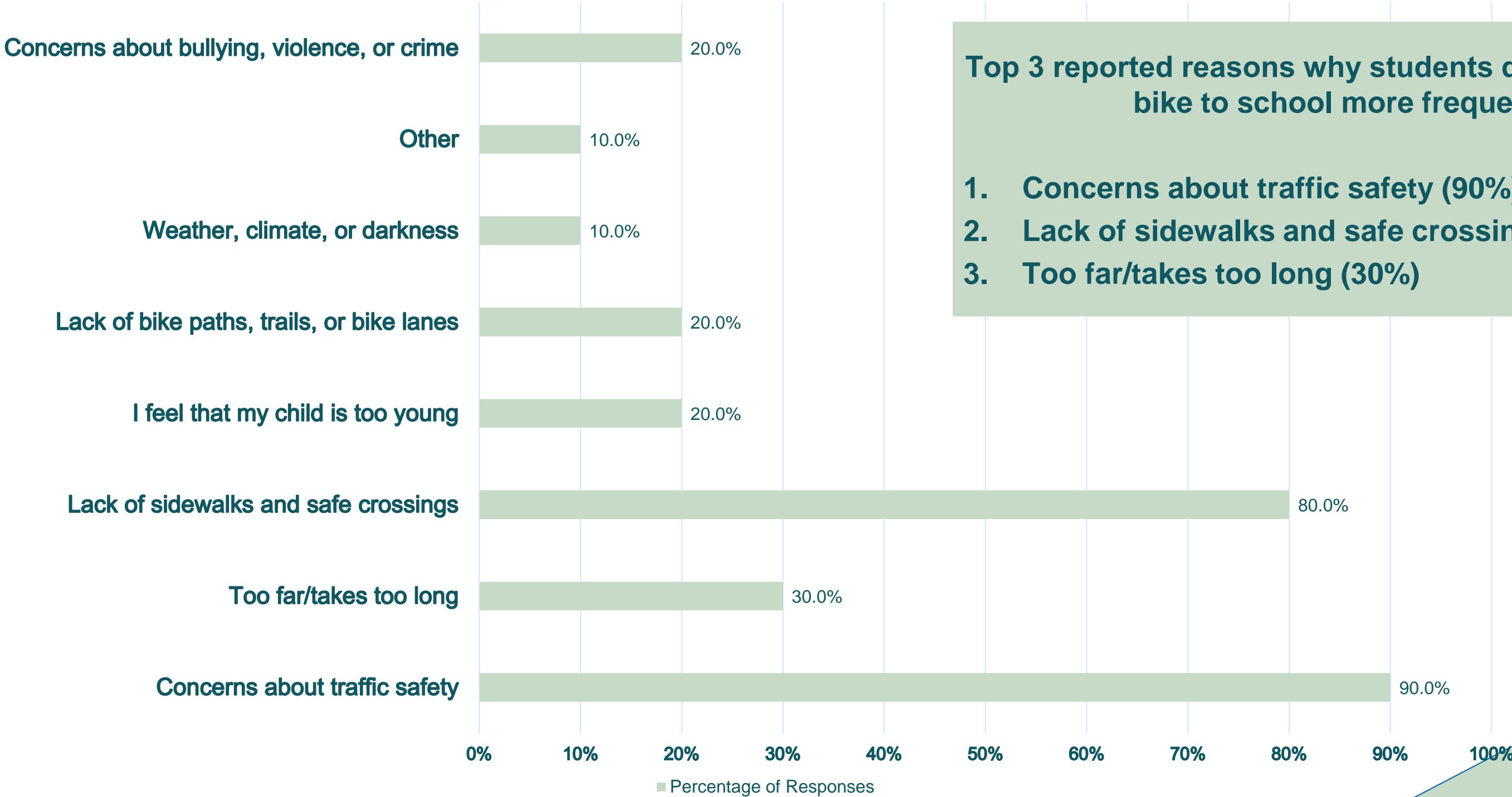
Parent Survey Results

Most Common Travel Mode versus Ideal Travel Mode



Parent Survey Results

Reported Barriers to Walking or Biking to School



Top 3 reported reasons why students don't walk or bike to school more frequently:

- 1. Concerns about traffic safety (90%)**
- 2. Lack of sidewalks and safe crossings (80%)**
- 3. Too far/takes too long (30%)**

Parent Survey Results

Reported Streets Used to Walk or Bike to School

- B Street SW
- A Street SW
- 4th Ave SW
- Baltimore Ave SW
- 4th Ave SE
- Bertha Road

ARRIVAL AND DISMISSAL OBSERVATIONS

Arrival and Dismissal Operations

School Hours:

- 8:00 am – 2:25 pm
- Doors open at 7:40 am

Observation Times (December 5th):

- Arrival: 7:25 am – 8:15 am
- Dismissal: 2:15 pm – 2:45 pm

Crossing Guards:

- Per AACPS data, eight crossing guards are assigned to Richard Henry Lee School; four were observed the day of the observation:
 - 4th Ave SW & A Street
 - 5th Ave SW & A Street
 - 4th Ave SW & B Street
 - 4th Ave SW & Crain Highway (dismissal only)
- The crossing guards manage pedestrian traffic as well as cars entering and exiting the drop-off line.



The crossing guard at 4th Ave SW & A Street SW during arrival

General Observations

General Observations:

- Most student walkers exited and entered vehicles parked along 4th Ave SW during arrival and dismissal.
- One of the school's three buses was not running on the day of observation, which led to increased car drop-off and pick-up traffic.
- Relatively high motor vehicle speeds were observed on 5th Ave SW during arrival.



Arrival Observations

The study team observed arrival from the following locations:

- 4th Ave SW and A Street SW
- 5th Ave SW and A Street SW

General Observations:

- School starts at 8:00 AM
- Doors open at 7:40 AM; buses hold students until then. Walkers gather outside the 4th Ave SW entrance until doors open
- Cars line up in the drop-off loop and along A Street SW until the doors are opened at 7:40 AM.



Parents waiting in the drop off loop before doors open during arrival.

Arrival Observations

Walkers and Bicyclists

- Approximately 30 walkers came from north of 4th Ave SW.
- An additional 1–2 students crossed Crain Highway at 4th Ave SW, which is an uncontrolled crossing.

Bus Lane

- Two buses were observed dropping students off at arrival.



School crossing on A Street SW.

Arrival Observations

Parent Drop-off

- Parents dropping off students in the drop-off loop were observed accessing the driveway off A Street SW via 4th Ave SW.
- There is no left turn into the driveway permitted from A Street SW.
- Many parents dropped off students on 4th Ave SW or parked along the street and walked their kids to the door; several near-collisions were observed.



The main entrance to Richard Henry Lee Elementary School

Dismissal Observations

The study team observed dismissal from the following locations:

- 4th Ave SW & A Street SW
- 4th Ave SW & B Street SW
- 5th Ave SW & A Street SW

General Observations:

- Dismissal begins at 2:20pm; walkers are dismissed first, then bus riders are dismissed to the gym.

Walkers and Bicyclists:

- Approximately 60 students were observed walking towards the intersection of 4th Ave SW & A Street SW.
- Approximately 10 students were observed walking south on Bertha Avenue.
- Many students getting dismissed as walkers appeared to be park-and-walk students.



Parents waiting at the walker exit during dismissal.

Dismissal Observations

Bus Lane

- Bus riders are dismissed to the gym after walkers are dismissed, and then get escorted to their bus.

Parent Pick-up

- Approximately 60 cars were in line for pick up at dismissal time; cars wrapped around the corner of 4th Ave SW & A Street and continued down 4th Ave SW for multiple blocks.
- Numerous vehicular conflicts were observed on 4th Ave SW, including a school bus accelerating around the parent car line to get out of the traffic.
- Multiple cars were observed blocking crosswalks at 4th Ave SW and A Street SW; the crossing guard tried to mitigate this.



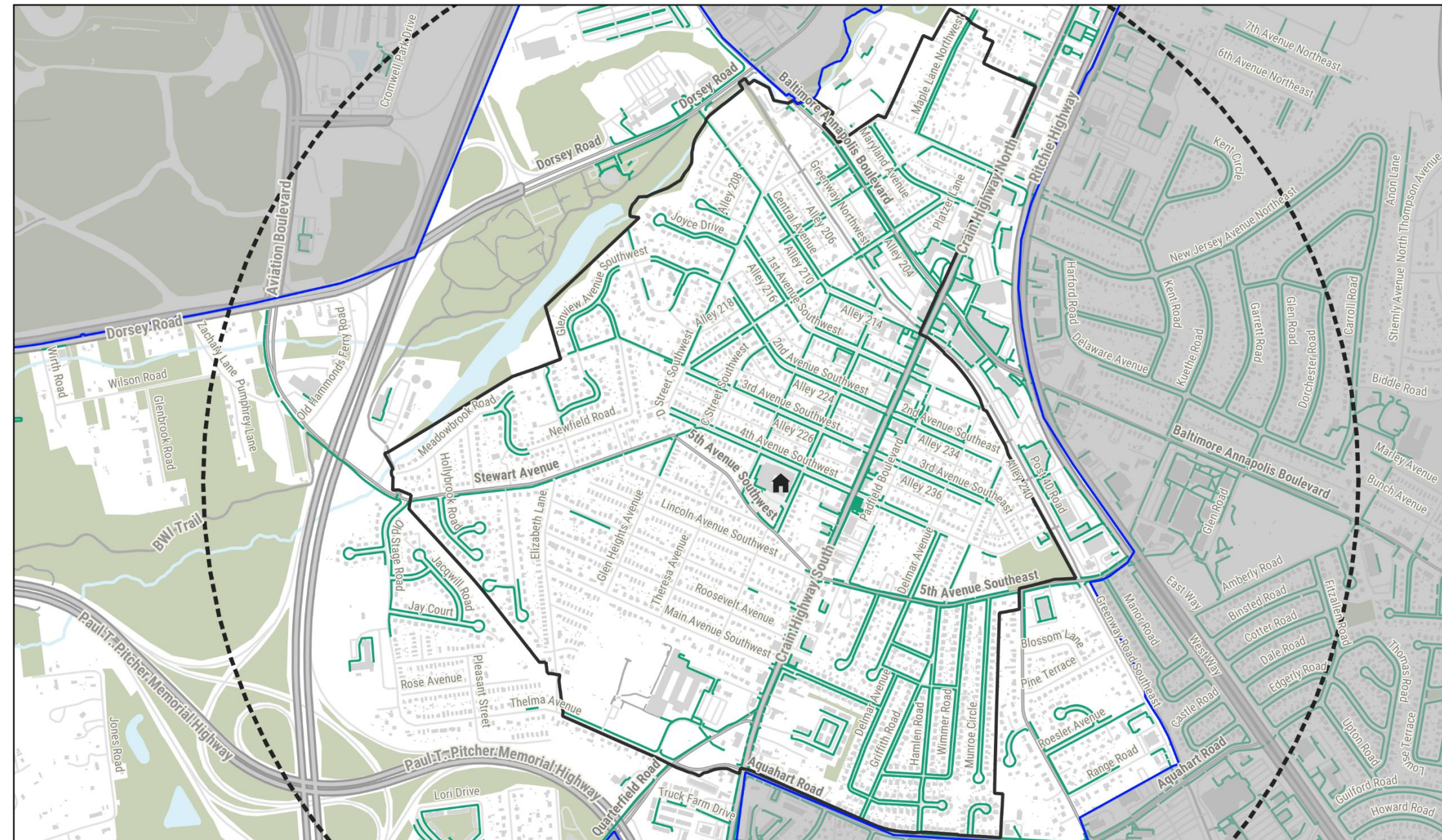
4th Ave SW at dismissal

EXISTING INFRASTRUCTURE CONDITIONS

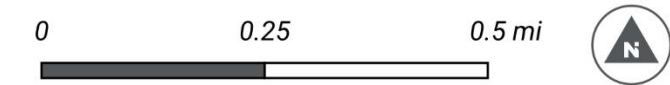
Existing Sidewalk Network

Most streets in the northern portion of the walk zone have sidewalks; several gaps exist, particularly south of the school.

Richard Henry Lee Elementary School - Existing Sidewalk Network



- School
 - Walk Zone
 - Attendance Boundary
 - 1-mile Buffer
 - Sidewalks
- Source: OpenArundel

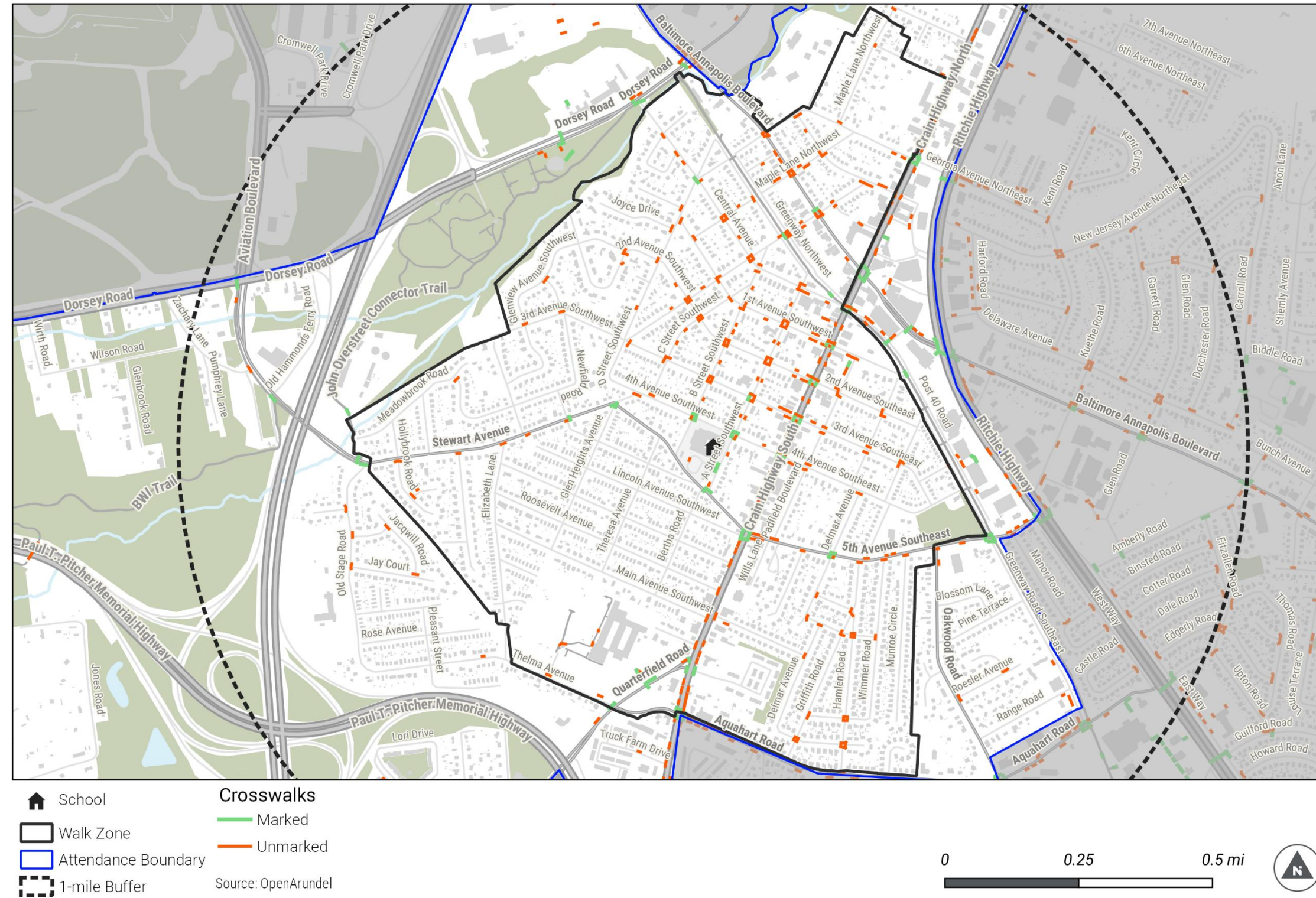


Existing Crosswalks

There is a marked crosswalk across the school driveway on A Street SW and at other key crossings around the school property and Crain Highway.

Crossings of most intersections within the school walk zone are unmarked.

Richard Henry Lee Elementary School - Existing Crosswalks



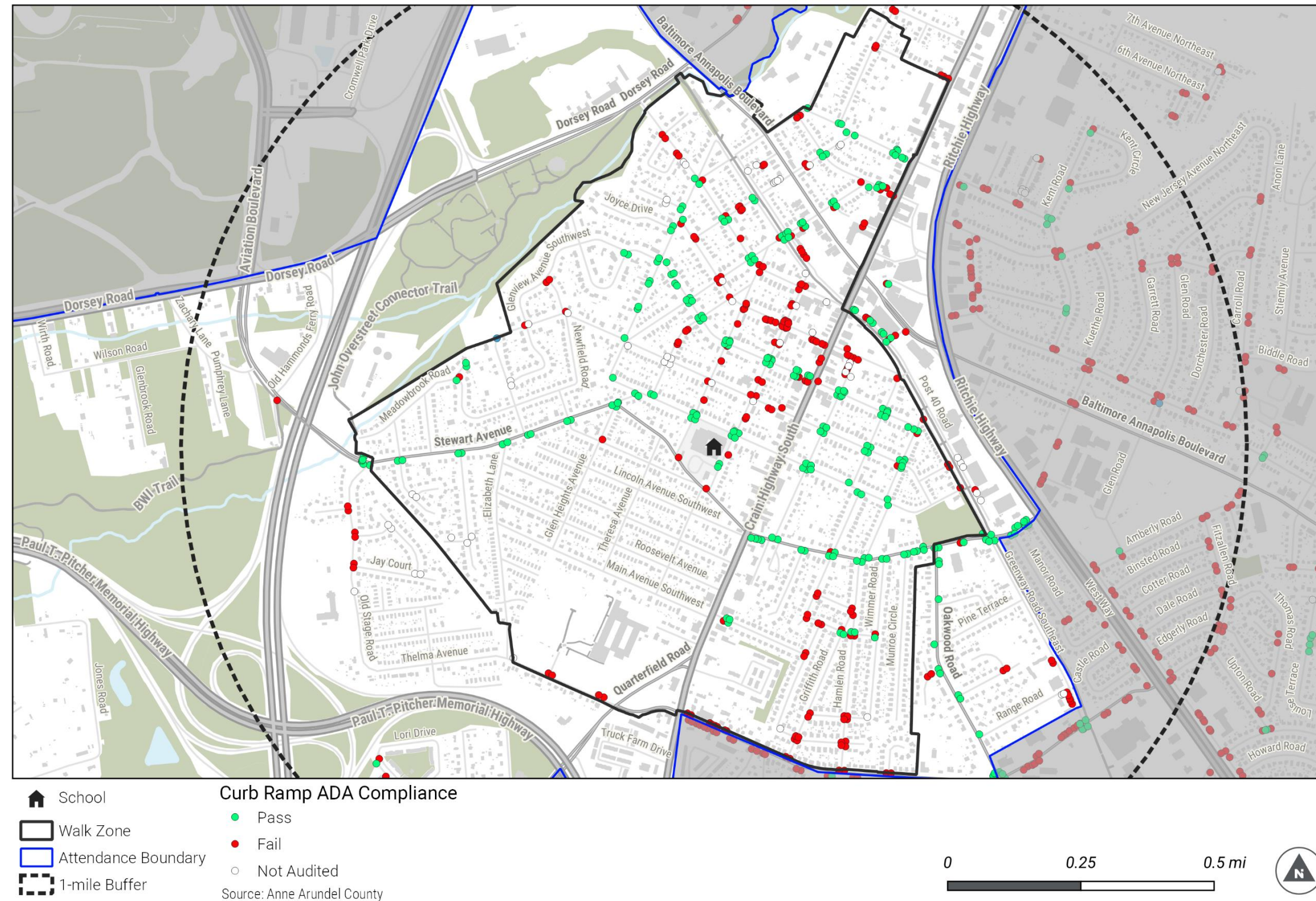
Existing Curb Ramps

Most intersections in the walk zone north of the school have curb ramps, but many lack detectable warning surfaces.

Most intersections in the walk zone south of the school do not have curb ramps.

*Curb ramp data downloaded 9/14/22

Richard Henry Lee Elementary School - Existing Curb Ramps



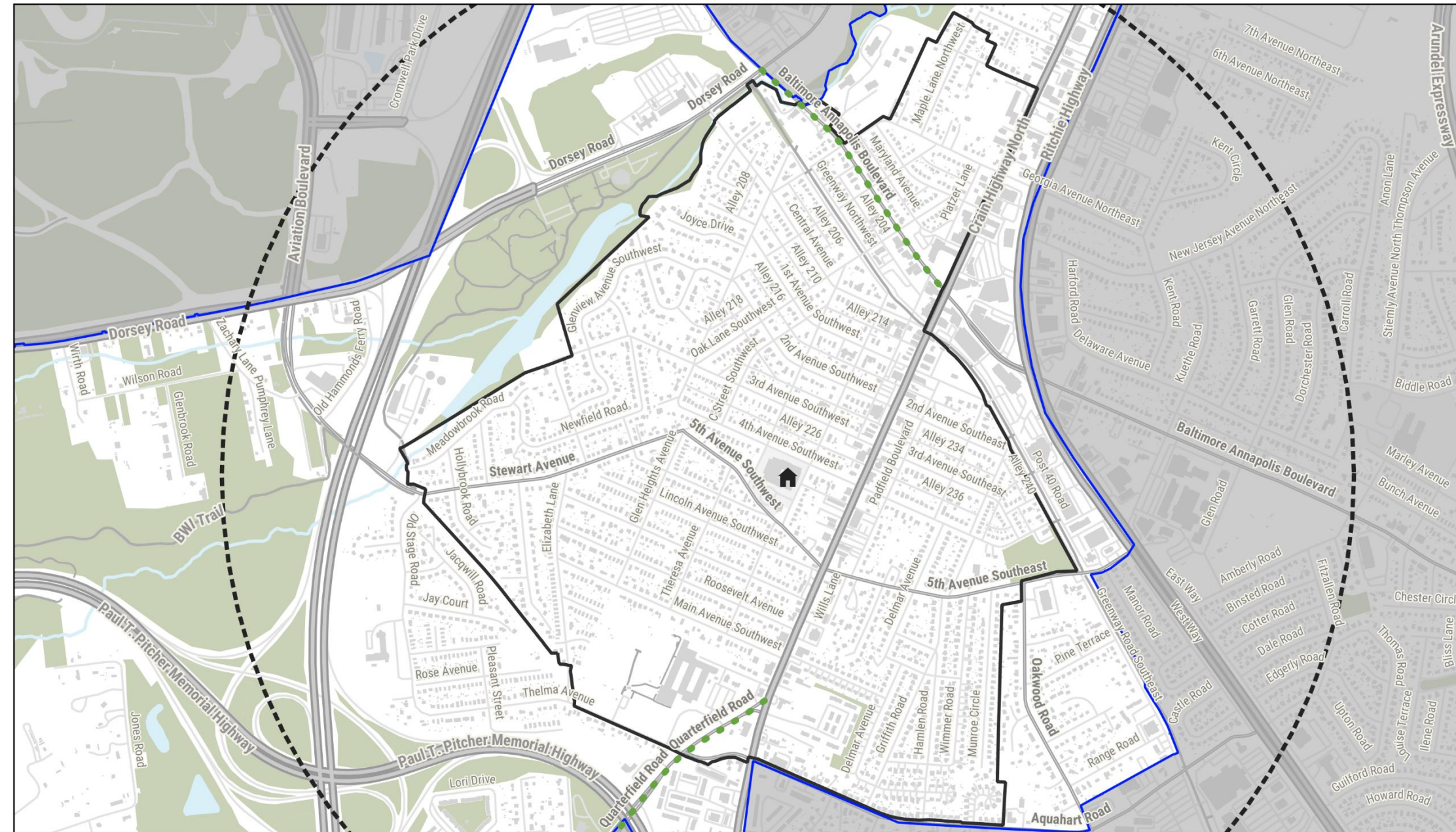
Existing On-Road Bike Facilities

No on-road bike facilities were observed or are known to exist on roads near the school.

Bike lanes are planned* for Quarterfield Road, which is at the south end of the walk zone and on Baltimore Annapolis Boulevard at the north end of the walk zone.

*“Planned” means included in the County’s Master Plan

Richard Henry Lee Elementary School - Existing On-Road Bicycle Facilities



- | | | | |
|---------------------|---------------------------|--|--------------------------------------|
| School | Bike Lanes | Sharrows or Marked Shared Lanes | Signed/Designated Bike Routes |
| Walk Zone | Existing | Existing | Existing |
| Attendance Boundary | Programmed | Programmed | Planned |
| 1-mile Buffer | Planned | Planned | |
| | Existing - Separated Lane | | |

Source: Anne Arundel County

Existing Regional Trails, Park Trails, and Paths

The BWI trail runs just outside the school walk zone.

The Baltimore-Annapolis Trail runs through the northeast end of the school walk zone.

There is a planned* shared use path along Dorsey Road, northwest of the walk zone.

*“Planned” means included in the County’s Master Plan

Richard Henry Lee Elementary School - Existing Regional Trails, Park Trails, and Paths



Sources: Anne Arundel County, OpenArundel



CRASH DATA

Crash Data (2017 – 2021)

Crashes within 1-mile radius of the school*:

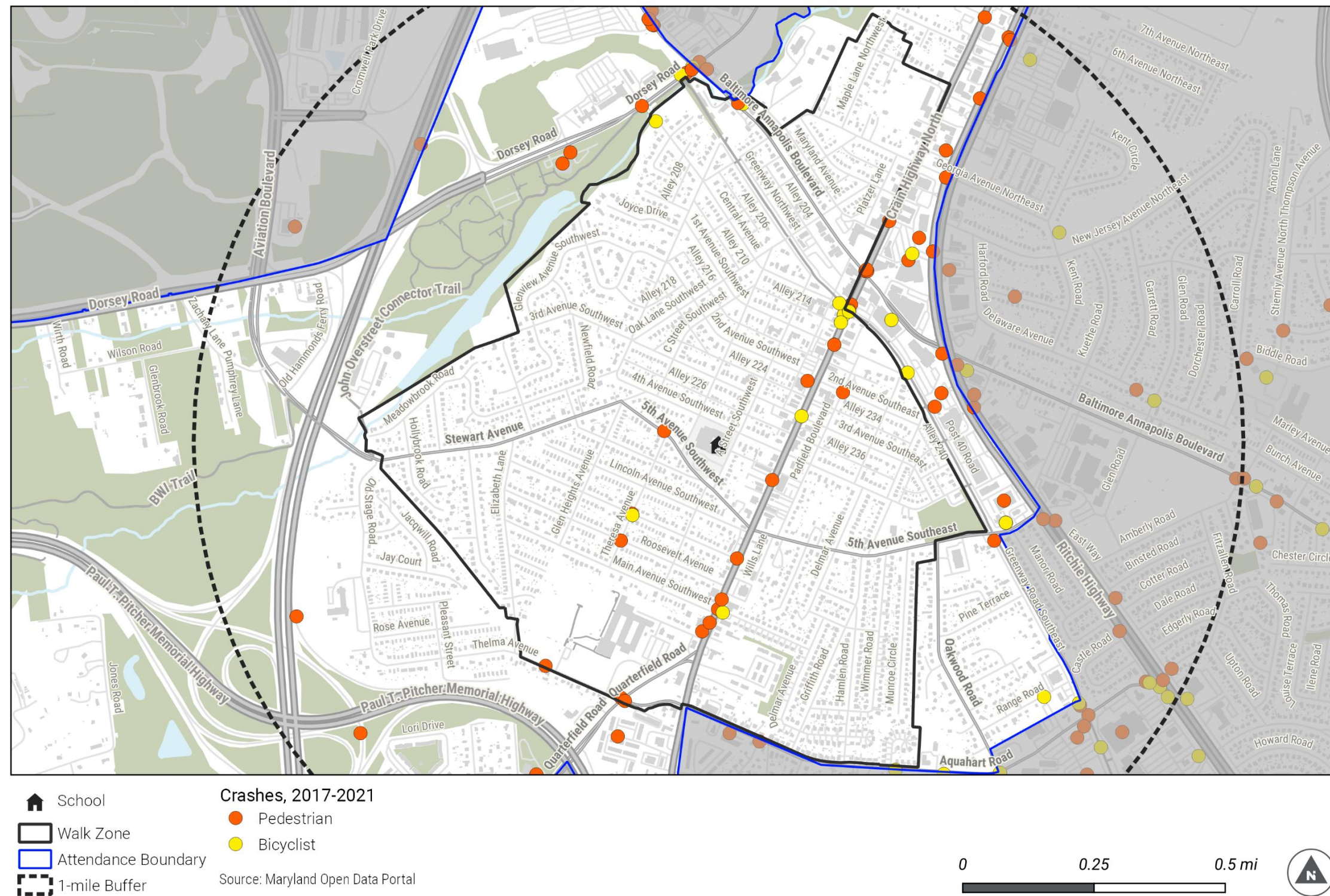
- 2,453 total crashes (all modes), 10 fatal
- 88 pedestrian-involved crashes, 83 resulting in injury, 3 fatal
- 31 bicyclist-involved crashes, 23 resulting in injury, 0 fatal

*Includes interstate crashes

Pedestrian and bicyclist crashes within the walk zone:

- 16 pedestrian-involved and 9 bicyclist-involved crashes occurred in the walk zone.

Richard Henry Lee Elementary School - Pedestrian and Bicycle Crashes



INFRASTRUCTURE RECOMMENDATIONS

Infrastructure Recommendations

Safe Routes to School (SRTS) infrastructure recommendations aim to improve safety and accessibility for students to walk and bicycle to school. This may include reducing vehicle speeds, addressing conflicts between pedestrians/bicyclists and drivers, and providing fully accessible sidewalks and crossings near schools.

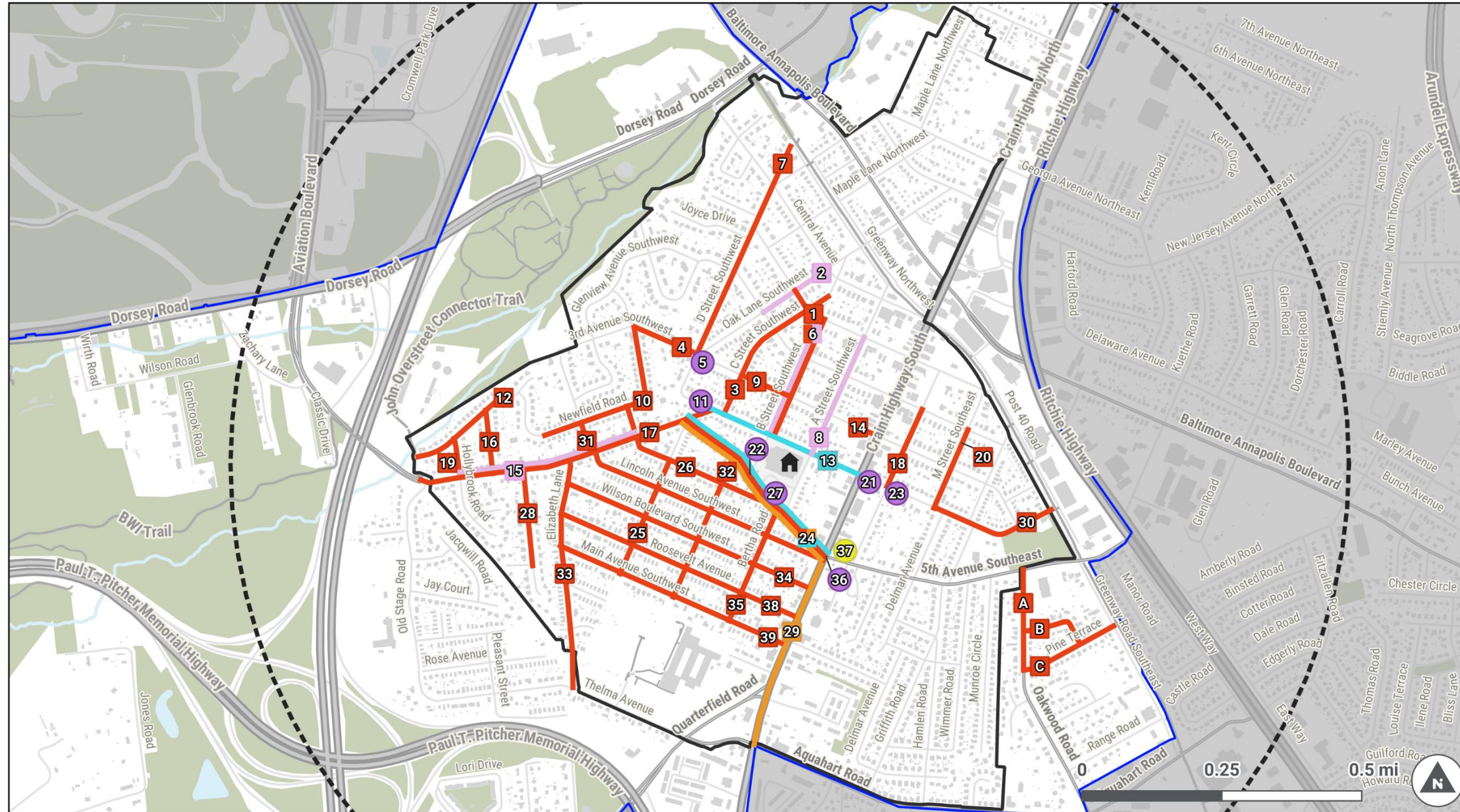
The following tables summarize infrastructure recommendations within and outside of the current school walk zone as relevant. Key student walking or bicycling routes were identified based on information received from school administration, parent surveys, and school observations. Key routes are noted in the recommendation “Location” field.

Note that other projects or planning/feasibility studies may be planned or ongoing within the study area. Anne Arundel County will confirm the approach to implementing recommendations from this SRTS Accessibility Study to ensure they align with other projects as necessary.

Potential costs do not include items calculated based on percent of construction items, such as mobilization, MOT, surveying, ROW/easements, design, CMI and administrative costs, and contingencies. These cannot be determined since the method of implementation for proposed improvements has not yet been confirmed.

Infrastructure Recommendations Map

Richard Henry Lee Elementary School - Recommendations



- | | | | |
|---------------------|---|-----------------------|---|
| School | Spot Recommendations | Sidewalk | Segment Recommendations |
| Walk Zone | Access Management | Speed Management | Bicycle Facility |
| Attendance Boundary | Bicycle Rack | Other Recommendations | Corridor Intersection Upgrades |
| 1-mile Buffer | Intersection or Crossing | | School Zone Signs and Pavement Markings |
| Paths and Trails | School Zone Signs and Pavement Markings | | Speed Management |
| | | | Sidewalk |

Infrastructure Recommendations within the School Walk Zone

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
1	1st Ave SW (B St SW to Oak Ln SW)	Sidewalk	Missing sidewalk (north)	Install new sidewalk**	\$14,238	Long
2	Oak Ln NW (2nd Ave SW to Central Ave)	2a. Crosswalk	Stop-controlled crossings of Oak Ln at 2nd Ave SW, 1st Ave SW, and Central Ave SW are unmarked	Install new standard crosswalks	\$3,000	Short
		2b. Curb Ramp	Missing curb ramps at the crossings of Oak Ln at 2nd Ave SW, 1st Ave SW, and Central Ave SW	Install new ramps	\$48,000	Medium
3	C St SW (Alley 214 to 4th Ave SW)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk	\$123,205	Long
4	3rd Ave SW (D St SW to Newfield Rd)	Sidewalk	Missing sidewalk (south)	Install new sidewalk	\$25,761	Long

*Short (1 year), medium (2-3 years) or long term (3+ years)

**Note that at locations where installation of new sidewalks is recommended, high-visibility crosswalks, ADA compliant curb ramps, and stop bars should be installed at intersecting streets to facilitate crossings and encourage motor vehicle yielding.

Infrastructure Recommendations within the School Walk Zone

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
5	Oak Ln SW & D St SW & 3rd Ave SW	5a. Crosswalk	Northern and southern crossing of D St SW is unmarked, no stop bar	Install new high-visibility crosswalks, Mark new stop bars across D St SW	\$1,800	Short
			Crossing of Oak Ln SW is unmarked, no stop bar	Install new standard crosswalk, Mark new stop bar across Oak Ln SW	\$500	
		5b. Curb Ramp	Missing curb ramps	Install new ramps	\$20,000	
		5c. Other intersection or crossing issues	Concerns about motor vehicle turning speeds	Install curb radius reduction	\$5,000	Long
6	B St SW (1st Ave SW to 4th Ave SW) (Along key student walking route)	6a. Sidewalk	Missing sidewalk (west)	Install new sidewalk**	\$48,222	Long
		6b. Other intersection or crossing issues	Concerns about motor vehicle yielding B St SW is key student walking route, connecting all other neighborhood streets to the school. Intersections with 1st, 2nd, 3rd, and 4th Ave are not stop controlled.	Consider evaluating for traffic signal or stop control	N/A	Long

*Short (1 year), medium (2-3 years) or long term (3+ years)

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
7	D St SW (3rd Ave SW to Greenway St NW)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$171,946	Long
8	A St SW (1st Ave SW to 4th Ave SW) (Along key student walking route)	8a. Crosswalk	Side street crossings of A St SW at 1st Ave, 2nd Ave, 3rd Ave, and 4th Ave are unmarked	Install new standard crosswalks	\$2,400	Short
		8b. Curb Ramp	Missing curb ramps	Install new ramps	\$32,000	Medium
		8c. Other intersection or crossing issues	Concerns about motor vehicle yielding A St SW is key student walking route, connecting all other neighborhood streets to the school. Intersections with 1st, 2nd, 3rd, and 4th Ave are not stop controlled.	Consider evaluating for stop control	N/A	Long

*Short (1 year), medium (2-3 years) or long term (3+ years)

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
9	3rd Ave SW (B St SW to C St SW)	Sidewalk	Missing sidewalk (south)	Install new sidewalk**	\$18,359	Long
10	Newfield Rd (3rd Ave SW to west of Lincoln Ave SW)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$135,611	Long
11	4th Ave SW & Stewart Ave (Along key student walking route)	11a. Other intersection or crossing issues	Concern about motor vehicle turning movements and speeds	Install curb extensions on southeast and southwest corners	\$8,000	Medium
		11b. Crosswalk	Crossing of Stewart Ave is unmarked	Mark new standard crosswalk	\$400	Short
12	Meadowbrook Rd (Newfield Rd to Cul-de-sac)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$80,034	Long

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
13	4th Ave SW (Crain Hwy S to Stewart Ave) (Along key student walking route, Inside school zone)	School Zone Signs and Pavement Markings	SCHOOL pavement marking missing, School advance warning sign missing, School zone sign missing, School zone speed limit sign missing	Expand school zone and enhance signage per MdMUTCD part 7: - Install new SCHOOL pavement markings - Install new school advance warning signs - Install new school zone signs (begin/end) - Install new school zone speed limit signs	\$1,000 \$500 \$1,000 \$500	Short
14	3rd Ave SW (Crain Hwy S to Platzer Ln SW)	Sidewalk	Missing sidewalk (North)	Install new sidewalk**	\$8,123	Long
15	Stewart Ave (Hollybrook Rd to Baltimore Ave)	Crosswalk	Crossings of side streets are unmarked, No stop bar	Install new standard crosswalks, Mark new stop bars at side street crossings of Hollybrook Rd, Dogwood Dr, Elizabeth Ln, and Baltimore Ave	\$16,000	Short
16	Magnolia Rd (Meadowbrook Rd to Stewart Ave)	Sidewalk	Missing sidewalk	Install new sidewalk**	\$48,007	Long

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
17	Stewart Ave (John Overstreet Connector to 4th Ave SW)	Sidewalk	Missing sidewalk (North)	Install new sidewalk**	\$114,107	Long
18	Drum Point Ave SE (4th Ave SE to 2nd Ave SE)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$63,941	Long
19	Hollybrook Rd (Meadowbrook Rd to Stewart Ave)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$29,626	Long
20	M St SE (2nd Ave SE to 4th Ave SE)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$64,485	Long
21	Crain Hwy & 4th Ave	Other intersection or crossing issues	Concern about motor vehicle yielding Pedestrians/bicyclists unable to find sufficient gaps in traffic (south)	Install RRFB	\$15,000	Long

*Short (1 year), medium (2-3 years) or long term (3+ years)

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
22	B St SW & 5th Ave SW (Along key student walking route, Inside school zone)	22a. Other intersection or crossing issues	Concern about motor vehicle turning movements (north, east) Concern about motor vehicle yielding	Install curb extensions* <i>*This recommendation is dependent upon the installation of sidewalks on 5th Ave SW</i>	\$8,000	Long
		22b. Crosswalk	Crossing of B St SW (north) and 5 th Ave SW (east) is unmarked	Install new high-visibility crosswalks	\$1,600	Short
23	4th Ave SE & Padfield Blvd/Drum Point Ave SE	Crosswalk	Crossings of Drum Point Ave SE and Padfield Blvd (north and south) are unmarked, no stop bar	Install new standard crosswalks, Mark new stop bars	\$1,000	Short

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
24	5th Ave (Stewart Ave to Crain Hwy S) (Along key student walking route, Inside school zone)	24a. School Zone Signs and Pavement Markings	SCHOOL pavement marking missing	Expand school zone and enhance signage per MdMUTCD part 7: - Install new SCHOOL pavement markings - Install new school advance warning signs - Install new school zone speed limit signs	\$1,000	Short
			School advance warning sign missing		\$500	
			School zone speed limit sign missing		\$500	
		24b. Sidewalk	Missing sidewalk (north)	Install new sidewalk**	\$148,537	Long
		24c. Speed Management	Observed motor vehicle speeds appear to exceed speed limit Speeding concern reported by school	Conduct a speed study to consider speed management measures or other modifications	N/A	Long

*Short (1 year), medium (2-3 years) or long term (3+ years)

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
25	Glen Heights Ave (Baltimore Ave to Main Ave SW)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$93,707	Long
26	Baltimore Ave SW (5 th Ave SW to Newfield Rd) (Along key student walking route)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$140,643	Long
27	5th Ave SW & Baltimore Ave (Along key student walking route, Inside school zone)	27a. Other intersection or crossing issues	Concern about motor vehicle turning movements and speeds Concern about motor vehicle yielding (south)	Install curb extensions* <i>*This recommendation is dependent upon the installation of sidewalks on 5th Ave SW & Baltimore Ave SW</i>	\$8,000	Long
		27b. Crosswalk	Crossing of Baltimore Ave is unmarked, No stop bar	Install new standard crosswalk, Mark new stop bar	\$500	Short

*Short (1 year), medium (2-3 years) or long term (3+ years)

**Note that at locations where installation of new sidewalks is recommended, high-visibility crosswalks, ADA compliant curb ramps, and stop bars should be installed at intersecting streets to facilitate crossings and encourage motor vehicle yielding.

Infrastructure Recommendations within the School Walk Zone

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
28	Dogwood Dr (Stewart Ave to Cherry Dale Ct)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$72,876	Long
29	Crain Hwy S (5th Ave SW to Aquahart Rd)	Speed Management	Observed motor vehicle speeds appear to exceed speed limit	Conduct a speed study to consider speed management measures or other modifications	N/A	Long
30	4 th Ave SE (M St SE to Greenway Rd SE) (Along key student walking route)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$96,989	Long
31	Lincoln Ave SW (Crain Hwy S to Newfield Rd)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$221,559	Long
32	Theresa Ave (5th Ave SW to Main Ave SW)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$116,621	Long

*Short (1 year), medium (2-3 years) or long term (3+ years)

**Note that at locations where installation of new sidewalks is recommended, high-visibility crosswalks, ADA compliant curb ramps, and stop bars should be installed at intersecting streets to facilitate crossings and encourage motor vehicle yielding.

Infrastructure Recommendations within the School Walk Zone

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
33	Elizabeth Ln (Stewart Ave to Thelma Ave)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$172,440	Long
34	Wilson Blvd (Crain Hwy S to Elizabeth Ln)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$199,750	Long
35	Bertha Rd (5th Ave SW to Main Ave SW) (Along key student walking route)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$92,194	Long
36	5 th Ave SW & Crain Hwy S (Along key student walking route)	36a. Crosswalk	Crossing of Crain Hwy is unmarked (south) High motor vehicle volumes	Install new high-visibility crosswalk	\$800	Short
		36b. Other intersection or crossing issues	Concern about motor vehicle turning movements (southeast)	Install curb radius reduction on the southeast corner of 5 th Ave SE	\$4,000	Long

*Short (1 year), medium (2-3 years) or long term (3+ years)

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Infrastructure Recommendations within the School Walk Zone

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
37	5 th Ave SE @ Entrance to Citgo Gas Station (Along key student walking route)	Access Management	Multiple driveways increase potential for conflict between motor vehicles drivers and pedestrians/bikes	Close driveway closest to Crain Hwy Continue southern sidewalk (5 th Ave SE) across the driveway entrance to Citgo gas station to provide continuous pedestrian route	\$1,480	Long
38	Roosevelt Ave (Crain Hwy S to Elizabeth Ln)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$194,747	Long
39	Main Ave SW (Crain Hwy to Elizabeth Ln)	Sidewalk	Missing sidewalk (both sides)	Install new sidewalk**	\$185,716	Long

*Short (1 year), medium (2-3 years) or long term (3+ years)

**Note that at locations where installation of new sidewalks is recommended, high-visibility crosswalks, ADA compliant curb ramps, and stop bars should be installed at intersecting streets to facilitate crossings and encourage motor vehicle yielding.

Infrastructure Recommendations outside the School Walk Zone

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
A	Oakwood Rd (5th Ave SE to Pine Terrace)	Sidewalk	Missing Sidewalk (West)	Install new sidewalk**	\$37,857	Long
B	Blossom Ln (Oakwood Rd to Pine Terrace)	Sidewalk	Missing Sidewalk (both sides)	Install new sidewalk**	\$53,236	Long
C	Pine Terrace (Oakwood Rd to Greenway Rd SE)	Sidewalk	Missing Sidewalk (both sides)	Install new sidewalk**	\$76,068	Long

*Short (1 year), medium (2-3 years) or long term (3+ years)

**Note that at locations where installation of new sidewalks is recommended, high-visibility crosswalks, ADA compliant curb ramps, and stop bars should be installed at intersecting streets to facilitate crossings and encourage motor vehicle yielding.

Additional Considerations

Numerous pedestrian and bicycle crashes occurred on Crain Highway between 2017-2021. Crain Highway spans the walk zone for both Richard Henry Lee Elementary School and Corkran Middle School. For long-term planning, the County could explore a road diet on Crain Highway and significant pedestrian and bicycle facility improvements along the corridor, including at key crossing locations. There is a recommendation for a shared use path on 5th Avenue in Walk & Roll Anne Arundel. Construction of this shared use path would improve connectivity for students living east of Crain Highway.



Intersection of Crain Highway and Main Street SW. Multiple pedestrian and bicyclist crashes occurred in this area between 2017-2021.



5th Ave SE

Potential Sources of Funding for Safe Routes to School Projects

Funding for SRTS infrastructure improvements may come from a variety of sources, including the County's Capital Improvement Program, Operations and Maintenance Funds, and Multimodal Improvement Fund. Funding is also available via grants from the State of Maryland or the federal government, or efforts by local jurisdictions and private developers through the required Bicycle, Pedestrian, and Transit Assessment. Details on potential sources of funding for pedestrian and bicycle projects are described in *Walk & Roll Anne Arundel!* (page 73).

PROGRAMMATIC RECOMMENDATIONS

Safe Routes to School (SRTS) Program Recommendations

Safe Routes to School program recommendations may include Education, Encouragement, Enforcement and Evaluation strategies to improve safety awareness and knowledge, reinforce safe behaviors, encourage travel mode changes, and establish a culture of walking and bicycling to school.



SRTS Education

SRTS education can foster life-long skills for safe walking and bicycling. Education messages directed at the broader school community can help create safety role models and encourage safe driving.

Recommendations

Provide pedestrian and bicycle safety education to students. Students should receive age-appropriate pedestrian and bicycle education that is regularly reinforced (e.g., annually) and provides opportunities for skills practice. School-based education works best when integrated into the PE or Health curriculum.

Conduct a bicycle rodeo. Bike rodeos teach children skills related to walking and bicycling safely, which can increase their and their parent's confidence for biking or walking to school.

Conduct parent and staff safety education campaign. Information packets should be prepared and distributed to parents and school staff at the beginning of the school year containing school arrival and dismissal maps, a written description of the rules and procedures for arrival and dismissal, and general safety information. Procedures should emphasize driving safely, being alert for pedestrians and bicyclists, and respecting the school crossing guard/s.

Provide walking and bicycling maps. Walking and bicycling route maps can show the location of pedestrian and bicycle infrastructure and estimated walk/bike times.

SRTS Encouragement

SRTS encouragement programs can establish a culture supportive of active transportation and foster life-long habits for active transportation.

Recommendations



Participate in International Walk to School Day and Bike to School Day. Walk and Bike to School Days encourage families to try out walking in a supportive environment. Consider incorporating competitions between schools in the same area or district-wide. Once established, they can lead to monthly walking/bicycling events to maintain momentum and enthusiasm.

Encourage and support walking school buses and bike trains. Walking school buses and bike trains are groups of children who walk or bicycle to school together with adult supervision. Organizing parent or community volunteers to "pick up" students living east of Crain Highway may encourage increased walking/bicycling from those neighborhoods.

Establish a frequent walker / bicyclist program. Frequent walker and biker programs provide small rewards or incentives to students who regularly walk and bicycle to school. Frequent walker and biker programs require a system for tracking student trips. For example, students can be assigned a punch card that volunteers or teachers can punch each time a trip is completed.

Give away bicycle helmets and bike locks. Schools might partner with another community organization to acquire and fit the helmets for students who do not have them. Helmet and bike lock giveaways should be coordinated with bicycle safety education or skills practice and should include instruction on helmet safety.

SRTS Enforcement

SRTS enforcement efforts aim to increase the safety of children walking and bicycling to school by helping to change unsafe behaviors of all roadway users (drivers, pedestrians, bicyclists). While SRTS enforcement strategies may include law enforcement, it is important to discuss enforcement strategies with the school community and be sensitive to any concerns regarding their role.

Recommendations

Establish school drop off and pick up monitors to reinforce school procedures on and around the school campus.

Continue student safety patrols to provide on-going reinforcement of safe pedestrian and bicyclist behavior. Resources are available through [AAA School Safety Patrol](#).

SRTS Evaluation

SRTS evaluation efforts aim to identify issues and opportunities and monitor the impact of comprehensive SRTS activities over time, such as infrastructure improvements and encouragement activities.

Recommendations

Conduct annual Student Travel Tallies to monitor student travel patterns.

Administer biennial Parent Surveys to monitor parent attitudes towards walking and bicycling and reasons why they may or may not allow their children to walk or bike to school.

Conduct biennial infrastructure assessments and observation of school arrival and dismissal to track improvements, monitor the condition of key school crossings and signage, and identify needed education or enforcement measures. Assess more frequently if any changes to travel patterns (such as new school or road construction).

APPENDIX: INFRASTRUCTURE RECOMMENDATION PHOTOS

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



1st Ave SW, traveling west towards Oak Lane



Oak Lane NW & 1st Ave SW

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



3

C Street SW



4

3rd Ave traveling west towards Newfield Road

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone

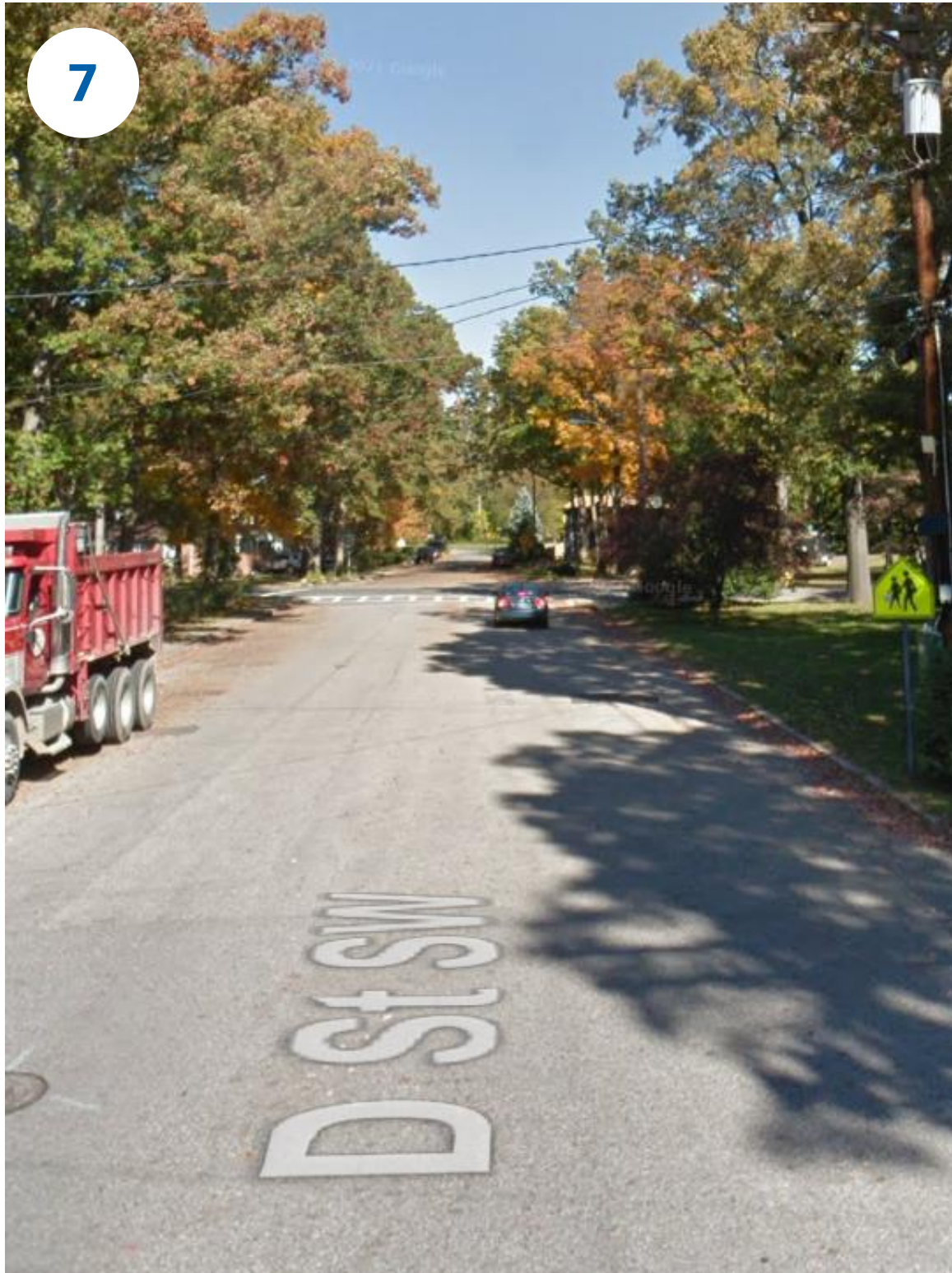


Oak Lane SW, 3rd Ave SW and D Street SW



B Street SW, approaching 3rd Ave SW

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone

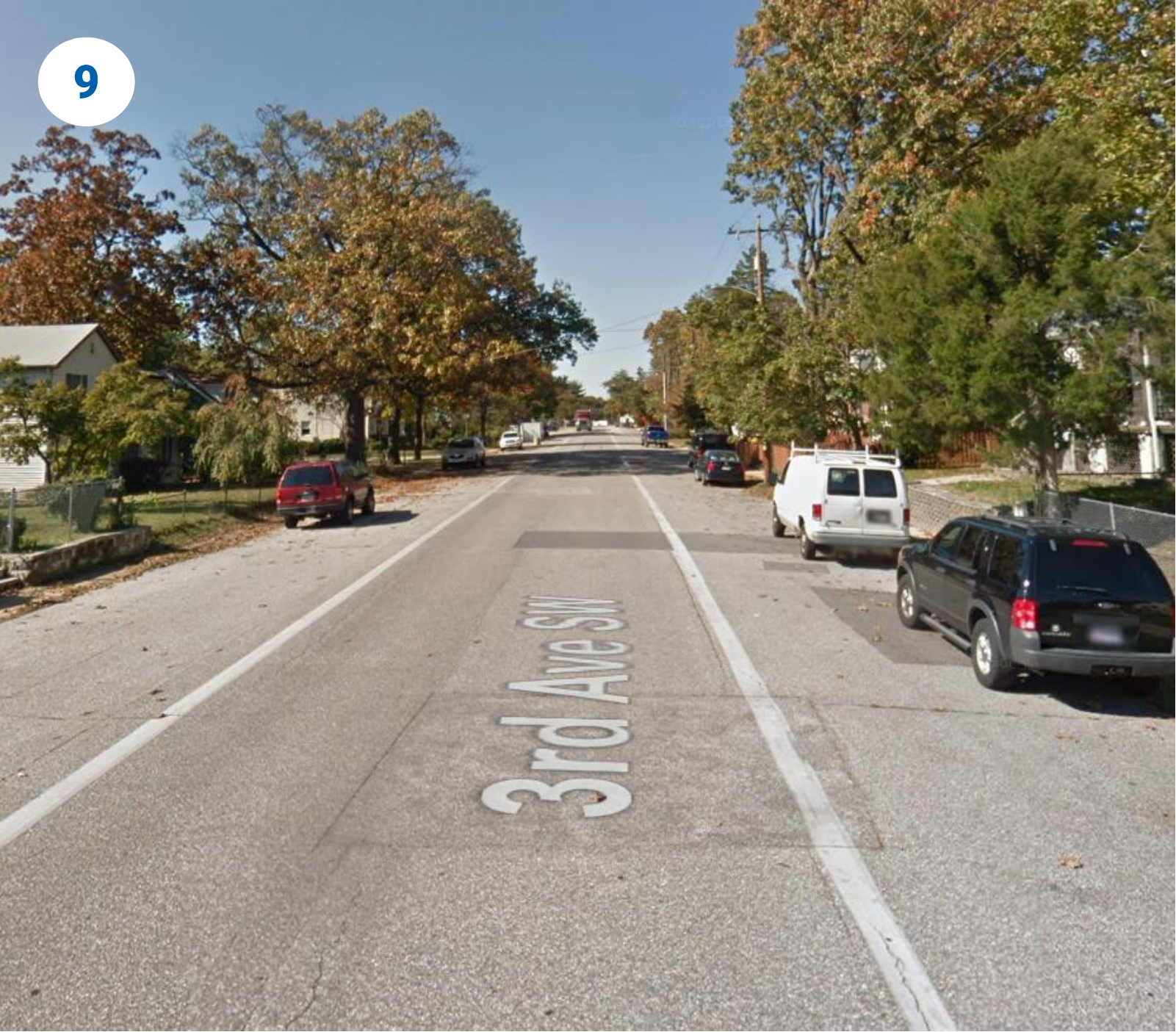


D Street SW, approaching Central Ave



A Street SW and 1st Ave SW

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone

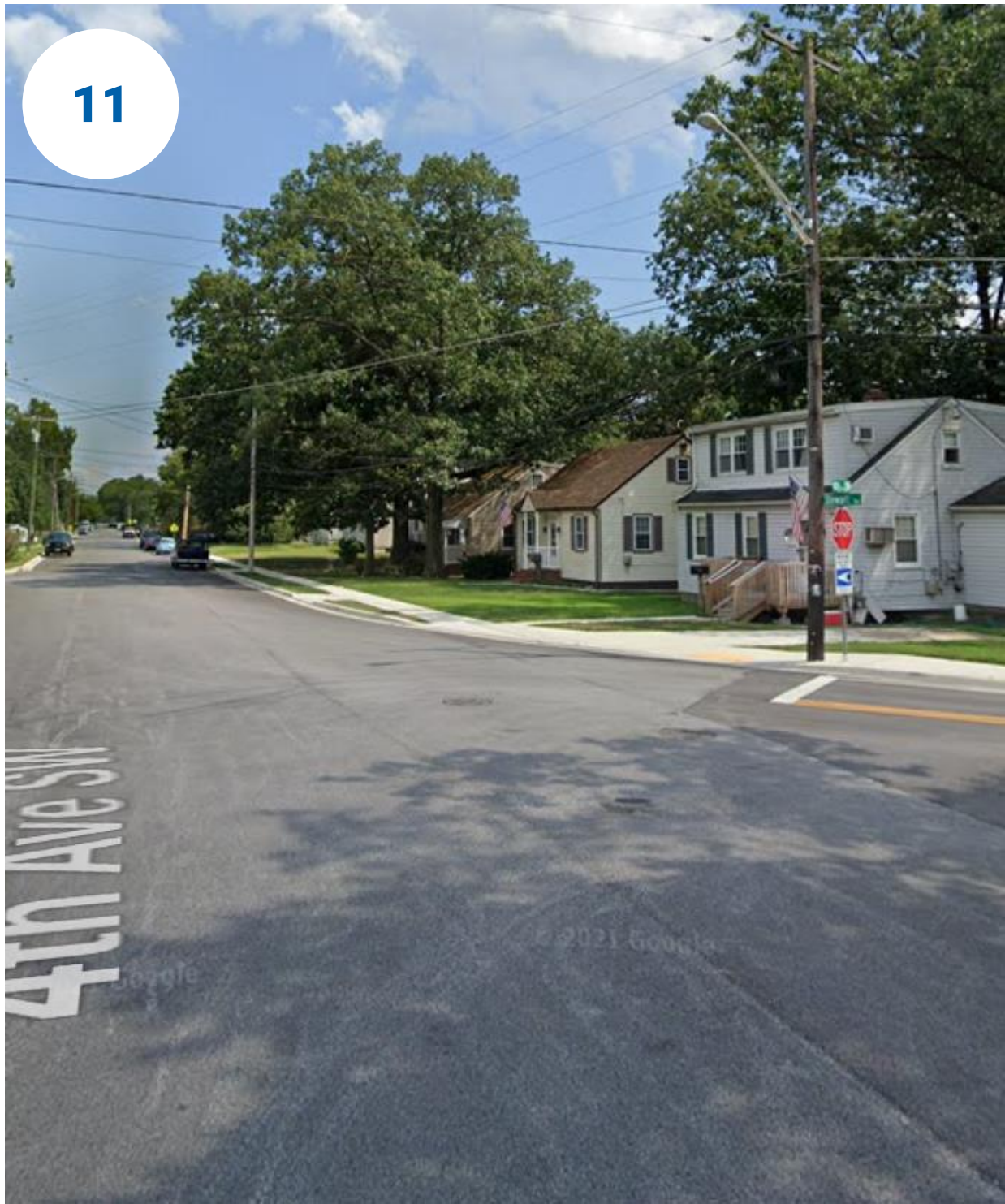


3rd Ave SW, traveling west towards C Street SW



Newfield Road, just south of 3rd Ave SW

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



4th Ave SW & Stewart Ave, traveling eastbound on 4th Ave SW

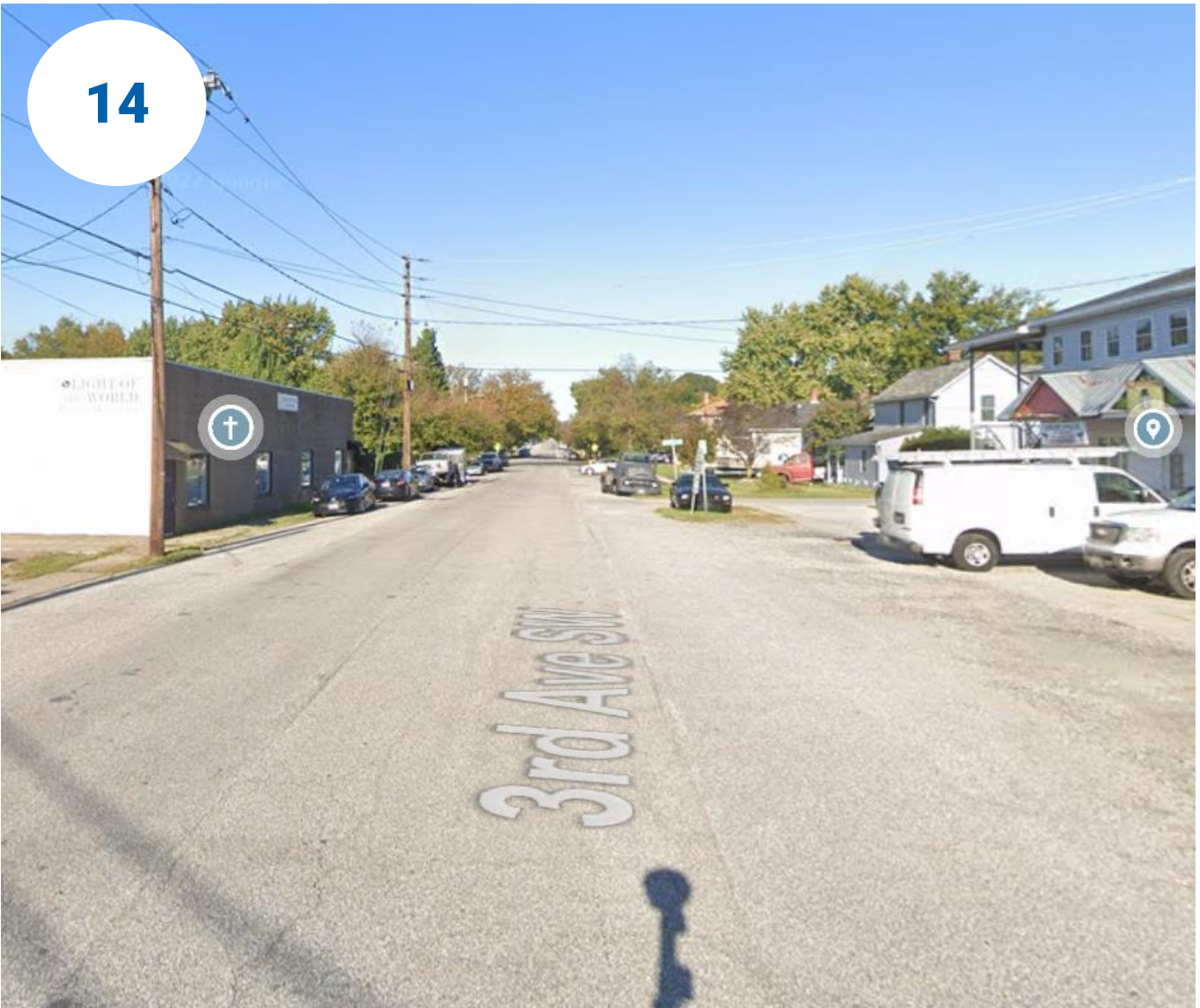


Meadowbrook Road, looking west

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



4th Ave SW, at the rear entrance of the school building



3rd Ave SW, between Crain Highway S and Platzer Lane SW

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Stewart Ave & Baltimore Ave, traveling westbound on Stewart



Magnolia Road traveling north

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Stewart Ave traveling eastbound



Drum Point Ave SE traveling northbound

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Hollybrook Road traveling southbound



M Street SE, just north of 3rd Ave SE

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



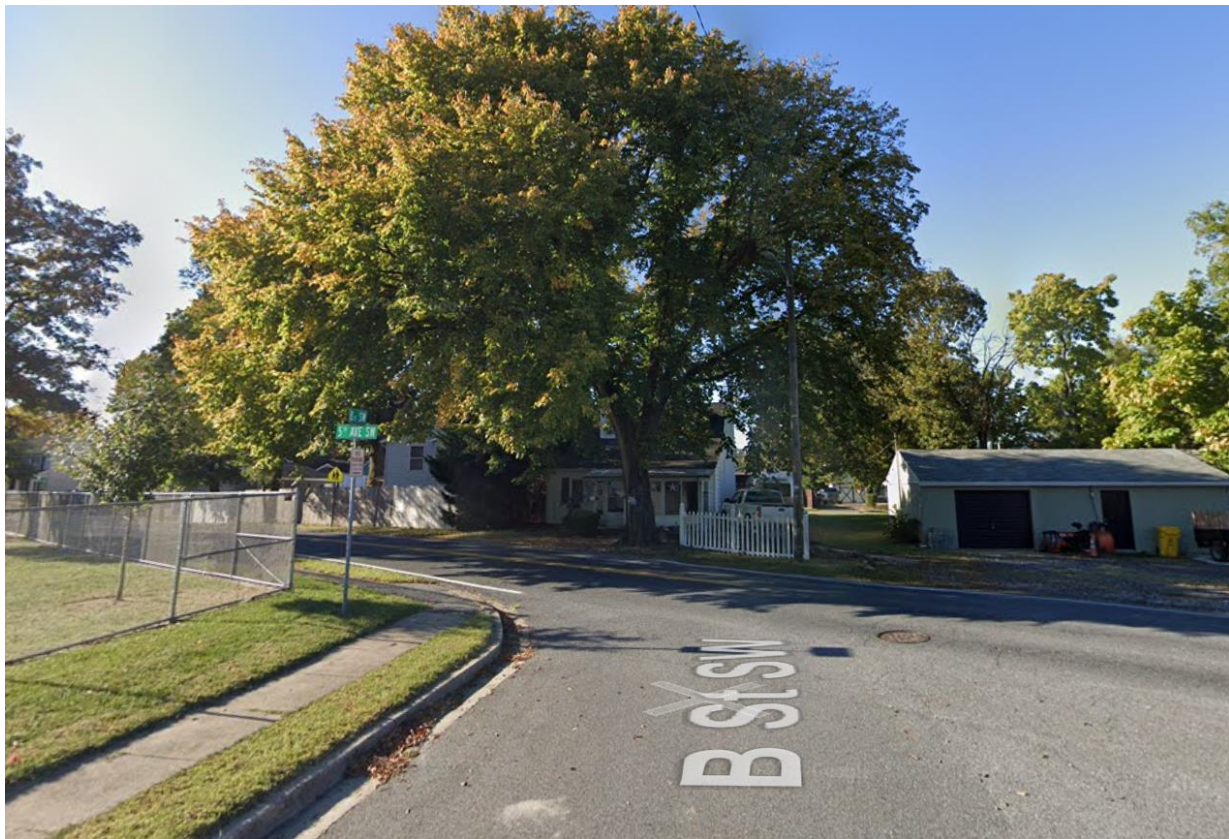
21

Crain Highway S & 4th Ave SW



22

5th Ave SW & B Street SW, looking west (above) and east (below)



INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



4th Ave SE & Padfield Boulevard/Drum Point Ave



Condition of existing sidewalk on south side of 5th Ave SW

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Glen Heights Ave, traveling northbound



Baltimore Avenue, traveling westbound

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



5th Ave SW & Baltimore Ave



Dogwood Drive, traveling northbound

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Crain Highway S, traveling northbound



4th Ave SE, traveling eastbound

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Lincoln Ave SW, traveling westbound



Theresa Ave, traveling northbound

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Elizabeth Lane, traveling northbound



Wilson Boulevard SW, traveling westbound

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Bertha Road, traveling southbound



5th Ave & Crain Highway S

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Entrance to the Citgo on 5th Ave SE



Roosevelt Ave, traveling eastbound

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Main Ave SW, traveling westbound

INFRASTRUCTURE RECOMMENDATIONS – outside the School Walk Zone



Oakwood Road



Blossom Lane

INFRASTRUCTURE RECOMMENDATIONS – outside the School Walk Zone



Pine Terrace