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Edgewater 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.

Edgewater Elementary Accessibility Study

Report findings are derived from:

School site visits	<ul style="list-style-type: none">• Observation of school arrival and dismissal conducted February 2, 2023• Assessment of pedestrian and bicycling infrastructure within the current school walk zone and roads immediately adjacent (as connectivity allows) conducted February 2, 2023
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

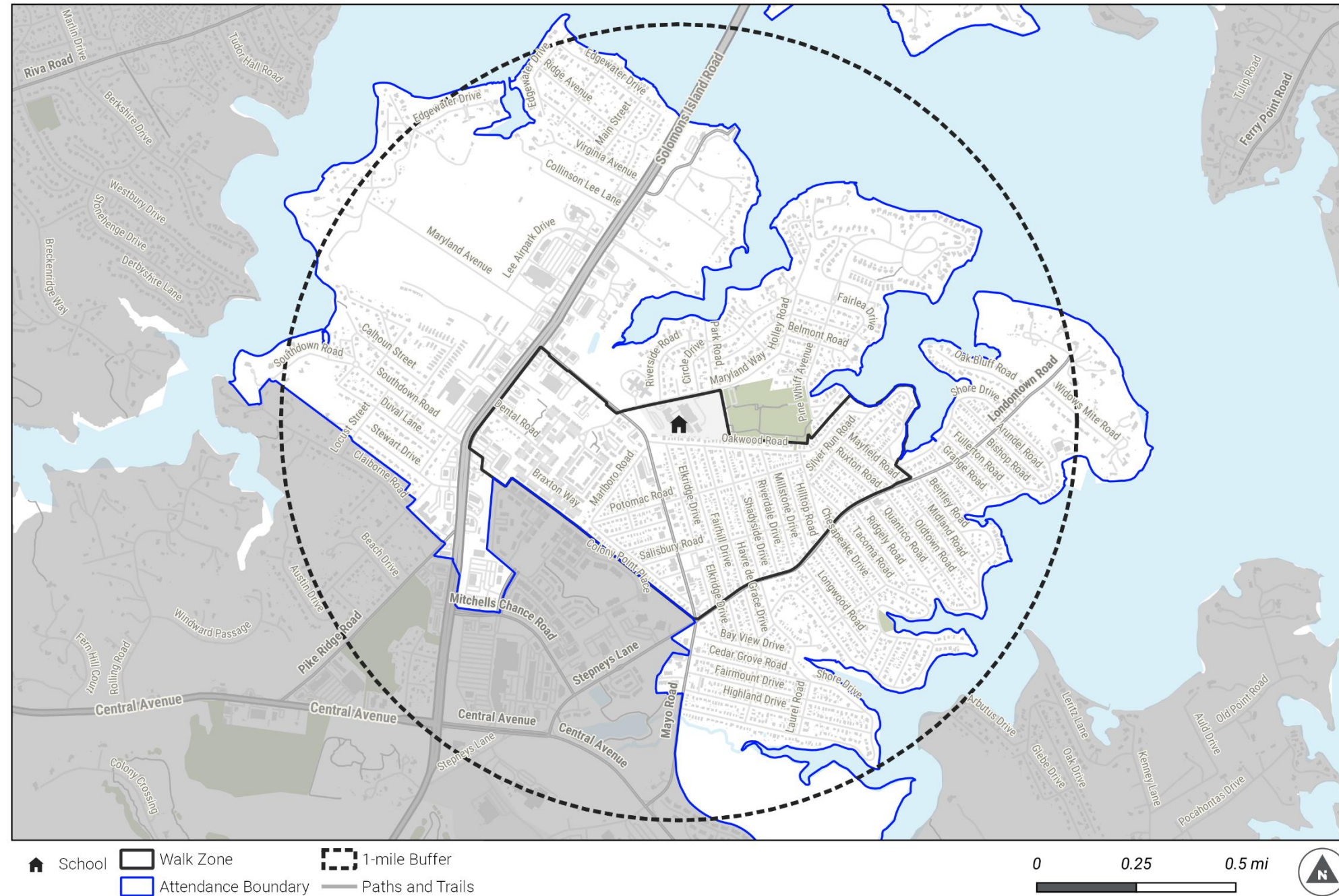
Recommendations were shared with the school community during a virtual open house in October 2023.

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 present north and southeast of the school.
 - Attendance areas north of Washington Street/Maryland Way are within walking distance of the school but currently lack sidewalks.
 - Attendance areas south of Londontown Road are within walking distance of the school but also currently lack sidewalks.

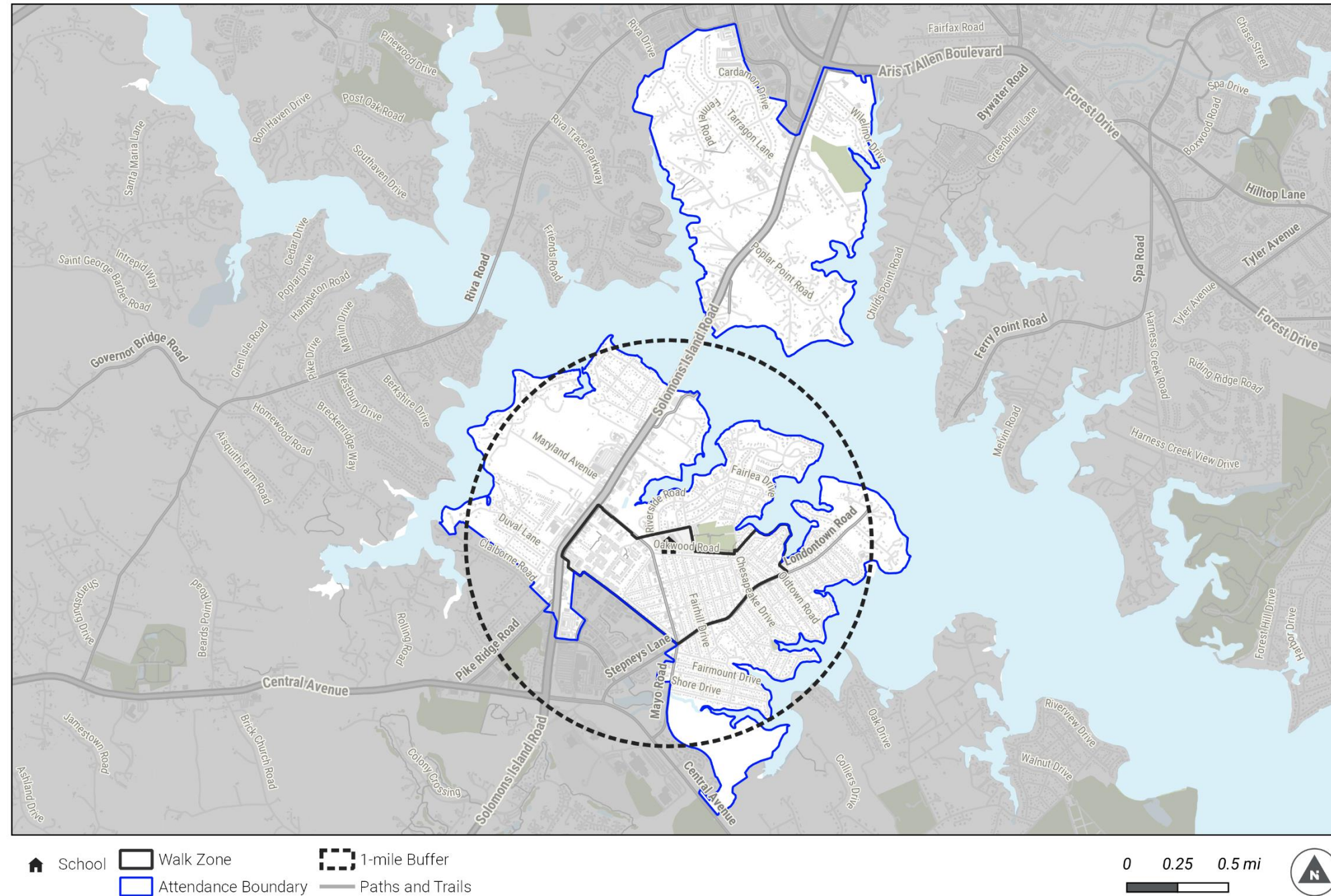
Edgewater Elementary School - 1-mile Radius



Student Attendance Area and Enrollment

- Edgewater Elementary School serves 578 students in grades PreK–5.
- 58% of students are registered for bus transportation*

Edgewater Elementary School - Attendance Boundary



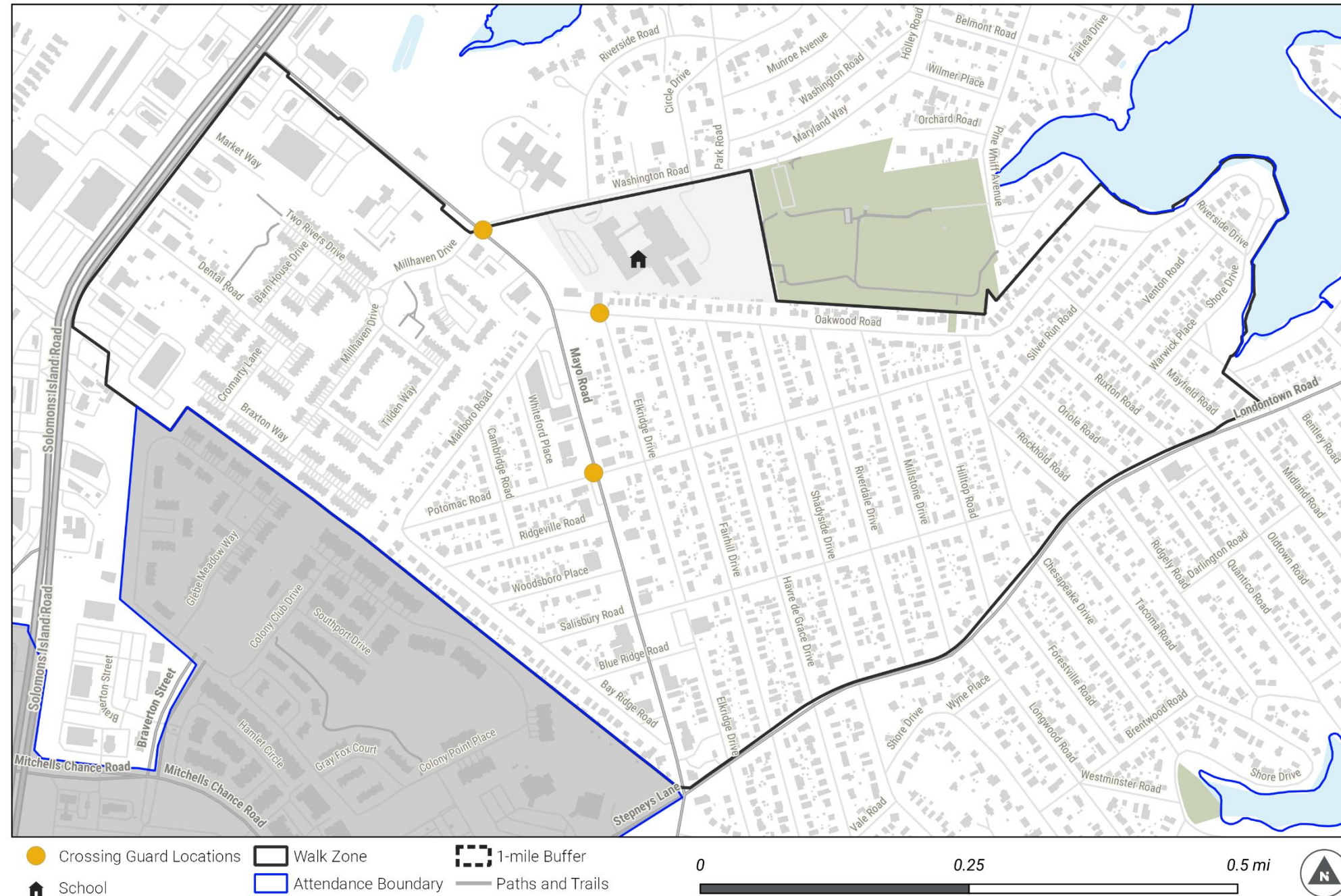
*AACPS provides transportation from designated bus stops for students who reside within the school's attendance area. At elementary schools, transportation is provided for Pre-K students who live more than ½ mile from school, Kindergarten students who live more than ½ mile from school, and students of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

Source: AACPS 2022-2023 Parent Handbook

School Location and Layout

- Edgewater Elementary School is located on Washington Road off Mayo Road (MD-253) in Edgewater, MD.
- Neighboring areas largely consist of single-family homes to the north, east, and south, and multi-family homes to the west.
- Most of the area within and outside of the walk zone consists of gridded streets that provide network connectivity.
- Washington Road and Oakwood Road are classified by Anne Arundel County as Collector roads with posted speed limits of 25 mph.
- Mayo Road is a Minor Arterial with a 30-mph posted speed limit; several local retail businesses line the corridor.

Edgewater Elementary School - Walk Zone



School Access

Walkers and Bicyclists:

- Walkers and bicyclists largely access the school via a pedestrian-only entrance off Oakwood Road.

Buses:

- Buses use the central driveway off Washington Road and drop off in front of the main doors.

Parent/Guardian Drop-Off:

- Driving parents/guardians enter the school via the school's western driveway from Washington Road to access a drop-off loop at the school's west side entrance.
- Students then access the school via stairs; there is no ramp access.

Staff Vehicles:

- Staff who drive park in lots east and west of the school.



PARENT-REPORTED STUDENT TRAVEL MODES AND BARRIERS

Edgewater Elementary - Parent Survey Response Overview

- 40 total survey responses received*
- 100% of respondents live in the area zoned to the school

Reported Distance from Home to School	
Distance	Number of Respondents
< ¼ mile	2
¼ mile – ½ mile	4
½ mile – 1 mile	13
1 mile – 1 ½ miles	11
>1 ½ miles	8

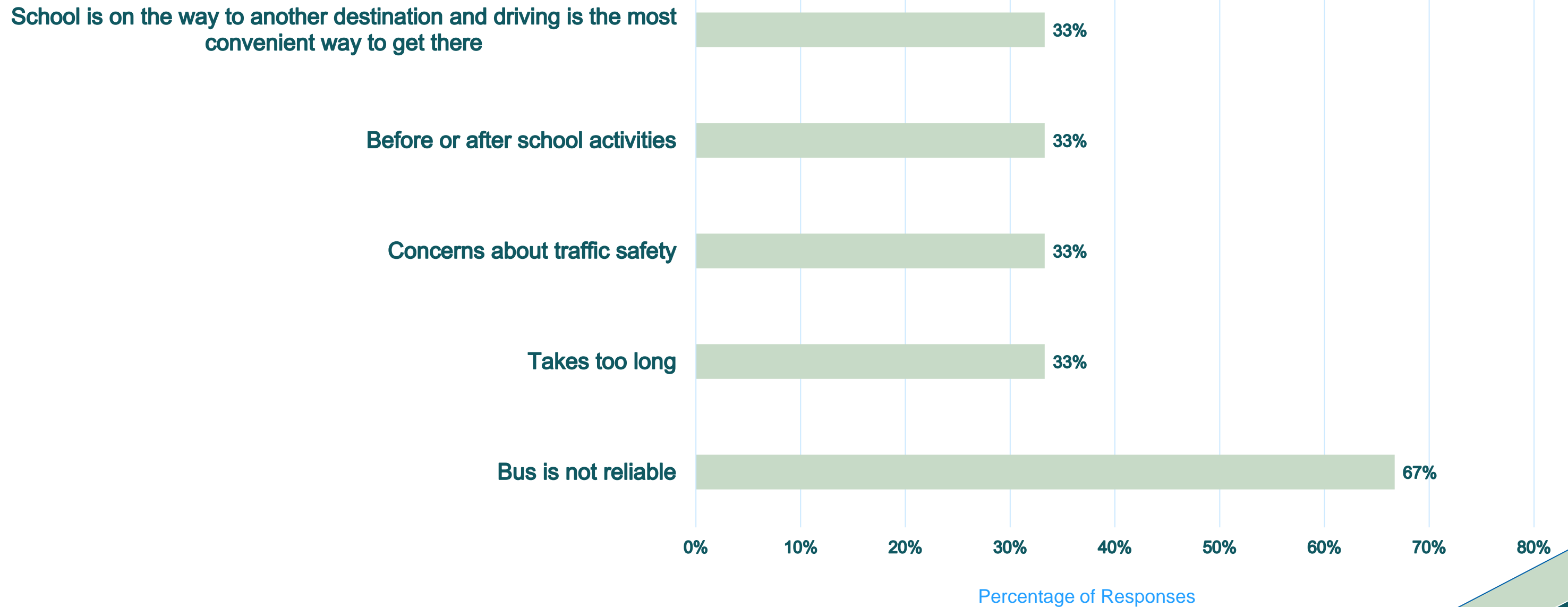
**Note that the survey response rate represents a fraction of the student population and may not reflect the experiences and perspectives of all families.*

Parent Survey Results

School Bus Eligibility and Use

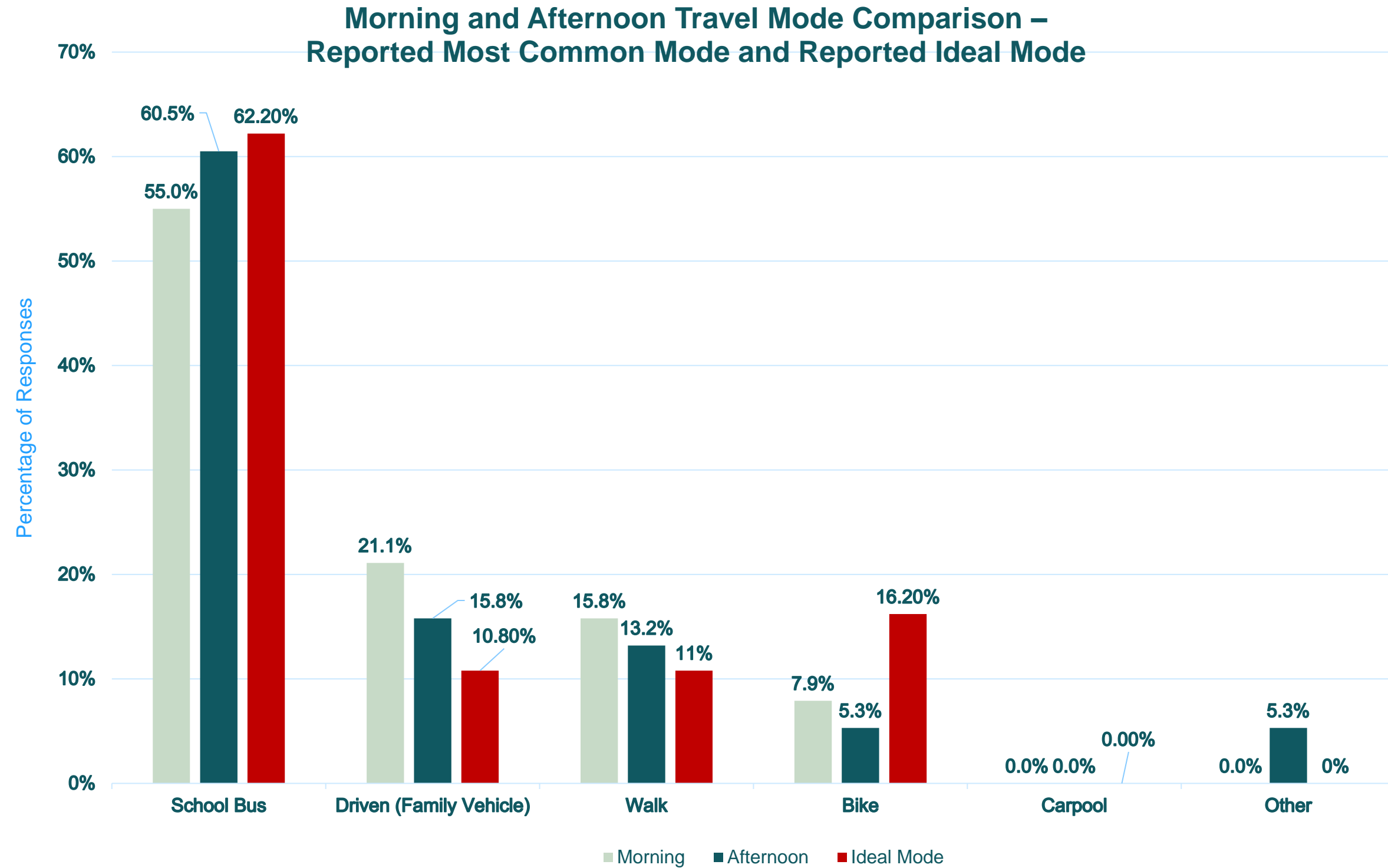
78% of respondents reported being eligible for school bus transportation;
55% reported riding the school bus to school.

Issues and Reasons Reported for Not Riding the Bus



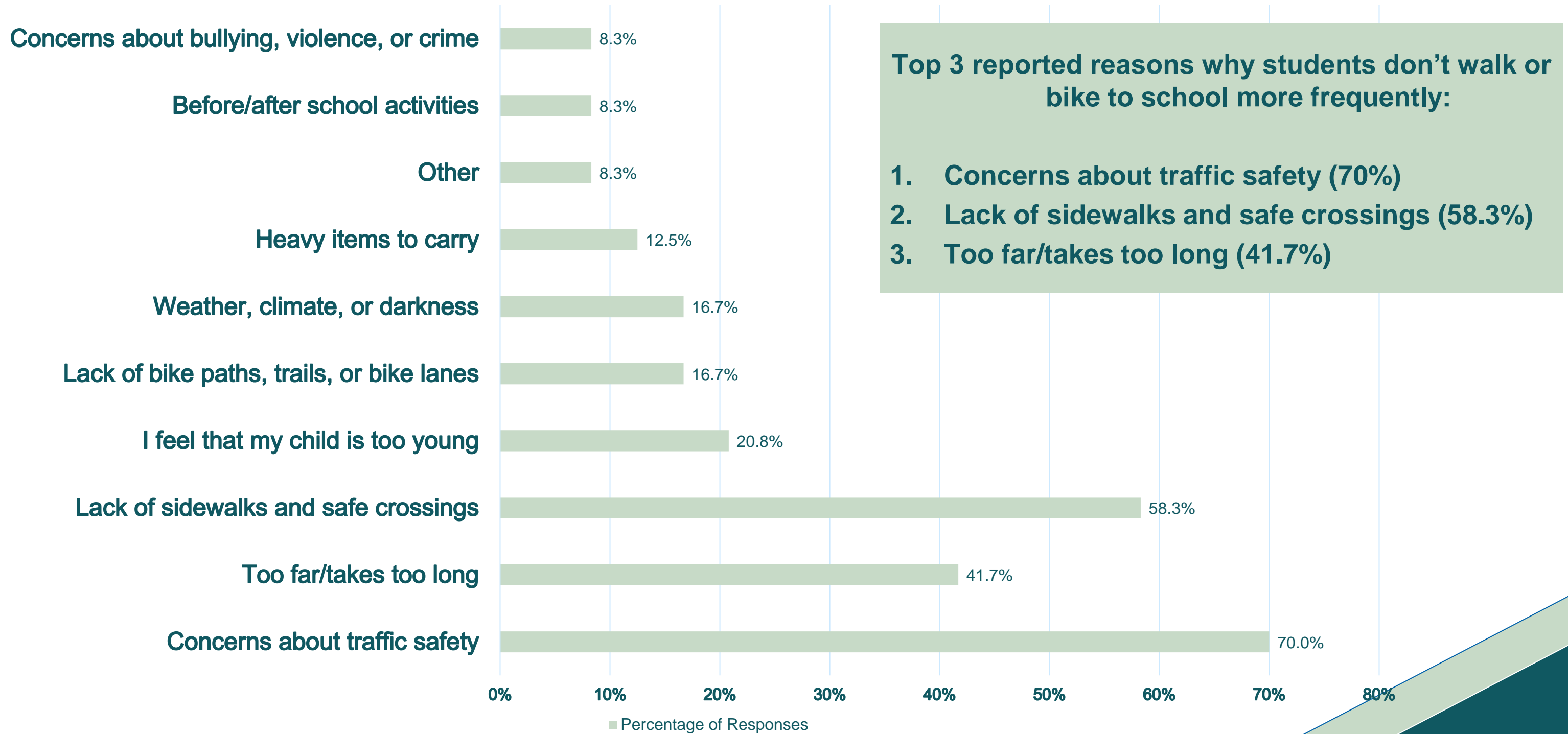
Parent Survey Results

Most Common Travel Mode versus Ideal Travel Mode



Parent Survey Results

Reported Barriers to Walking or Biking to School



Parent Survey Results

Reported Streets Used to Walk or Bike to School

- Oakwood
- Salisbury
- Elkridge
- Potomac
- Mayo Road (MD-253)
- Millhaven
- Washington
- Millstone
- Mayfield
- Silver Run
- Chesapeake
- Havre de Grace
- Hilltop
- Longwood
- Shore
- Bay View

ARRIVAL AND DISMISSAL OBSERVATIONS

Arrival and Dismissal Operations

School Hours:

- 8:30 am – 2:55 pm
- Doors open at 8:00 am, though students may be admitted early in extremely cold weather (below 32 degrees F) as they were on observation day.

Observation Times (February 2):

- Arrival: 8 am – 8:45 am
- Dismissal: 2:45 pm – 3:15 pm

Crossing Guards:

- Per AACPS data, three crossing guards are assigned to Edgewater Elementary School; two were observed the day of observation:
 - Oakwood Road & Elkridge Drive
 - Mayo Road & Potomac Road
- The crossing guard assigned to Mayo Road & Millhaven Drive/ Washington Road was not observed during the field visit.

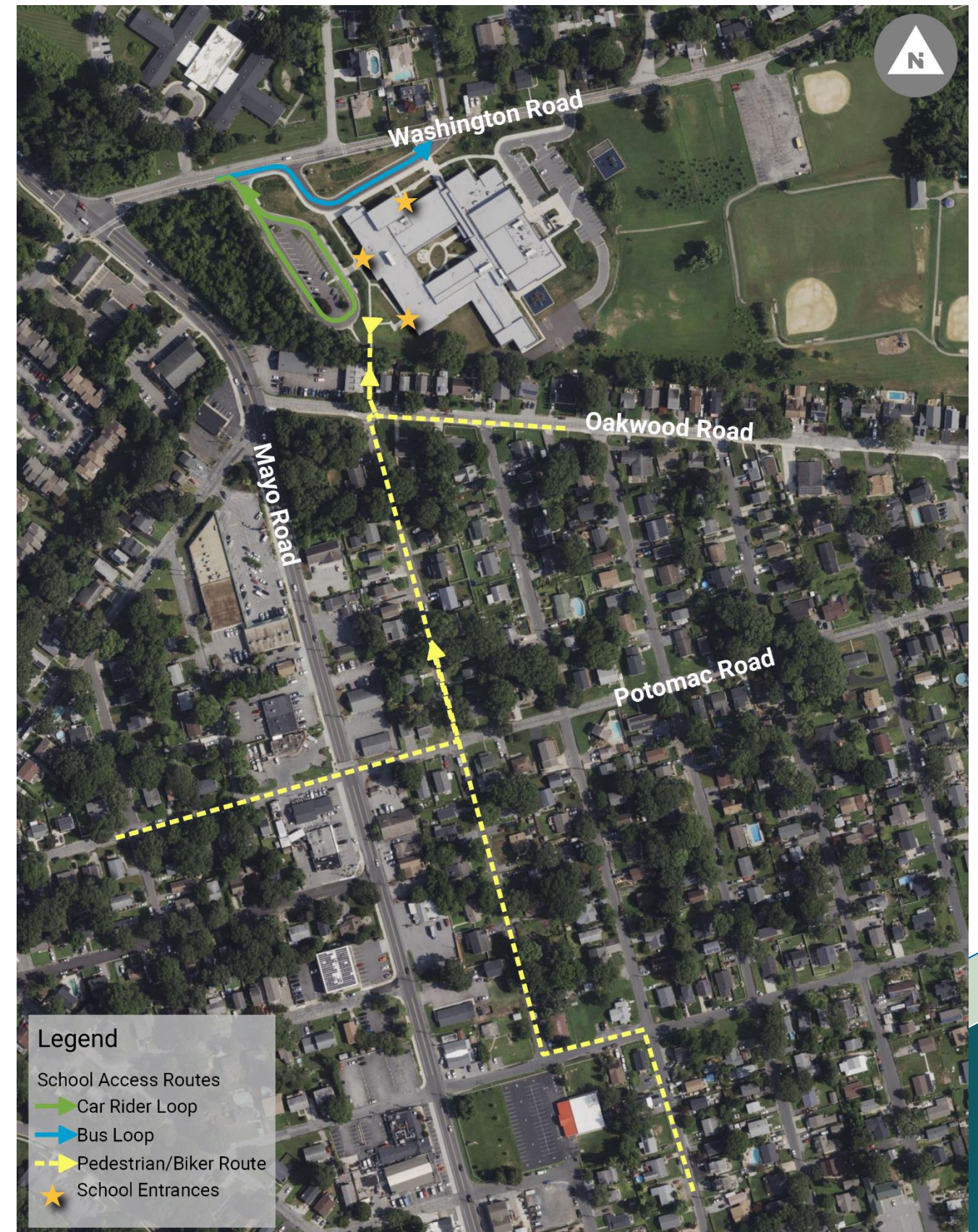


The Oakwood & Elkridge crossing guard escorts a bike rider across Oakwood Road

General Observations

General Observations:

- Wayfinding signage posted at the multiple driveways along Washington Road is conflicting (e.g. the parking lot used for vehicular drop-off is posted bus-only).
- Although Oakwood and Elkridge contain signs restricting student drop-off and contain standard no-parking signs, a number of students were dropped off by parent drivers along Oakwood Road and Elkridge Drive, some of whom parked illegally to walk them in.



Arrival Observations

The study team observed arrival from the following location:

- Oakwood Road at Elkridge Drive

General Observations:

- School starts at 8:30 AM
- Doors open at 8:00 AM, but the observation day was cold enough that students were admitted immediately on arrival.
- Students enter the school through different doors depending on how they arrive:
 - bus riders enter at the front of the school,
 - car riders enter at the west side of the school,
 - walkers enter at the southwest entrance



The front entrance, used by students arriving and departing by school bus

Arrival Observations

Walkers and Bicyclists

- Students arrived at the southwest entrance to campus from the east along Oakwood Road and from the south along Elkridge Drive; approximately 40 students were observed arriving from each direction.
- One student approached from the west along Oakwood Road.
- Approximately 12 student “walkers” were dropped off by parents at or near the intersection of Oakwood Road and Elkridge Drive.
- Two bikes were already in the bike rack when observation team arrived; five more students were observed arriving by bike.

Bus Lane

- Due to the cold, buses had already unloaded and departed by 8:00 AM.



Walking students arrive at campus from the south.

Arrival Observations

Parent Drop-off

- The drop-off line appeared to function well, with no observed delays or back ups.
- Several parents avoided the on-campus drop-off and dropped off students on Oakwood Road and Elkridge Drive or parked along the street and walked their kids to the door; double-parking, parking in crosswalks, and several near-collisions were observed, including between vehicles and students who were walking or had been dropped off.



Parent drop-off loop at school arrival.

Dismissal Observations

The study team observed dismissal from the following locations:

- Oakwood Road & Elkridge Drive
- Elkridge Drive & Potomac Road

General Observations:

- Dismissal begins at 2:20pm; bus riders are dismissed first, then walkers and car riders leave at the same time.
- As with arrival, students exit through different doors depending on how they'll get home: bus riders through the front, car riders at the west corner, and walkers to the southwest.

Walkers and Bicyclists:

- Approximately 40 student walkers headed east along Oakwood Road
- Approximately 40 student walkers headed south along Elkridge Drive.
 - Approximately 12 'walkers' entered cars parked along the street, and approximately 6 turned west at Potomac Road and crossed Mayo Road.
- Six bike riders and three scooter riders were observed, all heading south along Elkridge Drive.



Walkers in the grass beside Potomac Road, headed toward Mayo Road (MD-253)

Dismissal Observations

Bus Lane

- Bus riders are dismissed first, before walkers and car riders depart.

Parent Pick-up

- As with arrival, most parent pick-up is in the west driveway off Washington Road, but several parents park illegally along Elkridge Drive and walk to the school to pick up students.
- Fewer conflicts were noted at dismissal than during arrival.



Parents waiting for school dismissal.

EXISTING INFRASTRUCTURE CONDITIONS

Existing Sidewalk Network

Few streets in the walk zone have sidewalks; most are in the housing complex west of the school off Millhaven Drive.

Edgewater Elementary School - Existing Sidewalk Network



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



Existing Crosswalks

There are marked crosswalks on the school campus for crossing the west and east parking lots.

Crosswalks are marked across Oakwood Road and Elkridge Drive but are faded and cracked.

A crosswalk is marked across Mayo Road at Potomac Road.

The crossing of other intersections within the walk zone are unmarked.

Edgewater Elementary School - Existing Crosswalks

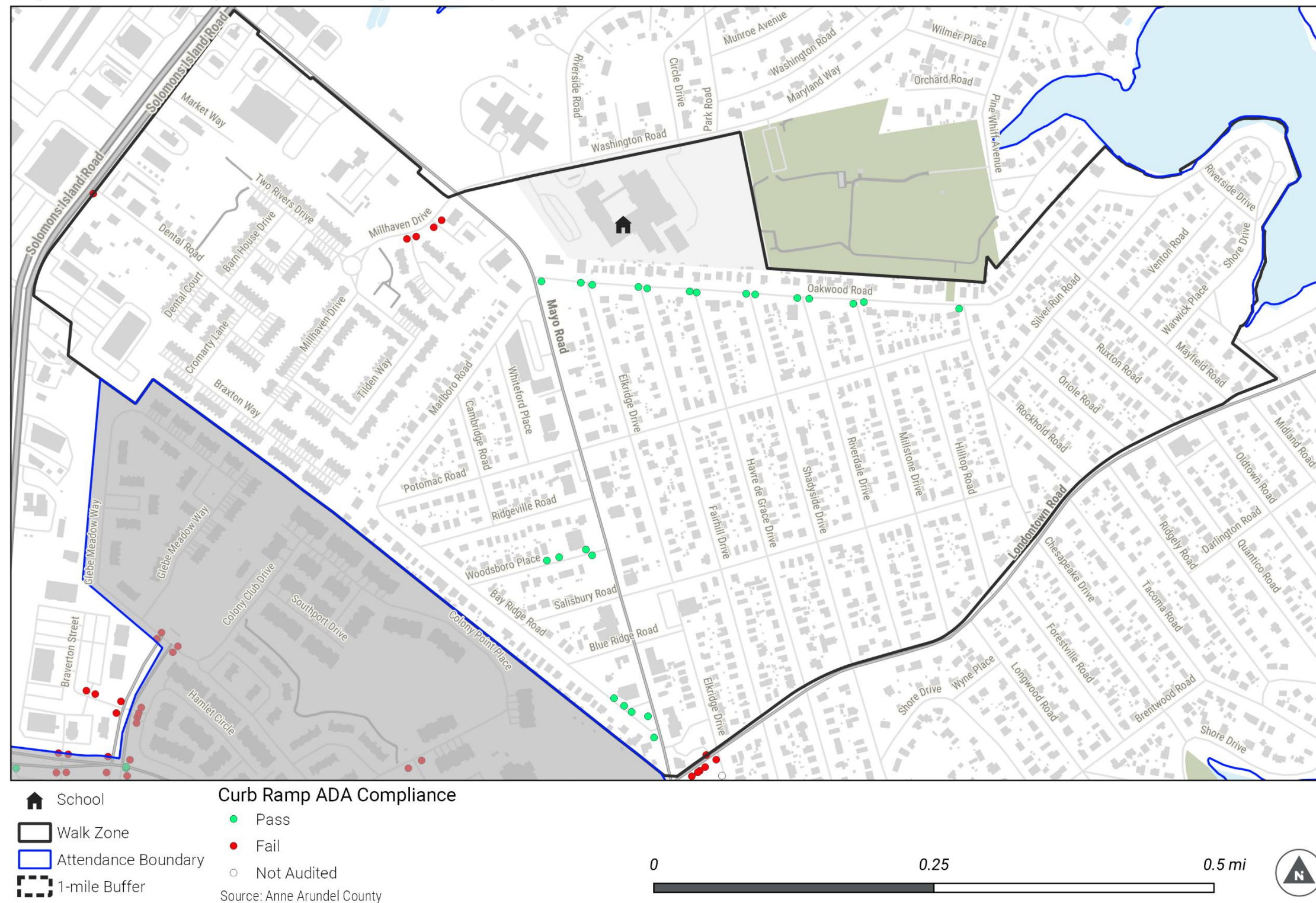


Existing Curb Ramps

- Most intersections along the south side of Oakwood Road where sidewalk exists have curb ramps.
- Most other intersections in the walk zone do not have curb ramps, although a few intersections, such as at Mayo Road and Potomac Road, do have curb ramps although they do not connect to sidewalks.

* Curb ramp data downloaded 9/14/22

Edgewater Elementary School - Existing Curb Ramps



Existing On-Road Bike Facilities

Solomons Island Road (MD-2) has unbuffered painted bike lanes on both shoulders, including on the South River bridge.

Bike lanes are planned* for Mayo Road (MD-253), along the west end of the school campus.

No other on-road bike facilities within the school walk zone are known to exist or be planned.

Edgewater Elementary School - Existing On-Road Bicycle Facilities



* "Planned" means included in the County's Master Plan

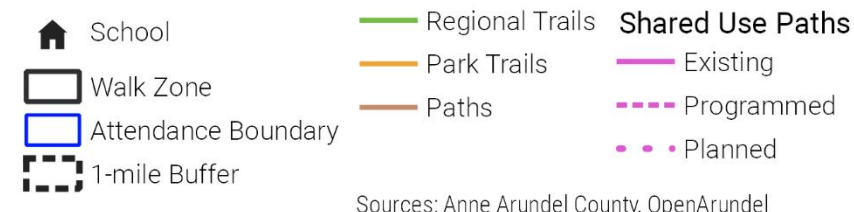
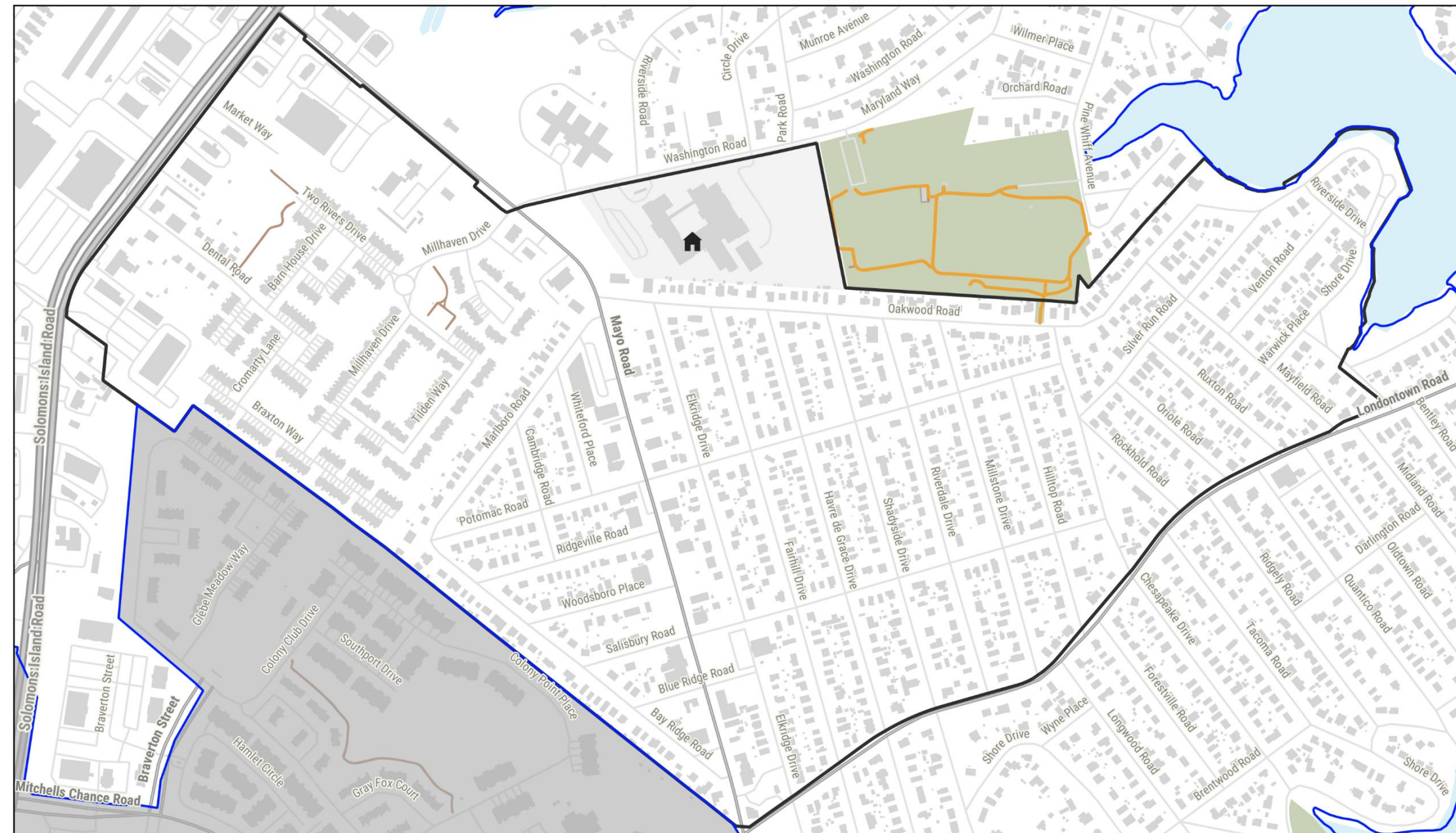
Existing Regional Trails, Park Trails, and Paths

There are trails through Edgewater Park east of the school. However, they do not connect to the school campus.

Edgewater Park has a trail exit to Oakwood Road east of the school, but it is unpaved.

No other regional or park trails are known to exist or be planned* within the school walk zone.

Edgewater Elementary School - Existing Regional Trails, Park Trails, and Paths



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

CRASH DATA

Crash Data (2017 – 2021)

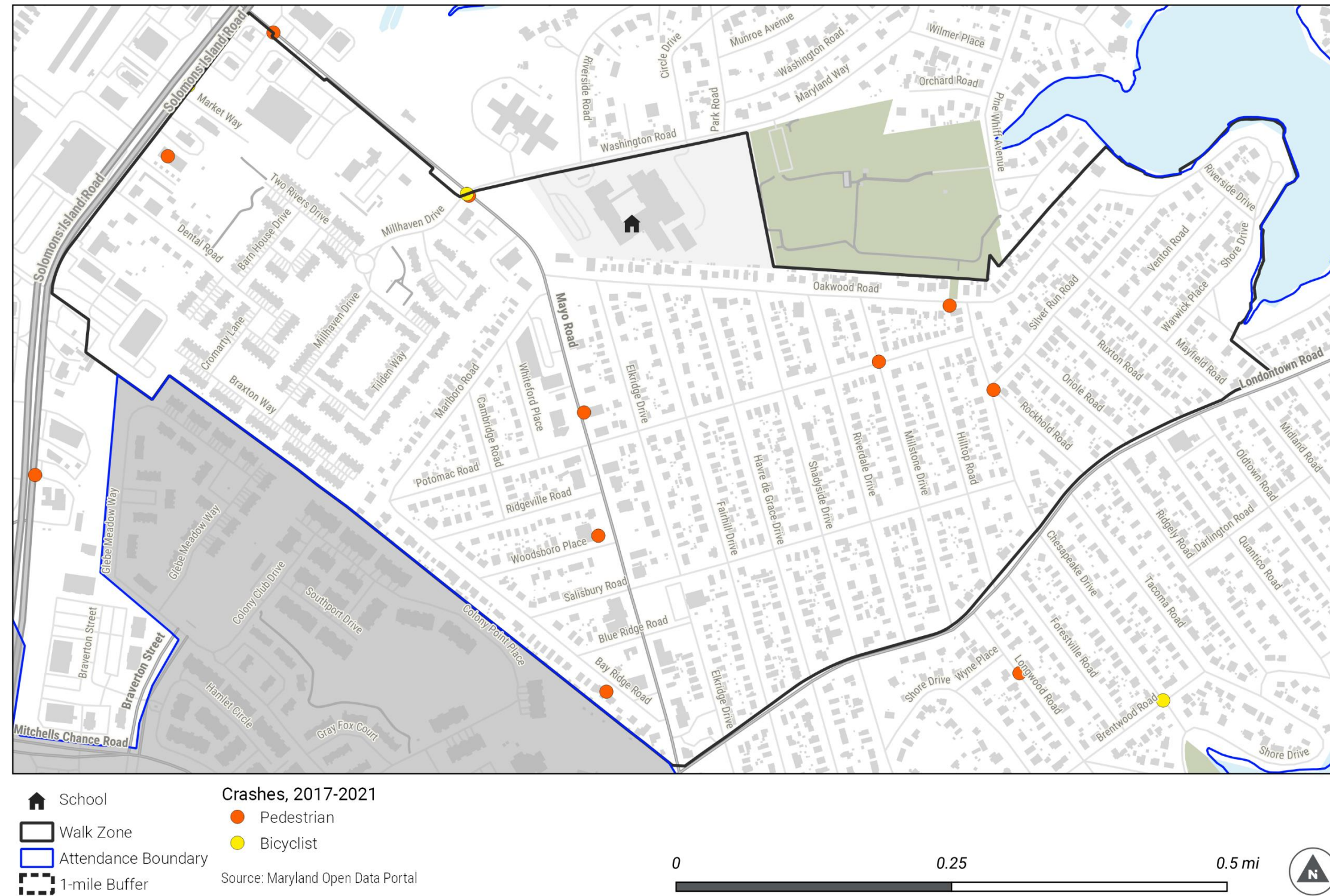
Crashes within 1-mile radius of the school:

- 756 total crashes (all modes), 3 fatal
- 25 pedestrian-involved crashes, 23 resulting in injury, 0 fatal
- 7 bicyclist-involved crashes, all resulting in injury, 0 fatal

Pedestrian and bicyclist crashes within the walk zone:

- 9 pedestrian-involved and 1 bicyclist-involved crashes occurred in the walk zone.

Edgewater 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.

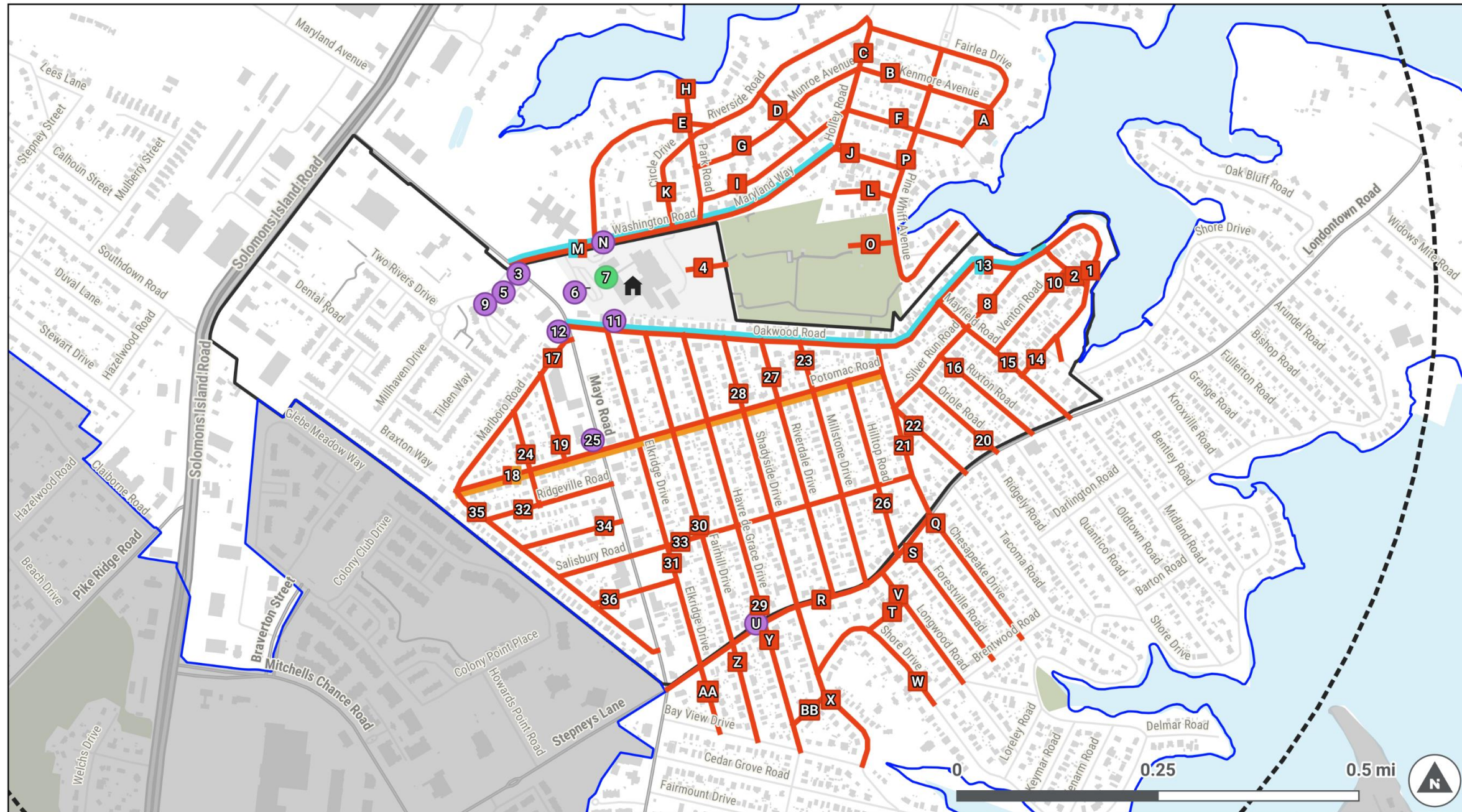
The following tables summarize infrastructure recommendations within and outside of the current school walk zone as relevant. Key student walking or bicycling routes were identified based on information received from school administration, parent surveys, and school observations. Key routes are noted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

Edgewater Elementary School - Recommendations



- School
- Walk Zone
- Attendance Boundary
- 1-mile Buffer
- Paths and Trails

- Spot Recommendations**
- Access Management
 - Bicycle Rack
 - Intersection or Crossing
 - School Zone Signs and Pavement Markings

- Sidewalk
- Speed Management
- Other Recommendations

- Segment Recommendations**
- Bicycle Facility
 - Corridor Intersection Upgrades
 - 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	Shore Dr (Riverside Rd to Webster Pl)	Sidewalk	Missing sidewalk on south side	Install new sidewalk.**	\$52,567	Long
2	Riverside Rd (Oakwood Rd to Shore Dr)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$28,237	Long
3	Mayo Rd & Washington Rd/Millhaven Dr (Along key student walking route, Inside school zone)	3a. Crosswalk	Southwest crossing is unmarked	Install new high-visibility crosswalk	\$800	Short
		3b. Other intersection or crossing issues	Concern about motor vehicle turning movements and speeds; Crosswalk long	Install curb radius reduction on northeast corner	\$5,000	Long
			No pedestrian signal for crossing of Millhaven Drive	Install pedestrian signal	\$15,000	Long
4	Edgewater Park	Sidewalk	Missing sidewalk	Extend park pathway to connect to school campus	\$9,924	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	Millhaven Dr & Driveway (Along key student walking route)	5a. Crosswalk	Crossing of driveway is unmarked	Install new standard crosswalk	\$400	Short
		5b. Curb ramp	Southeast and southwest ramps lack detectable warning surface	Reconstruct or repair existing ramp	\$4,000	Medium
6	Car Loop (On school campus)	Curb ramp	Missing ramps on crossing of parking lot from drop off loop	Install new ramps	\$8,000	Medium
7	Walk Entrance (On school campus)	Bicycle rack	Existing rack does not allow locking of frame	Replace existing rack with inverted U rack	\$175/per (quantity TBD)	Short
8	Silver Run Rd (Chesapeake Dr to Oakwood Dr)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$98,225	Long
9	Millhaven Dr & Millhaven Ct (Along key student walking route)	Crosswalk	Crossing of Millhaven Ct is unmarked	Install new standard crosswalk	\$400	Short
10	Venton Rd (Mayfield Rd to Riverside Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$57,440	Long
11	Oakwood Rd & Elkridge Rd (Inside school zone)	Crosswalk	South and east crosswalk markings faded	Remark existing crosswalks with high-visibility marking style	\$900	Short
			South stop bar faded	Remark existing stop bar		

*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*
12	Marlboro Rd & Mayo Rd (Along key student walking route, Inside school zone)	12a. Crosswalk	Crossing of Marlboro Rd is unmarked, No stop bar	Install new standard crosswalk, Mark new stop bar	\$500	Short
		12b. Other intersection or crossing issues	Concern about motor vehicle turning movements and speeds; Crosswalk long	Install curb radius reduction on northwest corner	\$5,000	Long
13	Oakwood Rd (Mayo Rd to Riverside Dr) (Along key student walking route, Inside school zone)	13a. School Zone Signs and Pavement Markings	SCHOOL pavement marking missing School advance warning missing School zone speed limit sign missing School zone sign missing	Expand school zone and enhance signage per MDMUTCD part 7: - Install new SCHOOL pavement marking - Install new school advance warning sign - Install new school zone sign (begin/end) - Install new school zone speed limit sign Consider reducing school zone speed limit to 20 mph	\$1,000 \$500 \$1,000 \$500	Short
		13b. Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$273,445	Long
14	Warwick Pl (Webster Pl to Mayfield Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$26,874	Long

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
15	Mayfield Rd (Oakwood Rd to Londontown Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$91,607	Long
16	Ruxton Rd (Silver Run Rd to Londontown Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$62,952	Long
17	Marlboro Rd (Mayo Rd to Bay Ridge Rd) (Along key student walk route)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$100,917	Long
18	Potomac Rd (Bay Ridge Rd to Chesapeake Dr) (Along key student bicycling and walking route)	18a. Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$232,515	Long
		18b. 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
19	Whiteford Pl (Marlboro Rd to Potomac Rd) (Along key student walking route)	Sidewalk	Missing sidewalk on west side	Install new sidewalk.**	\$23,692	Long
20	Oriole Rd (Silver Run Rd to Londontown Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$54,130	Long

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21	Chesapeake Dr (Oakwood Rd to Londontown Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$93,289	Long
22	Rockhold Rd (Silver Run Rd to Londontown Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$50,556	Long
23	Millstone Dr (Oakwood Rd to Londontown Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$132,318	Long
24	Cambridge Rd (Marlboro Rd to Ridgeville Rd) (Along key student walking route)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$51,355	Long
25	Mayo Rd & Potomac Rd (Along key student bicycling and walking route)	Other intersection or crossing issues	Concern about motor vehicle yielding High motor vehicle volumes and speeds Pedestrians/bicyclists unable to find sufficient gaps in traffic	Install RRFB	\$15,000	Long

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26	Hilltop Rd (Potomac Rd to Londontown Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$95,980	Long
27	Riverdale Dr (Oakwood Rd to Londontown Rd) (Along key student walking route)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$139,670	Long
28	Shadyside Dr (Oakwood Rd to Londontown Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$146,119	Long
29	Havre de Grace Dr (Oakwood Rd to Londontown Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$157,686	Long
30	Fairhill Dr (Oakwood Rd to Londontown Rd) (Inside school zone)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$169,888	Long
31	Elkridge Dr (Oakwood Rd to Londontown Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$183,100	Long
32	Ridgeville Rd (Bay Ridge Rd to Mayo Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$67,595	Long

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
33	Salisbury Rd (Bay Ridge Rd to Chesapeake Dr)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$192,419	Long
34	Woodsboro Pl (Bay Ridge Rd to Mayo Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$53,709	Long
35	Bay Ridge Rd (Marlboro Rd to Mayo Rd) (Along key student walking route)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$136,114	Long
36	Blue Ridge Rd (Bay Ridge Rd to Elkridge Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$45,693	Long

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Infrastructure Recommendations outside the School Walk Zone

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Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
A	Fairlea Dr (Holley Rd to Belmont Ave)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$120,113	Long
B	Kenmore Ave (Holley Rd to Fairlea Dr)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$72,064	Long
C	Holley Rd (Maryland Way to Riverside Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$71,897	Long
D	Beach Ave (Riverside Rd to Washington Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$34,976	Long
E	Riverside Rd (Washington Rd to Holley Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$212,706	Long
F	Belmont Ave (Holley Rd to Fairlea Dr)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$62,856	Long
G	Munroe Ave (Park Rd to Holley Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$101,714	Long
H	Park Rd (Maryland Way to end)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$70,319	Long
I	Washington Rd (Park Rd to Holley Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$90,749	Long
J	Wilmer Pl (Pine Whiff Ave to Maryland Way)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$37,302	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

Information contained in this document is for planning purposes and should not be used for final design of any project. All results, recommendations, concept drawings, cost opinions, and commentary contained herein are based on limited data and information and on existing conditions that are subject to change. Further analysis and engineering design are necessary prior to implementing any of the recommendations contained herein.

Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
K	Circle Dr (Washington Rd to Riverside Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$66,427	Long
L	Orchard Rd (Pine Whiff Ave to end)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$29,854	Long
M	Washington Rd/Maryland Ave (Mayo Rd to Holley Rd) (Inside school zone)	M1. Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$182,611	Long
		M2. School Zone Signs and Pavement Markings	<p>SCHOOL pavement marking missing</p> <p>School advance warning sign missing</p> <p>School zone sign missing</p> <p>School zone speed limit sign missing</p>	<p>Expand school zone and enhance signage per MDMUTCD part 7:</p> <ul style="list-style-type: none"> - Install new SCHOOL pavement marking \$1,000 - Install new school advance warning sign \$500 - Install new school zone sign (begin/end) \$1,000 - Install new school zone speed limit sign \$500 <p>Consider reducing school zone speed limit to 20 mph.</p>		Short
N	Riverside Rd & Washington Rd	Crosswalk	Crosswalk markings faded	Widen and remark existing crosswalk with existing marking style	\$800	Short
O	Edgewater Park Parking Lot	Sidewalk	Missing sidewalk on north side	Install new sidewalk to connect to existing pathway.**	\$10,534	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*
P	Pine Whiff Ave (Fairlea Dr to end)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$167,120	Long
Q	Chesapeake Dr (Brentwood Rd to Londontown Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$79,920	Long
R	Londontown Rd (Mayo Rd to Chesapeake Dr)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$168,675	Long
S	Forestville Rd (Londontown Rd to Brentwood Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$74,286	Long
T	Wyne Pl (Longwood Rd to Shore Dr)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$23,456	Long
U	Londontown Rd & Havre de Grace Dr	Other intersection or crossing issues	Concern about motor vehicle yielding	Install RRFB	\$15,000	Long
			High motor vehicle volumes and speeds	Install advance pedestrian warning sign	\$250	Short
V	Longwood Rd (Londontown Rd to Brentwood Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$71,113	Long
W	Shore Dr (Shadyside Dr to Brentwood Rd)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$90,187	Long

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

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Infrastructure Recommendations outside the School Walk Zone

Information contained in this document is for planning purposes and should not be used for final design of any project. All results, recommendations, concept drawings, cost opinions, and commentary contained herein are based on limited data and information and on existing conditions that are subject to change. Further analysis and engineering design are necessary prior to implementing any of the recommendations contained herein.

Map ID	Location	Facility Type	Issue	Recommendation	Potential Cost	Timeframe*
X	Shadyside Dr (Londontown Rd to Bayview Dr)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$94,654	Long
Y	Havre de Grace Dr (Londontown Rd to Bayview Dr)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$69,737	Long
Z	Fairhill Dr (Londontown Rd to Bayview Dr)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$52,074	Long
AA	Elkridge Dr (Londontown Rd to Bayview Dr)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$35,656	Long
BB	Vale Dr (Havre de Grace Dr to Shore Dr)	Sidewalk	Missing sidewalk on both sides	Install new sidewalk.**	\$23,190	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.

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.

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



Shore Drive

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone

2



Riverside Road

3



Mayo Road & Washington Road/Millhaven Drive

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



The existing path at Edgewater Park



Millhaven Drive & Driveway to daycare facility

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Crosswalk at car drop-off loop



Bike rack at the walker entrance

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



8

Silver Run Road



9

Millhaven Drive & Millhaven Court

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



10

Venton Road



11

Oakwood Road & Elkridge Road

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Marlboro Road & Mayo Road



Oakwood Road

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone

14



Warwick Place

15



Mayfield Road

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



16

Ruxton Road



17

Marlboro Road

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone

18



Potomac Road

19



Whiteford Place

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Oriole Road



Chesapeake Drive

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



22

Rockhold Road



23

Millstone Drive

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Cambridge Road



Mayo Road & Potomac Road

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



26

Hilltop Road



27

Riverdale Drive

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Shadyside Drive



Havre de Grace Drive

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Fairhill Drive



Elkridge Drive

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



Ridgeville Road



Salisbury Road

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



34

Woodsboro Place



35

Bay Ridge Road

INFRASTRUCTURE RECOMMENDATIONS within the School Walk Zone



36

Blue Ridge Road

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone



Fairlea Drive

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone



Kenmore Ave



Holley Road

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone

D



Beach Ave

E



Riverside Road

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone



Belmont Ave



Munroe Ave

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone

H



Park Road

I



Washington Road

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone

J



Wilmer Place

K



Circle Drive

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone



Orchard Rd



Washington Road/Maryland Avenue

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone



Riverside Road & Washington Road



Edgewater Park Parking Lot

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone



Pine Whiff Avenue



Chesapeake Drive

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone



Londontown Road



Forestville Road

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone



Wyne Place



Londontown Road & Havre de Grace Drive

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone



Longwood Road

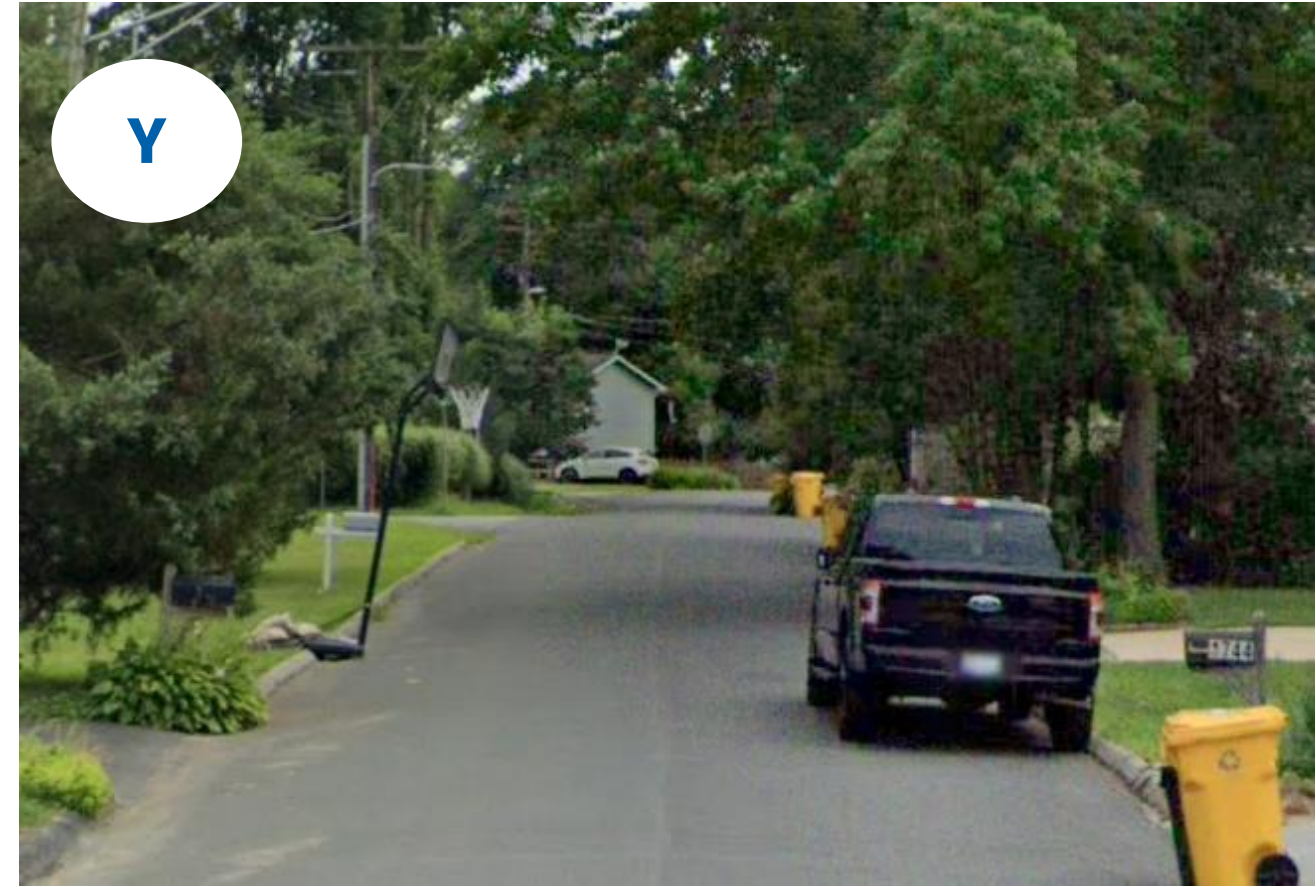


Shore Drive

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone



Shadyside Drive



Havre de Grace Drive

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone



Fairhill Drive



Elkridge Drive

INFRASTRUCTURE RECOMMENDATIONS – Opportunities Outside the School Walk Zone



Vale Drive