



## J.E.B. Stuart Elementary School Walkabout Summary Report

### Introduction

On December 11, 2014, stakeholders at J.E.B. Stuart Elementary School in Richmond, Virginia met to examine the walking and bicycling network around the school and identify potential improvements to be included in a future Transportation Alternatives Program grant application. Their participation in a VDOT Safe Routes to School (SRTS) Walkabout shows their support for improving the walking and biking environment and increasing the number of students safely walking and bicycling to school. The stakeholders participating in the Walkabout included school staff members and representatives from the Richmond City School Board, Richmond City Council, Richmond Health District, Richmond Police Department, Greater Richmond Fit4Kids, and Virginia Department of Transportation (VDOT).



### Walkabout Team

Name	Organization
Jennifer K. Moore	J.E.B. Stuart Elementary School, Principal
Nan Sikunas	J.E.B. Stuart Elementary School, Physical Education Teacher
Tanya Francis	J.E.B. Stuart Elementary School, Parent
Krystle Parker	Communities in Schools, Site Coordinator for J.E.B. Stuart School
Nicole DeAngelis	Communities in Schools, Site Coordinator for J.L. Francis Elementary School
Rachel Harms	Fit4Kids, Program Manager
Kayla B. Dransfield	Fit4Kids
Brooke Mahan	Fit4Kids, Chesterfield SRTS Division Coordinator
Bethany Brady Spalding	Fit4Kids
Rajay Hutsona	Richmond City Health District
Andrew Thompson	Richmond City Health District
Galley Suleh	Richmond City Health District
Jeff Barme	Richmond City School Board
Lisa F. Townes	City Council Liaison for Chris A. Hilbert
G. R. Carter	Richmond Police Department, Officer
Rob Williams	Virginia Department of Transportation, SRTS Coordinator
Elizabeth Gilliam	Toole Design Group, LLC
Jim Elliott,	Local Technical Assistance Coordinator (LTAC), Piedmont Region



The two-hour meeting included an observation of school dismissal and a brief walking tour of the area around the school.

## Existing Conditions

### School location

J.E.B. Stuart Elementary School is located at 3101 Fendall Avenue in Richmond and is part of Richmond Public Schools. The school campus is bordered by Fendall Avenue to the west, W. Crawford Street to the south, Hanes Avenue to the east, and residential properties to the north. A public alleyway bisects the school campus, separating the school building from the school play area.

The school is in the Edgewood neighborhood on the north side of Richmond, which is predominantly residential in character, with many of the basic elements needed to support walking and bicycling to school, including a gridded, highly-connective street network and buffered sidewalks on most streets. The grid is comprised of north-south streets which, with the exception of Fendall Avenue and North Avenue, are one-way, and two-way streets running predominantly east-west. The north-south streets have alleys between them. Commercial uses are concentrated on W. Brookland Park Boulevard one block south of the school.

The school's walk zone is bounded by W. Brookland Park Boulevard on the south, North Avenue on the east, and W. Ladies Mile Road on the north. Students living outside the walk zone are currently eligible for school bus service. Those living inside the walk zone are not eligible for school bus service and must travel to school by other means, such as walking and biking. The table below provides information about key roads in the vicinity of the school.



## Road Information Table

Street	Speed limit	Road Width <sup>1</sup>	No. of lanes in each direction	Sidewalk width and continuity <sup>2</sup>
<b>Fendall Avenue</b> (between West Brookland Park Boulevard and West Ladies Mile Road)	25 mph	36 feet	1	Continuous 4-foot-wide sidewalks on both sides of the street
<b>North Avenue</b> (between W. Brookland Park Boulevard and W. Ladies Mile Road)	25 mph	32 feet	1	Continuous 4-foot-wide sidewalks on both sides of the street
<b>Garland Avenue</b> (between W. Brookland Park Boulevard and W. Ladies Mile Road)	25 mph	24 feet	1	Continuous 4-foot-wide sidewalks on both sides of the street
<b>Hanes Avenue</b> (between W. Brookland Park Boulevard and W. Ladies Mile Road)	25 mph	24 feet	1	Continuous 4-foot-wide sidewalks on both sides of the street
<b>Griffin Avenue</b> (between W. Brookland Park Boulevard and W. Ladies Mile Road)	25 mph	24 feet	1	Continuous 4-foot-wide sidewalks on both sides of the street
<b>Edgewood Avenue</b> (between W. Brookland Park Boulevard and W. Ladies Mile Road)	25 mph	24 feet	1	Continuous 4-foot-wide sidewalks on both sides of the street
<b>W. Ladies Mile Road</b> (between Edgewood Avenue and North Avenue)	25 mph	36 feet	1	Continuous 5-foot-wide sidewalk on north side of street. No sidewalk on south side.
<b>W. Gladstone Avenue</b> (between Hanes Avenue and North Avenue)	25 mph	24 feet	1	Continuous 4-foot-wide sidewalks on both sides of the street
<b>W. Crawford Street</b> (between Edgewood Avenue and North Avenue)	25 mph	24 feet	1	Continuous 4-foot-wide sidewalks on both sides of the street
<b>W. Brookland Park Boulevard</b> (between Edgewood Avenue and North Avenue)	25 mph	42 feet	1	Continuous 4 to 8-foot-wide sidewalks on both sides of the street

1. Road width measurements are approximate and represent a general cross section.
2. Sidewalk widths are approximate.



## Pedestrian Infrastructure

With the exception of the south side of W. Ladies Mile Road, all streets within a quarter mile of the school have continuous sidewalks on both sides of the street. Most also include a landscaped buffer separating the sidewalk from the street.

Sidewalk maintenance is an issue in the vicinity of the school. Common maintenance concerns include broken concrete, sidewalk panels uplifted by tree roots, and vegetation and debris encroaching on the sidewalk (Figure 8).

Most intersections are STOP-controlled for either north-south traffic, east-west traffic, or both). The intersection of Fendall Avenue and W. Brookland Park Boulevard is signalized and includes pedestrian signal heads. Curb ramps are present on all four corners of most intersections, although most curb ramps do not meet current ADA guidelines (Figure 9), usually because they lack truncated dome detectable warnings. Marked crosswalks are provided at some intersections, including:

- Fendall Avenue and West Crawford Street (high-visibility striping)
- Fendall Avenue and W. Brookland Park Boulevard (parallel line striping)
- Fendall Avenue and W. Ladies Mile Road (high-visibility striping)
- W. Crawford Street and Hanes Avenue (high-visibility striping)
- W. Crawford Street and North Avenue (parallel line striping)
- Hanes Avenue and W. Gladstone Avenue (parallel line striping)

There is also a marked crosswalk across the alley separating the school building from the school play area (Figure 2).

## Bicycle Infrastructure

J.E.B. Stuart Elementary School does not have a bicycle rack on-campus. With one exception--shared lane markings on W. Brookland Park Blvd--there are also no on-street or off-street bicycle facilities within ½ mile of the school, such as shared lane markings, standard bicycle lanes, or separated bicycle facilities. However, W. Ladies Mile Road and North Avenue are designated bicycle routes.

## J.E.B. Stuart Elementary School Student Travel Modes

J.E.B. Stuart Elementary School serves approximately 387 students in grades K through 5. Approximately 357 students (92 percent) of students currently travel to school by school bus or in a family vehicle. Approximately 30 students (8 percent) currently walk or bike to school. However, 67% live within one mile of school, suggesting the potential to increase walking and biking.



## Dismissal Procedures & Observation

The Walkabout Team split into two groups to observe the 15-minute dismissal process. One group was stationed at the intersection of Fendall Avenue and W. Crawford Street and the other group was stationed on W. Crawford Street at the alley bisecting the school property.

Students at Berkeley Middle School are dismissed by grade and travel mode. Pre-K students are dismissed at 3:00 p.m. and must be picked up by parents. Students in grades K-5 are dismissed in two stages. Bus riders are dismissed at 3:20 p.m. through the school's main entrance, which is south of the cafeteria on Fendall Avenue. These students walk across the parking lot at the southwest corner of the school property to board buses, which are parallel parked on the north side of W. Crawford Street east of Fendall Avenue (Figure 3). Walkers and car riders are dismissed through the school entrance on Fendall Avenue north of the cafeteria. Some walkers walk south on the east side of Fendall Avenue before crossing at W. Crawford Street, where a crossing guard is stationed during dismissal. Other walkers walk around the north side of the school building, then cross the alley and school play area behind the school to Hanes Avenue. Car riders generally wait on the sidewalk on the east side of Fendall Avenue.

The Walkabout Team observed at least one student crossing Fendall Avenue mid-block with a parent (Figure 5), presumably headed to the parent's vehicle, although it is likely that additional students cross mid-block, considering the distance between the exit walkers use and the nearest marked crosswalk at Fendall Avenue and W. Crawford Street (approximately 250 feet). Double parking and speeding on Fendall Avenue were also mentioned by Walkabout Team members as concerns during dismissal.

At the back of the school, the Walkabout Team observed many parents walking with students across the alley and through the open gate separating the school play area from Hanes Avenue. Some students walked south through the alley from the north side of the school building, at which point a handful crossed mid-block to the south side of W. Crawford Street and east towards North Avenue. An afterschool van also used the alley during dismissal. The van entered the alley from W. Crawford Street and drove to the parking lot on the north side of the school, where it remained parked for the duration of the observation period.

The Walkabout Team did not observe arrival, which occurs between 8:00 a.m. and 8:55 a.m.; however, a member of the Walkabout Team reported that travel patterns during arrival are similar to those at dismissal, except that students report to the cafeteria or auditorium before heading on to their classes. Students can enter the school building beginning at 8:25 a.m., and school starts at 8:55 a.m.

## **Walkabout Summary**

Prior to dismissal observation, the Walkabout Team met in a classroom at J.E.B. Stuart Elementary School for introductions and a brief discussion about school dismissal procedures. Following the dismissal observation, the Walkabout Team walked around the school site together to identify potential infrastructure improvements for inclusion in this report.





After the walkabout, the Walkabout Team reconvened in the classroom to discuss where students live relative to the school and key walking routes, concerns outside the area observed during the walkabout, existing SRTS education and encouragement programs, infrastructure priorities, and next steps.

## Key Barriers and Issues

The key barriers and issues identified by the Walkabout Team and Virginia SRTS Program staff include the following.

### School Campus

- *Public Alley*—A public alley bisects the school campus, separating the school building from the school play area (Figure 1). Students cross this alley during arrival and dismissal times as well as during recesses. Because north-south alleys in the neighborhood are part of the street grid, drivers use the alley regularly, particularly residents of homes abutting the alley who use the alley to access off-street parking. Members of the Walkabout Team reported concerns about drivers speeding. Refuse collection for residential homes and school dumpsters also occurs in the alley. A marked crosswalk is provided for students to cross the alley but is not high-visibility, and the SCHOOL sign in the alley north of the school property is faded and does not meet current guidelines in the Manual of Uniform Traffic Control Devices (MUTCD). There is also no physical separation between the school play area and the alley. As a result, children at play or chasing a ball can stray into the alley without thinking about the potential for traffic in the alley.
- *Lack of Bicycle Parking*—There are currently no bicycle racks on the school campus. A couple of students do ride bicycles occasionally, and the principal allows them to store their bikes inside the school building.
- *ADA Accessibility*—The only accessible pedestrian pathway into the school building is through the parking lot at the southwest corner of the school property, owing to the handicapped parking spaces. There is no direct accessible pedestrian pathway from the sidewalk on Fendall Avenue to the school.

### Fendall Avenue (between W. Brookland Park Boulevard and W. Ladies Mile Road)

- *Speeding and Double Parking*—Members of the Walkabout Team report concerns about drivers speeding and double parking on Fendall Ave in front of the school.
- *School Zone*—School crossing warning signs with flashing beacons are present on Fendall Avenue at the northern edge of the school property and approximately 150 feet south of the school property. These signs are coordinated with SCHOOL pavement markings. The signs do not meet current MUTCD guidelines, and the flashing beacons flash throughout the school day, which does not alert drivers to the two times when child pedestrians are most likely to be present, i.e., arrival and dismissal.
- *Intersection of Fendall Avenue and W. Crawford Street*—A crossing guard assists students crossing at this intersection during arrival and dismissal (Figure 4). It is the primary pedestrian crossing point for students, STOP controlled in all directions, and there are high-visibility marked crosswalks on all legs; however, the curb ramps at this intersection do not meet current ADA guidelines. Also, parked or standing motor vehicles within the NO PARKING areas can limit visibility between drivers and pedestrians.

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- *Intersection of Fendall Avenue and W. Ladies Mile Road*—This intersection is approximately  $\frac{2}{10}$ <sup>th</sup>s of a mile from the school along a key potential walking route for students. However, it is perceived as unsafe, and students who live north of this intersection are eligible for bus service. The intersection is STOP controlled in all directions and includes high-visibility marked crosswalks. The crosswalks across W. Ladies Mile Road are relatively long (approximately 55 feet) compared to the roadway width (36 feet) due to the skewed angle of the intersection.
- *Sidewalk Maintenance*— The sidewalks along Fendall Avenue are relatively narrow (4 feet wide) and include sections with broken concrete, sidewalk panels uplifted by tree roots, and vegetation and debris encroaching on the sidewalk.

### W. Crawford Street (between Edgewood Avenue and North Avenue)

- *Curb ramps*—The existing curb ramps on W. Crawford Street do not meet current ADA guidelines, and no curb ramps are provided to cross Edgewood Avenue at W. Crawford Street.
- *Sidewalk Maintenance*—The sidewalks along W. Crawford Street are relatively narrow (4 feet wide) and include sections with broken concrete, sidewalk panels uplifted by tree roots, and vegetation and debris encroaching on the sidewalk. There is a vertical discontinuity of approximately 3-4 inches on the south side of W. Crawford Street directly across from the school.

### North Avenue (between W. Ladies Mile Road and Brookland Park Boulevard)

- *Intersection of North Avenue and W. Crawford Street*—This intersection is less than  $\frac{2}{10}$ <sup>th</sup>s of a mile from the school along key potential student walking route. It is currently perceived as unsafe for students to cross, and students living east of North Avenue are eligible for bus service. The intersection is STOP controlled for traffic on W. Crawford Street but there is no control for traffic on North Avenue. Marked crosswalks are provided on all legs but are faded and not high visibility. The curb ramps at this intersection do not meet current ADA guidelines.
- *Intersection of North Avenue and W. Gladstone Avenue*—This intersection is approximately  $\frac{1}{4}$  mile from school along a key potential student walking route. It is currently perceived as unsafe for students to cross, and students living northeast of the intersection are eligible for bus service. The intersection is STOP controlled for traffic on W. Gladstone Avenue but there is no control for traffic on North Avenue. Marked crosswalks are provided on all legs but are faded and not high visibility. The curb ramps at this intersection do not meet current ADA guidelines.

### Griffin Avenue (between W. Brookland Park Boulevard and W. Ladies Mile Road)

- *Speeding*—A resident of Griffin Avenue reported concerns about speeding on the street. Griffin Avenue is a one-way street southbound with no STOP control at W. Crawford Street and no traffic calming features such as speed humps, unlike Edgewood Avenue one street west, which is one-way northbound.





## W. Brookland Park Boulevard (between Edgewood Avenue and North Avenue)

- *Speeding*— During field observations conducted in advance of the Walkabout many drivers appeared to be driving faster than the speed limit, which is 25 mph, and members of the Walkabout Team also reported concerns about speeding. Brookland Park Boulevard is 42 feet wide with one travel lane in each direction and curbside parking on both sides, except at Fendall Avenue, where there are right-turn lanes in each direction. The width of the roadway may contribute to the perception that it is intended for higher speeds, particularly when curbside parking is not well utilized, as was the case during the walkabout (Figure 6). In addition, many of the commercial properties west of Fendall Avenue are set back from the roadway with off-street surface parking occupying the space in front of the building, which likely further contributes to the perception that the road is intended for higher speed motor vehicle traffic.
- *Access Management*—Some of the businesses on W. Brookland Park Boulevard appear to have more driveways than necessary to accommodate motor vehicle traffic. Driveways create potential conflict points between pedestrians and drivers and can reduce pedestrian accessibility.
- *Curb Ramps*—Most of the existing curb ramps on W. Brookland Park Boulevard do not meet current ADA guidelines; however, updated curb ramps have been installed on the south side of W. Brookland Park Boulevard at Edgewood Avenue and Griffin Avenue.
- *Intersection with Fendall Avenue*—This intersection is approximately 1/10<sup>th</sup> of a mile from the school is on a key potential walking route for students (Figure 7). Although it is signalized and has pedestrian signal heads and marked crosswalks, the intersection is not perceived as a safe place for children to cross. Contributing factors may include the length of the crossing (42 feet), traffic speeds and volumes on W. Brookland Park Boulevard, and traffic speeds and volumes of turning vehicles.

## **Assessment of Barriers, Issues and Opportunities**

J.E.B. Stuart Elementary School is located in a neighborhood with many of the basic ingredients needed to support walking and bicycling to school, including a highly-connective network of neighborhood streets, buffered sidewalks on both sides of most streets, and street trees. Approximately 8% of students currently walk; however, approximately 67% students live within one mile of the school, suggesting significant potential for increased walking and bicycling. Key issues include:

- The public alley bisecting the school property.
- The lack of a bicycle rack on the school campus.
- Speeding on Fendall Avenue
- Students crossing mid-block on Fendall Avenue
- Crossings at roads with higher motor vehicle speeds and volumes, including crossings on W. Brookland Park Boulevard, North Avenue, and W. Ladies Mile Road
- Sidewalks with broken concrete, sidewalk panels uplifted by tree roots, and vegetation and debris encroaching on the sidewalk.



The recommendations in the following sections address these issues and suggest ways J.E.B. Stuart Elementary School can encourage more students to walk and bicycle and help them develop the skills they need to do it safely.

## **Glossary of Infrastructure (Engineering) Recommendations**

The following infrastructure treatments can be used to improve the bicycle and pedestrian environment around J.E.B. Stuart Elementary School. Location-specific recommendations are referenced under the section, J.E.B. Stuart Elementary School Infrastructure (Engineering) Recommendations

### Crosswalks

Marked crosswalks highlight the portion of the right-of-way where motorists can expect pedestrians to cross and designate a stopping or yielding location. They also indicate to pedestrians the optimal or preferred locations to cross the street. At midblock or other uncontrolled locations, crosswalks should use a high-visibility pavement marking pattern and be accompanied with pedestrian crossing signs that meet current Manual on Uniform Traffic Control Devices (MUTCD) standards. In addition, crosswalks can be raised on a speed table to be level with the sidewalk. This design helps slow drivers, increase pedestrian visibility and make it easier for pedestrians with mobility limitations to cross the street.

### Curb Ramps

Curb ramps provide access between the sidewalk and roadway for people using wheelchairs, strollers, and bicycles. Curb ramps must be installed at all intersections and midblock locations where pedestrian crossings exist, as mandated by the 1990 Americans with Disabilities Act. In most cases, a separate curb ramp for each crosswalk at an intersection should be provided rather than a single ramp at the corner for both crosswalks. Current guidelines for curb ramp designs are included in the Public Right-of-Way Accessibility Guidelines, Chapter R3: Technical Requirements. (<http://www.access-boaRoadgov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines/chapter-r3-technical-requirements> )

### Crossing Islands

Crossing islands are raised median islands placed in the center of the street at intersection approaches or midblock. They allow pedestrians to cross one direction of traffic at a time by enabling them to stop partway across the street and wait for an adequate gap in traffic before crossing the second half of the street. They can reduce crashes between vehicles and pedestrians at uncontrolled crossing locations on higher volume multi-lane roadways where gaps are difficult to find, particularly for slower pedestrians, e.g. disabled, older pedestrians, and children. The application would need to be studied before implementing crossing islands on state roads.



## Curb Extensions

Curb extensions extend the curb line into the roadway. They can improve the ability of pedestrians and motorists to see each other, reduce crossing distances (and thus exposure to traffic), provide additional pedestrian queuing space, and slow motor vehicle turning speeds.

## In-Street Pedestrian Crossing Signs

In-street pedestrian crossing signs placed in the roadway at pedestrian crossing locations warn drivers and encourage yielding.

## Leading Pedestrian Intervals (LPI):

At signalized intersections, Leading Pedestrian Intervals (LPIs) allow the crosswalk/pedestrian movement to begin crossing 3-7 seconds before the green light is given to motor vehicle traffic in the same direction, enhancing pedestrian visibility in the intersection and helping to establish pedestrian priority over turning vehicles. LPIs are appropriate at signalized intersections where there is relatively heavy pedestrian volume or significant conflicts with turning vehicles.

## Right Turn on Red (RTOR) Restrictions

Restricting right turns on the "red" interval of a signal phase at signalized intersections can reduce crashes between pedestrians and turning vehicles. These restrictions can provide further protection for pedestrians during a leading pedestrian interval of a signal phase, if used. The RTOR restrictions can be limited to certain times of the day or can apply to all hours, prohibiting motorists from turning right without a green signal.

## Pedestrian Lighting

Lighting should be provided near transit stops, commercial areas, or other locations where night-time or pre-dawn pedestrian activity is likely. Pedestrian-scale lighting such as street lamps helps illuminate the sidewalk and improves pedestrian safety and security.

## Pedestrian Signals

Pedestrian signal heads indicate to pedestrians when they should cross a street. The use of WALK/DON'T WALK pedestrian indications at signal locations is particularly important when signal timing is complex (e.g., there is a dedicated left- or right-turn signal for motorists) and at established school zone crossings. For wide streets, countdown signals that indicate the remaining amount of time pedestrians have to cross the street should be installed.

## School Speed Limit Signs

School speed limit signs alert drivers that they are entering a school zone and need to prepare to yield to students that may be crossing the street. School speed limits vary based on local laws and typically range from 15 to 25 mph. School speed limit signs with lights that flash (flashing beacons) during arrival and dismissal times can be more effective on busy streets, however, all school speed limit zones require occasional police enforcement to ensure driver compliance. Refer to the Manual on Uniform Traffic Control Devices (MUTCD) for more guidance.



## Shared Use Paths

Shared use paths are a valuable tool for building a comprehensive pedestrian and bicycling network. These paths are low-stress routes off of the street so pedestrians and bicyclists do not have to compete for space with motor vehicles. The paths and trails should have adequate lighting to support year-round use.

## Sidewalks

Sidewalks provide pedestrians and younger bicyclists a safe place to travel that is separate from motor vehicles. It is important to provide a continuous sidewalk route, connected with high-visibility crosswalks so that pedestrians are not forced to share travel space with motor vehicles. All sidewalks should meet ADA guidelines for width and cross-slope, and include curb ramps that meet ADA guidelines at street crossings.

## **J.E.B. Stuart Elementary School Infrastructure (Engineering) Recommendations**

### Public Alley

- Explore whether the alley bisecting the school property can be closed during school hours. If so:
  - Construct a turnaround area at the north end of the school property adjacent to the alley to enable vehicles using the alley to turn around.
  - In the long term, explore the potential for an easement along the northern edge of the school property through which the alley might be routed to connect with Fendall Avenue.
- If the alley bisecting the school property cannot be closed during school hours, or as a temporary measure until the alley can be closed:
  - Restripe the existing crosswalk as a high-visibility crosswalk.
  - Install fencing or other appropriate barrier to prevent children at play from straying into the alley and to encourage children to cross the alley at the marked crosswalk.
  - Replace the existing school zone sign with school zone signage meeting current MUTCD guidelines (S1-1).

### Bicycle Rack

- Install a bicycle rack on the school campus. The rack should be inverted-U-style and should be placed in a convenient, secure location (e.g., next to the asphalt play area on the Fendall Avenue side of the school property).

### Speeding on Fendall Avenue

- Install curb extensions at the intersection of Fendall Avenue and W. Crawford Street
  - Install in-street pedestrian crossing signs for the Fendall Avenue crossing to calm traffic and encourage driver yielding.
- Adjust timing of school zone flashing beacons, so they flash during school arrival and dismissal times instead of continuously throughout the day, and update school zone signage so it meets current MUCD guidelines.



## Students Crossing Mid-Block on Fendall Avenue

- Install mid-block crossing on Fendall Avenue. The crossing should be aligned with the exit student walkers and car riders use to leave the school building at dismissal and should include:
  - Appropriate school crossing signage (S1-1 with downward pointing arrow) and an in-street pedestrian crossing sign (R1-6) with school plate (S4-3P).<sup>1</sup>
  - Curb extensions with ADA-compliant curb ramps on both sides of the crossing.
  - A marked crosswalk with high-visibility striping.
  - An accessible connection between the curb ramp on the west side of the Fendall Avenue and the sidewalk on the same side.
- Assess motor vehicle yielding at mid-block crossing after curb extensions, pavement markings, and signage have been installed. If yield rates are not sufficiently high, consider installing a rectangular rapid flashing beacon (RRFB).

## Crossings at Roads with Higher Motor Vehicle Speeds and Volumes—Fendall Avenue and W. Brookland Park Boulevard

- Mark high-visibility crosswalks on all legs.
- Implement leading pedestrian interval and no right turn on red restrictions.
- Construct curb extensions on into W. Brookland Park Boulevard on the northwest and southeast corners.
- Construct curb extensions into Fendall Avenue on the northeast corner.
- Construct pedestrian crossing islands to support the W. Brookland Park Boulevard crossings (may require moving the street center line).

## Crossings at Roads with Higher Motor Vehicle Speeds and Volumes—North Avenue and W. Crawford Street

- Mark high-visibility crosswalks on all legs.
- Construct pedestrian crossing islands to support North Avenue crossings.
- Install pedestrian crossing signage (W11-2 with downward pointing arrow) on both sides of the road and in crossing islands to support the North Avenue crossings.

## Crossings at Roads with Higher Motor Vehicle Speeds and Volumes—North Avenue and W. Gladstone Avenue

- Mark high-visibility crosswalks on all legs.
- Construct pedestrian crossing islands to support North Avenue crossings.
- Install pedestrian crossing signage (W11-2 with downward pointing arrow) on both sides of the road and in the crossing islands to support the North Avenue crossings.

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<sup>1</sup> Sign codes are from the 2009 Manual of Uniform Traffic Control Devices (MUTCD). The MUTCD is a document developed by the Federal Highway Administration that establishes standards and guidelines for signals, signs, and pavement markings used on public roads.



## Crossings at Roads with Higher Motor Vehicle Speeds and Volumes—Fendall Av. and W. Ladies Mile Road

- Construct pedestrian crossing islands with STOP signs to support all crossings.

## Sidewalk Maintenance

- Address sidewalk maintenance issues within the ¼ mile of the school. Focus on conditions that are not in compliance with current ADA guidelines.

## **Programmatic Recommendations**

The programmatic recommendations are designed to work in conjunction with the infrastructure recommendations and each other to instill safe walking, bicycling and driving practices. The recommendations are organized according to the four “E’s” of Safe Routes to School: Education, Encouragement, Enforcement, and Evaluation.<sup>2</sup>

### Education

- Integrate pedestrian and bicycle safety education into the school curriculum. Pedestrian and bicycle safety education should occur in advance of major walk or bike to school events so students are adequately prepared and have an opportunity to practice the skills they have learned. Two pedestrian safety resources are listed below. Both are free:
  - The *Child Pedestrian Safety Curriculum* was developed by the National Highway Traffic Safety Administration. The curriculum emphasizes skills practice and includes take home tip sheets for parents in English and Spanish. <http://www.nhtsa.gov/ChildPedestrianSafetyCurriculum>
  - The *Pedestrian Safer Journey* curriculum was developed by the Federal Highway Administration and features videos, quizzes and additional resources for educators teaching pedestrian safety. [http://www.pedbikeinfo.org/pedsaferjourney/el\\_en.html](http://www.pedbikeinfo.org/pedsaferjourney/el_en.html)
- Conduct a bicycle rodeo. Bicycle rodeos include activities designed to develop bicycle safety skills. Bicycle safety education is particularly important in advance of activities that encourage biking to school, such as National Bike to School Day held in early May each year. Potential partners for this event include Sports Backers and Jake Helboldt, the City of Richmond’s Bicycle, Pedestrian and Trail Coordinator.
- Incorporate information on walking and bicycling to school in communications with parents. Inform parents that J.E.B. Stuart Elementary School supports walking and bicycling to school and educate parents about the academic and health benefits of walking and biking.

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<sup>2</sup> The fifth E is Engineering, included in this report under Infrastructure Recommendations.





- Provide parents and guardians with safe driving information and materials that stress the importance of driving safely in school zones and being alert for pedestrians and bicyclists during arrival and dismissal. These materials can be provided during back-to-school nights, health and safety fairs, and Safe Routes to School events. There are several organizations that have free materials available on their websites:
  - The National Center for Safe Routes to School has a helpful list of "Driving Tips Around Schools: Keeping Children Safe." [http://apps.saferoutesinfo.org/lawenforcement/resources/driving\\_tips.cfm](http://apps.saferoutesinfo.org/lawenforcement/resources/driving_tips.cfm)
  - The Federal Highway Administration has an entire website devoted to reducing distracted driving, including information and free downloadable materials. <http://www.distraction.gov/content/take-action/downloads.html>
  - The National Safety Council also has a page dedicated to distracted driving resources. Find it here <http://www.nsc.org/learn/NSC-Initiatives/Pages/distracted-driving-resources.aspx>

## Encouragement

- Continue participation in International Walk to School Day. Walk to School Day is an excellent opportunity to get students walking, teach the benefits of an active lifestyle, and highlight walking and biking issues. Resources to help plan Walk to School Day are available on the Virginia SRTS Program website. [http://www.virginiadot.org/programs/srsm\\_srts\\_all\\_website\\_resources.asp](http://www.virginiadot.org/programs/srsm_srts_all_website_resources.asp).
- Facilitate formation of walking schools buses. A walking school bus is a group of children walking to school with one or more adults. It can be as informal as two families taking turns walking their children to school or as structured as a planned route with meeting points, a timetable and a schedule of trained volunteers. A walking school bus currently operates from/toward the direction of North Avenue. See the Virginia SRTS Program's webinar on walking school buses and bicycle trains. <https://www.dropbox.com/s/7kzoqoyxc6o3ggk/VDOT%20SRTS%20-%20Walking%20School%20Bus%20and%20Bike%20Train%20Webinar.pdf?dl=0>
- Establish a frequent walker program. Frequent walker programs encourage students to walk by offering incentives to students who walk frequently or by establishing a competition between classes. A simple record keep system must be created to track student walking. The Virginia SRTS Program provides a punch card template that can be used for this purpose. [http://www.virginiadot.org/programs/srsm\\_marketing\\_toolkit.asp](http://www.virginiadot.org/programs/srsm_marketing_toolkit.asp)

## Enforcement

- Establish a driver pledge program. Encourage parents and community members to sign a pledge that they will abide by traffic laws, avoid distracted driving, drive at a safe speed, and safely share the road with pedestrians and bicyclists.
- Celebrate Virginia Crossing Guard Appreciation Day. Virginia Crossing Guard Appreciation Day takes place every year in February. Crossing Guard Appreciation Day is an opportunity to thank and recognize the school crossing guard, and remind parents and students of the important work crossing guards do every day. See the Virginia SRTS Program website for more information. [http://www.virginiadot.org/programs/srsm\\_crossing\\_guard\\_appreciation\\_day.asp](http://www.virginiadot.org/programs/srsm_crossing_guard_appreciation_day.asp)
- Work with the Richmond Police Department to provide periodic speed enforcement on Fendall Avenue and W. Brookland Park Boulevard in the vicinity of the school during arrival and dismissal times.



## Evaluation

- Conduct Student Travel Tallies to get baseline data for student travel patterns. In Virginia, schools across the state record how students are getting to school during Student Travel Tally Week every September. This data can be used to assess progress toward increasing the number of students who walk and bike to school. For more information about Student Tally Week go to the Virginia SRTS Program website. [http://www.virginiadot.org/programs/srsm\\_student\\_travel\\_tally\\_week.asp](http://www.virginiadot.org/programs/srsm_student_travel_tally_week.asp)
- Administer Parent Surveys to collect information on parents' attitudes towards walking and bicycling and reasons why they may or may not allow their children to walk or bike to school. Administering parent surveys at least once a year can help determine whether Safe Routes to School efforts are changing parents' attitudes towards walking and bicycling to school. For tips on administering Parent Surveys, see the Virginia SRTS Program's Learn it! Do it! Live it! tip sheet. [https://www.dropbox.com/s/nl274zoliqegw5t/Parent%20Survey\\_LDLv2.pdf?dl=0](https://www.dropbox.com/s/nl274zoliqegw5t/Parent%20Survey_LDLv2.pdf?dl=0)

## Walkabout Photographs

Walkabout participants took photographs to document the walkabout as well as supplement the walkabout project recommendations. The following photos are from the walkabout. All of the walkabout photographs are available at: <https://www.dropbox.com/sh/ufnfjoc4yqisd4u/AABhKVBMd-AE2ygGoKWRE6qFa?dl=0>



**Figure 1. Alley from W. Crawford Street.** This public alley bisects the school property, separating the school building from the school play area. Motor vehicles drive through the alley at all times, including during arrival, dismissal, and recess.



**Figure 2. Close-up of Alley Crosswalk.** This marked crosswalk leads from the school building to the school play area across the alley. It is not high-visibility.





**Figure 3. Buses parked on W. Crawford Street next to school.** Buses line up on W. Crawford Street. During dismissal. These buses sometimes block the public alley, discouraging drivers from using the alley.



**Figure 4. Intersection of W. Crawford Street and Fendall Avenue looking east toward the school.** A crossing guard assists pedestrians crossing at this intersection.



**Figure 5. Fendall Avenue looking south toward school.** Some students cross Fendall Avenue mid-block from a point just in front of the car shown here on the left side of the road. Crossing here is convenient, because it is where walkers exit the school building.



**Figure 6. W. Brookland Park Boulevard looking west toward Fendall Avenue.** The speed limit on W. Brookland Park Boulevard is 25 mph but the width of the roadway may encourage faster speeds.





**Figure 7. Intersection of Fendall Avenue and W. Brookland Park Boulevard looking north.** This intersection is just 1/10<sup>th</sup> of a mile south of the school. Yet, students who live south of W. Brookland Park Boulevard are provided with school bus service, because crossing W. Brookland Park Boulevard is perceived as unsafe.



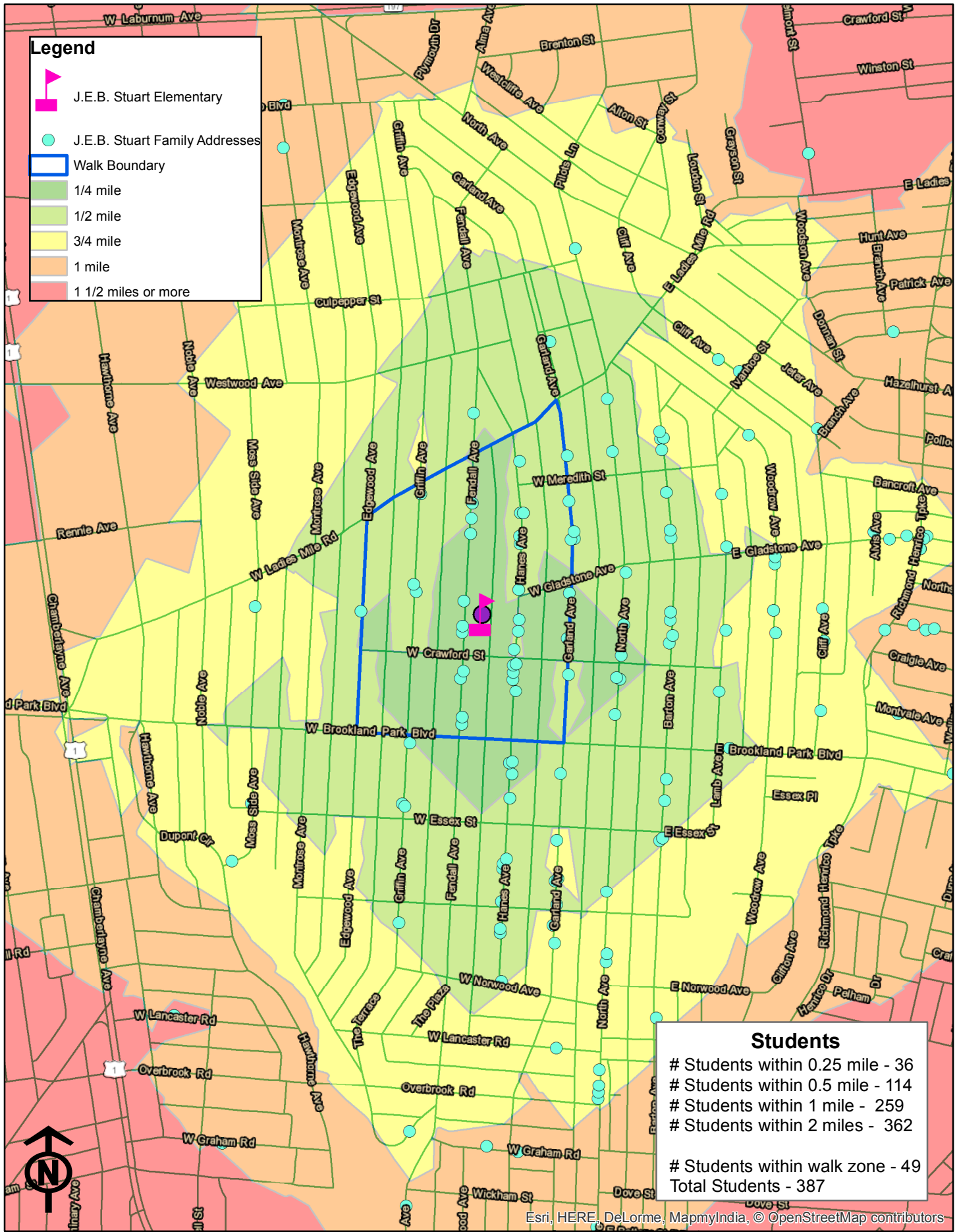
**Figure 8. Sidewalk panel pushed up by tree roots on south side of W. Crawford Street opposite school.** Sidewalk maintenance is an issue in the vicinity of the school. Common maintenance concerns include broken concrete, sidewalk panels uplifted by tree roots, and vegetation and debris encroaching on the sidewalk.





**Figure 9. Most curb ramps do not meet current ADA guidelines.** Most curb ramps in the vicinity of the school do not meet current ADA guidelines. This curb ramp is on the northeast corner of the intersection of Fendall Avenue and W. Crawford Street

# J.E.B. Stuart Elementary School Safe Routes Walkabout - Student Locator



**Legend**

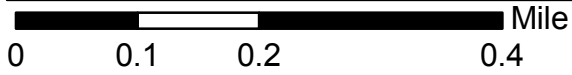
- J.E.B. Stuart Elementary
- J.E.B. Stuart Family Addresses
- Walk Boundary
- 1/4 mile
- 1/2 mile
- 3/4 mile
- 1 mile
- 1 1/2 miles or more

**Students**

- # Students within 0.25 mile - 36
- # Students within 0.5 mile - 114
- # Students within 1 mile - 259
- # Students within 2 miles - 362

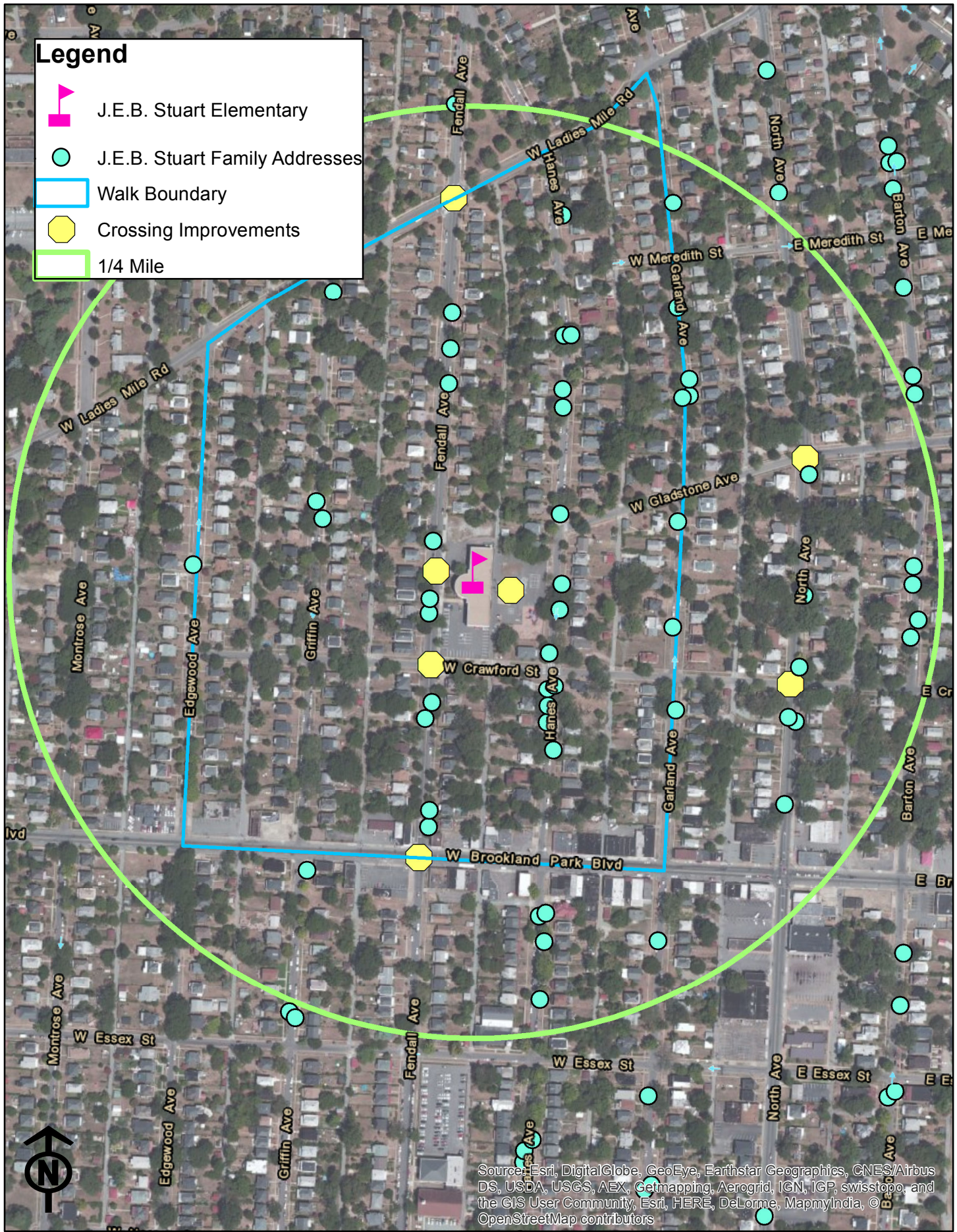
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- # Students within walk zone - 49
- Total Students - 387**










# J.E.B. Stuart Elementary School Safe Routes Walkabout - Recommendations



**Legend**

-  J.E.B. Stuart Elementary
-  J.E.B. Stuart Family Addresses
-  Walk Boundary
-  Crossing Improvements
-  1/4 Mile



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors

