

Lake Braddock Secondary School Walkabout Report

Introduction

On November 17, 2022, stakeholders at Lake Braddock Secondary School (LBSS) in Burke, Virginia met to discuss conditions for walking and bicycling to school and identify potential projects to be included in a future infrastructure grant application. Their participation in a VDOT Safe Routes to School (SRTS) Walkabout shows their support for improving the walking and bicycling environment and increasing the number of students safely walking and bicycling to school.

Meeting participants included the LBSS principal and vice principal, the principal's administrative assistant, members of the LBSS SRTS Team, the PTSA president, representatives from FCPS's facilities management, transportation, and safety and security divisions, the Fairfax County Department of Transportation Pedestrian Program Manager, two representatives from the Fairfax County Board of Supervisors, the VDOT liaison for the Fairfax County Police Department, community representatives, and others. The names of the Walkabout Team members are listed in Appendix A.



Figure 1 LBSS sign at main entrance on Burke Lake Road

Data Collection

Pedestrian and bicycle conditions were observed before, during, and after dismissal on November 17. An advance team of three Virginia SRTS Program staff members and two VDOT representatives observed conditions at and near the school before dismissal. The full walkabout team observed conditions during LBSS dismissal. After dismissal, the full team visited key intersections along Burke Lake Road and Lake Braddock Drive to discuss travel conditions. The three Virginia SRTS Program staff members made additional field observations after the walkabout meeting ended.

Existing Conditions

School Location and Demographics

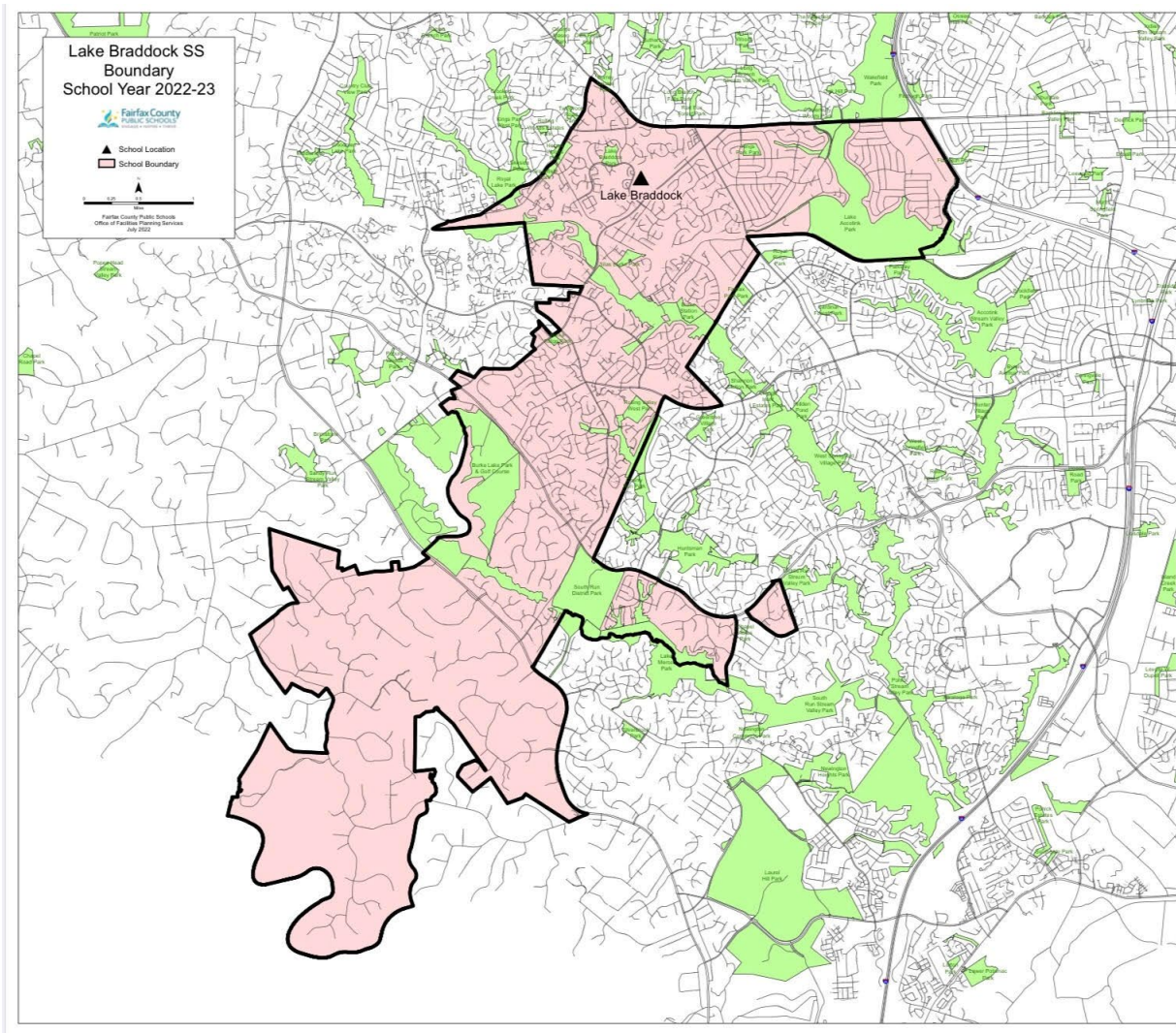


Figure 2 LBSS attendance boundary

LBSS is located at 9200 Burke Lake Rd in Burke, Virginia in the north central portion of the LBSS attendance zone (Figure 2). It serves 4,425 students, giving it the highest student enrollment in the Commonwealth of Virginia. LBSS also has hundreds of staff members, bringing the total student and staff population to over 5,000.

According to a survey conducted in April 2022, approximately 10 percent of students travel to school as a pedestrian or bicyclist and 13 percent travel from school as a pedestrian or bicyclist. Students who walk or bike generally live in the areas highlighted in purple in Figure 3.

The same survey found that 46 percent of students rode in a car or drove to school and 37 percent rode in a car or drove from school. Finally, 44 percent reported riding the bus to school and 50 percent reported riding the bus from school.

Not all students are eligible to ride the bus. Approximately 15 percent of LBSS students are pupil-placed from outside LBSS attendance boundary. Only about a third of these students are eligible to ride a school bus.

Nevertheless, 1,128 students (25%) live within one mile of the school, a comfortable walking distance, and 2,549 (58%) live within two miles, a comfortable bicycling distance, suggesting substantial potential for increasing the number of students who walk and bicycle to school.



Figure 3: Map of Lake Braddock attendance boundary with neighborhoods most student pedestrians and bicyclists come from highlighted in purple.



Bicycle and Pedestrian Infrastructure

On-Campus Pedestrian and Bicycle Infrastructure

There are continuous sidewalks around much of the school building, although there is a sidewalk gap at the back of the school as well as smaller gaps at the north and south ends of the school building. There are also sidewalks along the school's main access driveway and in the parking lot medians. These sidewalks are not always connected to each other by marked crosswalks, and some marked crosswalks are inaccessible due to lack of curb ramps.

There are no bicycle lanes or shared use paths on campus; however, there are nine comb-style bicycle racks, including eight at the front of the school and one at the back of the school.

Off-Campus Street Network

The street network in the neighborhoods surrounding the school is characterized by relatively few direct through streets and lots of winding streets, cul de sacs, and dead ends. This street pattern, which is typical of suburban locations, can make pedestrian and bicycle travel for transportation purposes less convenient and comfortable, because there are fewer direct routes, and the routes that are available often involve traveling on streets with high motor vehicle volumes and speeds. Off-street paths can help mitigate this issue if they establish more direct and/or comfortable connections to destinations.

Off-Campus Pedestrian and Bicycle Infrastructure

Most streets near the school have sidewalks on both sides of the street. In addition, there is a shared use path on the north side of Burke Lake Road as well as a network of paths around Lake Braddock and a path south of Burke Lake Road that connects with Queen Victoria Court and Lake Braddock Drive. Sidewalks and paths are generally less than 5 feet wide. One exception is the shared use path on the north side of Burke Lake road, which is approximately 6 feet wide in front of LBSS.

Marked crosswalks are provided across Burke Lake Road at the school's main entrance, at the intersection of Burke Lake Road and Lake Braddock Drive, at the intersection of Lake Braddock Drive and Raintree Road, and at the intersection of Lake Braddock Drive and Mersea Court. Most curb ramps do not meet current ADA guidelines because they lack a detectable warning surface.

Walkabout Summary

After a brief meeting with the LBSS principal's administrative assistant to review existing dismissal procedures and community concerns, Virginia SRTS staff previewed the planned walkabout routes.

Dismissal Overview

Pedestrians: LBSS has 18 exterior doors, all of which available to pedestrians at dismissal. Figure 4 shows the primary routes student pedestrians take upon exiting the school building and the location of the school crossing guard. The crossing guard is present for approximately 30 minutes.

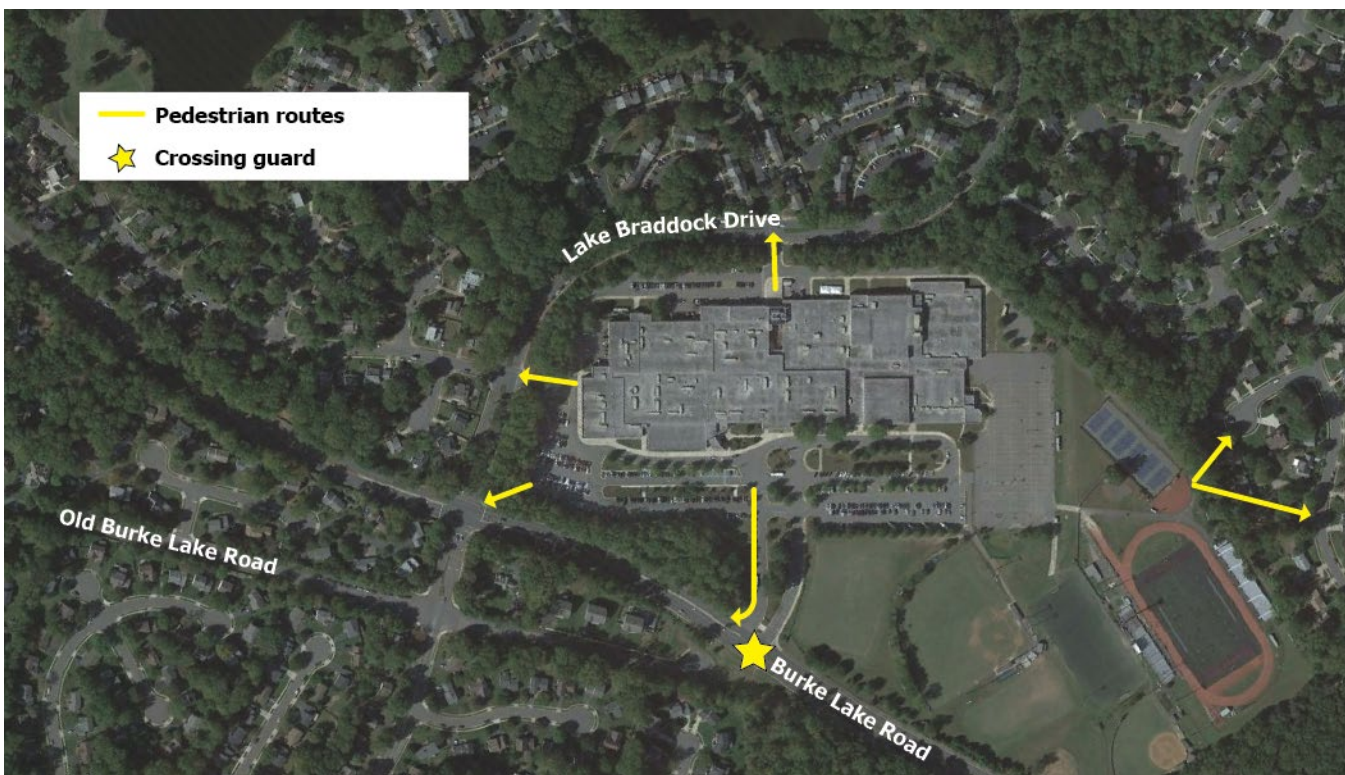


Figure 4. Dismissal--Pedestrian Routes

Bus Riders: LBSS is served by 55 buses. Most buses pick up at in the parking lot in front of the school off Burke Lake Road. These buses exit to Burke Lake Road via the school's main driveway. Three small buses pick up special education students at the back of the school. These buses exit via Lake Braddock Drive, where they are required to turn right. (Figure 5)

Bus drivers and school faculty are in constant communication via handheld transceivers (walkie-talkie). Drivers receive the go-ahead to depart a few minutes prior to 3 PM and take approximately 5-7 minutes to completely leave the school premises.



Figure 5. Bus Circulation

Car Riders: LBSS instructs parents and guardians to pick up car riders near the “Purple Bear” roundabout inside the main entrance off Burke Lake Road. Some arrive as early as 45 minutes to an hour prior to the dismissal bell.

According to members of the Walkabout Team, some parents and guardians prefer to pick their students up off-campus. These usually park on Lake Braddock Drive, if parking is available, or on Old Burke Lake Road.

Figure 6 shows student pick up locations.



Figure 6. Student pick-up locations

Student Drivers: Two hundred ten students have passes to park on campus. On-campus student parking is in the southeastern corner of the school property. During dismissal, students parked in the student parking area can exit via the school's main driveway to Burke Lake Road or via Lake Braddock Drive. While the buses are in motion, students and other drivers in the parking area are instructed to stop and wait until the last bus leaves.

According to members of the Walkabout Team, students also park on off-campus streets. Most park on Lake Braddock Drive.

Figure 7 shows student parking locations.

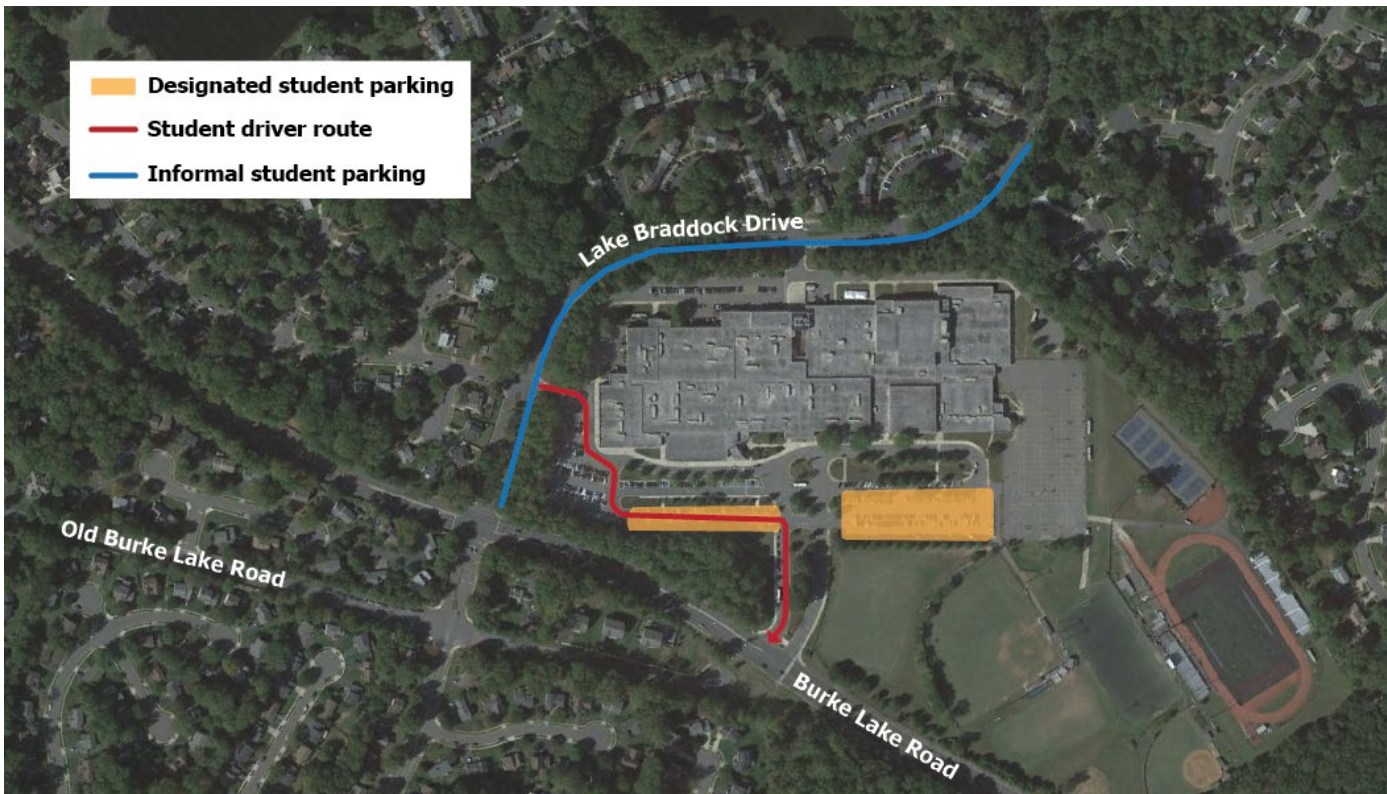


Figure 7. Student Street Parking Area

Crash Data

Between 2015 and 2022, there were 955 crashes recorded within a one-mile radius of LBSS, including 19 crashes involving a pedestrian and two crashes involving a bicyclist. Thirty-three crashes resulted in serious injury or death, including six pedestrian crashes. Four of the fatal and serious injury pedestrian crashes occurred at night, including two in unlit conditions and two with lighting.

There have been recent pedestrian fatalities at Guinea Road and Olley Lane and at Braddock Road and Kings Park Drive, both involving adults. On a recently conducted parent survey, two students and one teacher reported being hit by a car while biking along or across Burke Lake Road near the school. In 2019-2020, two students and a teacher were hit by cars while biking to or from school. Since then, two more students either reported or were witnessed being hit by cars near the school. One hit and run involving a parked vehicle was reported in our parking lot. Based on reports from parents and students, it is believed that crashes and near misses involving students are underreported.

Key Issues and Barriers

The key barriers and issues identified by the Walkabout Team and Virginia SRTS Program staff are listed below. Location specific issues and recommendations are listed on the following pages.

Size of school amplifies impact of mode choice decisions

LBSS's size means that small shifts in student and staff travel mode choices can have significant impacts on nearby streets. The pandemic resulted in a shift away from students using school buses for school transportation and toward students being driven or driving themselves, resulting in additional vehicular traffic around the school. The increase in traffic has amplified parent concerns about the safety of student pedestrians and bicyclists accessing the school, resulting in a vicious cycle of the perceived lack of safety of pedestrian and bicycle travel resulting in more driving. There is now so much car traffic that school buses are often blocked from entering the school campus at arrival, there are backups on main roads, and students routinely arrive late. Parents who drive their kids to school report they would be interested in trying transit buses, alternate drop off points, or carpooling. The school is exploring these alternatives but has yet to officially promote them.



Figure 8: Traffic on Burke Lake Road at dismissal.

Student drivers create additional safety concerns

As a secondary school serving grades 7-12, a portion of LBSS's school population is eligible to drive. Teen drivers ages 16-19 are almost three times more likely than drivers over 20 to be involved in a fatal crash per mile driven.¹ As a result, street designs that encourage safe driver behaviors, driver safety education, and measures to encourage and enable the use of safer alternatives to driving are particularly important for schools such as LBSS with teen drivers.



Figure 9: Traffic on Lake Braddock Drive at dismissal.

Adjacent streets difficult to cross safely

LBSS is located adjacent to Burke Lake Road and Lake Braddock Drive. Burke Lake Road is a minor arterial with a 40-mph speed limit and estimated Annual Average Daily Travel (AADT) of 21,000 in 2021. Lake Braddock

¹ Teen Drivers and Passengers: Get the Facts, Centers for Disease Control and Prevention, https://www.cdc.gov/transportationsafety/teen_drivers/teendrivers_factsheet.html



Drive is a major collector with a 25-mph speed limit and estimated AADT of 2,000 in 2021. Traffic on these streets is concentrated at arrival and dismissal times, particularly arrival, which coincides with rush hour traffic.

With the exception of the intersection of Burke Lake Road and Lake Braddock Drive, there are no controlled crossings across Burke Lake Road or Lake Braddock Drive adjacent to the school property. Although a crossing guard is present to assist pedestrians and bicyclists at an uncontrolled marked crosswalk across Burke Lake Road at the school's main access driveway, the crossing guard is only there for about 30 minutes during arrival and dismissal times and is sometimes late or absent. There are no crossing guards posted at the uncontrolled crossing locations on Lake Braddock Drive.

Many students participate in after-school activities, and the school building and campus are used for various activities in the evenings and on weekends, so there is a need for crossings to be safe and comfortable when a crossing guard is not present.

Pedestrian and shared use paths not wide enough to accommodate pedestrian and bicyclist volumes

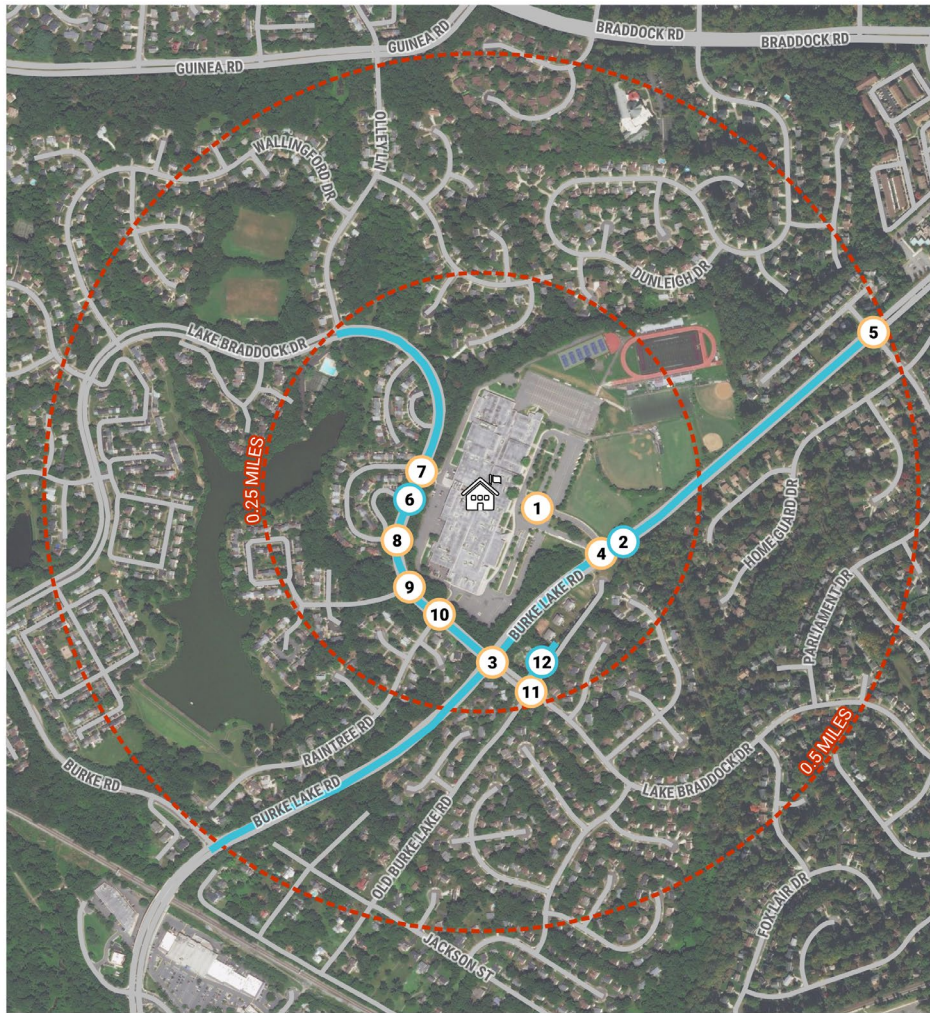
There are sidewalks on most streets near LBSS, including on Lake Braddock Drive and Burke Lake Road. Lake Braddock Drive has sidewalks on both sides of the street. Burke Lake Road has a shared use path on the north side and a sidewalk on the south side. However, these facilities are too narrow for the volume of pedestrians and bicyclist generated by the school and are not sufficiently buffered from moving motor vehicle traffic, particularly on Burke Lake Road, which has a 40 mph speed limit. Many sidewalks do not meet the minimum width requirements in VDOT's Road Design Manual, which specifies a 5-foot minimum sidewalk width and a 3-foot minimum sidewalk buffer width (4-foot minimum sidewalk buffer if the speed limit is over 25 mph).

Pedestrian and bicyclist volumes are amplified on Burke Lake Road and Lake Braddock Drive due to the disconnected, suburban-style street network near LBSS, which requires most pedestrians and bicyclists to use arterial roadways like Burke Lake Road and Lake Braddock Drive for anything but extremely local travel, and by the fact that destinations pedestrians and bicyclists want to access, e.g., schools, bus stops, stores, and restaurants, are located on these streets.

Recommendations

The map below (Figure 8) shows the locations of key recommendations to improve the walking and bicycling environment near LBSS. Recommendations are categorized as corridor or intersection improvements.

Recommendations include measures to slow motor vehicle speeds, improve crosswalks, and expand space for pedestrians and bicyclists. Detailed issues and recommendations for each numbered location are described on the following pages. A glossary of engineering terms is provided in D. Glossary of Infrastructure Terms and key state policies supporting the recommendations are highlighted in E. Key Policies Supporting Recommendations.



H:\50000\5265.3 and 5265.4 VDOT SRTS\Mini-grants\Walkabout Mini-grants\Lake Braddock\GIS\Lake Braddock ES.qgs

Lake Braddock Secondary School
 Walkabout Mini-Grant
 Burke, Virginia



- Lake Braddock Secondary School
- Corridor Recommendations
- Intersection Recommendations

Figure 10: Location-Specific Recommendations

Map ID 1: School Campus

Issue: Lack of accessible pedestrian access routes

There isn't a clear, accessible pedestrian access route between the Burke Lake Road/Lake Braddock Drive intersection and the school's main entrance. There is a gravel path between the intersection and the school parking lot that is heavily used by student pedestrians (Figure 11); however, there is no clear pedestrian pathway across the school parking lot.

The pedestrian routes that connect the Burke Lake Road/main access driveway intersection to the school building (Figure 12) and the school building to the parent drop-off/pick-up location (Figure 13) are not accessible. The marked crosswalks lack curb ramps on one or both sides and there are no accessible pedestrian routes on the islands the crosswalks connect to.

Short-Term Recommendations (1 to 3 years)

- Establish a clear, accessible pedestrian access route between the Burke Lake Road/Lake Braddock intersection and the school's main entrance.
- Construct ADA compliant curb ramps to make all marked crosswalks accessible.
- Construct sidewalks on the islands to create complete, accessible connections to parent pick-up location.



Figure 11: Gravel path between intersection of Burke Lake Road and Lake Braddock Drive.



Figure 12: The pedestrian route between the school building and the parent drop-off/pick-up location.



Figure 13: Pedestrian route between the Burke Lake Road/main access driveway intersection and school building.

Issue: Lack of bicycle access routes

There aren't clear, safe, and comfortable ways for bicyclists to access bicycle parking areas (Figure 14).

Long-Term Recommendations (4 to 7 years)

- Establish clear, safe, and comfortable ways for bicyclists to access bicycle parking areas, e.g., by establishing on-campus bike lanes and/or shared use paths that connect to those locations.

Issue: Lack of covered bicycle parking

Although there are nine bicycle racks, none of these racks is currently covered. As a result, if a LBSS staff member or student rides their bicycle school and there is a rain shower during the day, the bike will get wet. This is a disincentive to riding on days with a chance of showers.

Short-Term Recommendations (1 to 3 years)

- Add at least 60 covered bicycle parking spaces. It may be possible to create a shelter above the existing rack locations to make this feasible.

Long-Term Recommendations (4 to 7 years)

- Add an additional 180 covered bicycle parking spaces.



Figure 14: One of nine bicycle parking locations at LBSS.

Issue: Motor vehicle speeds

There are concerns about motor vehicle speeds on the school campus, particularly along the main access driveway from Burke Lake Rd to the parent drop-off/pick-up location (Figure 15).

Short-Term Recommendations (1 to 3 years)

- Install speed hump at midway point of both in-bound and out-bound driveways, i.e., midway point between Burke Lake Road and parent drop-off/pick-up location.

Long-Term Recommendations (4 to 7 years)

- Consider eliminating one motor vehicle travel lane on the entrance and exit driveways and reallocating the space for separated bike lanes or paths, or bus-only lanes.



Figure 15: There are concerns about motor vehicle speeds on the school's main access driveway.

Map ID 2: Burke Lake Road (Signal Hill Drive to Burke Drive)

Issue: Motor vehicle speed

The existing speed limit along this segment is 40 mph; however, the speed limit on Burke Lake Road east of Signal Hill Road is 35 mph.

There are 25 mph school zone speed limit signs with flashers and coordinated SCHOOL pavement markings located east of Lake Braddock Drive for eastbound traffic and at the eastern edge of the school campus for westbound traffic. The flashers are on for 45 minutes at arrival and dismissal times. The flashers are not configured to operate at dismissal times on early release days, creating a significant safety concern. During a recent early dismissal, the crossing guard was late, so students crossed Burke Lake Road without crossing guard support. When the flashers are off, the speed limit on Burke Lake Road is 40 mph (traffic speed is often 45). Because the speed limit in front of the school is 40 mph, cars are not required to stop for students waiting at crosswalks, whenever students leave school later than 3:15.

Motor vehicle traffic lanes are approximately 12' wide.

Short-Term Recommendations (1 to 3 years)

- Reduce speed limit to at least 35 mph to be consistent with speed limit east of Signal Hill Rd, preferably 25 mph.
- Update school zone speed limit signage and flashers to the current MUTCD standard. The updated flashers should include technology to enable them to be programmed remotely to flash during dismissal on early

release days. Fairfax County Public Schools and/or LBSS should communicate early release days to the County on an annual basis to ensure proper programming.

- Install automated speed enforcement cameras and speed feedback signs. Coordinate with existing school zone speed limit signage.
- Add edge lines to reduce motor vehicle travel lanes to 11' wide.

Long-Term Recommendations (4 to 7 years)

- Consider reducing the speed limit on Burke Lake Road to 25 mph and introducing additional traffic calming measures to support the reduced speed limit.

Issue: Location of school zone speed limit signage

The intersection of Burke Lake Road and Lake Braddock Drive is the primary student crossing location for the school but is not within the area defined by the school zone speed limit. Walkabout participants reported concerns about the visibility of this crossing due to the slope and curve of Burke Lake Road west of the school.

Short-Term Recommendations (1 to 3 years)

- Relocate the existing school zone speed limit signage and coordinated pavement marking to a new location west of the Burke Lake Road/Lake Braddock Drive intersection

Issue: Sidewalk and shared use path width

The shared use path on the north side of the Burke Lake Road (Figure 16) and the sidewalk on the south side are narrow considering the number of existing and potential pedestrians and bicyclists. The shared use path is approximately 6' wide, and this width is encroached by vegetation at some locations, making it effectively even narrower.

Short-Term Recommendations (1 to 3 years)

- Expand the shared use path adjacent to school property to 12 feet wide. Bi-directional shared use paths should be at least 10 feet wide per the forthcoming AASHTO Bike Guide. A width of 12 feet is recommended in this case due to expected peak hour pedestrian and bicyclist volumes.



Figure 16: The shared use path on Burke Lake Road is approximately 6' wide.

Long-Term Recommendations (4 to 7 years)

- Explore expanding the width of the shared use path and sidewalk along this entire segment (i.e., not just the shared use path adjacent school property). The median island could potentially be narrowed to create additional space. For example, at the LBSS entrance, the median is approximately 18 feet wide and could be trimmed to as narrow as 6 feet while still providing an accessible pedestrian refuge.

Issue: Sidewalk repair and maintenance

There are several sidewalk repair and maintenance issues along this segment (Figure 17). These issues make it difficult for people in wheelchairs, people with strollers, and others to traverse the sidewalk.

Short-Term Recommendations (1 to 3 years)

- Address sidewalk repair issues along this segment.
- Establish an adopt a sidewalk program in which student organizations pledge to clear sidewalks adjacent the school of debris and vegetation on a regular basis.
- Distribute flyers to property owners near the school campus reminding them to be a good neighbor and fulfill their responsibility to ensure that sidewalks adjacent to their properties are free of overhanging vegetation, snow, and debris.



Figure 17: The sidewalk on the south side of Burke Lake Road is obstructed by leaves. There are also vertical discontinuities in the sidewalk that make it inaccessible.

Map ID 3: Burke Lake Road and Lake Braddock Drive

Issue: Pedestrian Pushbutton Accessibility

The location of the pedestrian pushbutton on the northeast corner of the intersection is not accessible (Figure 18). The MUTCD includes guidance that pedestrian pushbuttons be, “unobstructed and adjacent to a level all-weather surface to provide access from a wheelchair.” However, the pedestrian pushbutton at this location is obstructed by a curb.

In addition, the pedestrian signals at this intersection are not accessible pedestrian signals, i.e., they lack an integrated device that communicates information about the WALK and DON'T WALK intervals at signalized intersections using audible tones and vibrotactile surfaces.

Short-Term Recommendations (1 to 3 years)

- Install accessible pedestrian signals for all crossings.
- Address obstruction on northeast corner to meet MUTCD guidelines.

Issue: Pedestrian interval

Many students cross at this location at arrival and dismissal times. 231 students were counted crossing at this location during the walkabout.

The pedestrian cycle for the Burke Lake Road crossings lasts approximately 27 seconds; however, during the heavily trafficked dismissal time the WALK indication isn't displayed long enough for all queued students to begin crossing before the DON'T WALK indication is displayed. As a result, some students begin crossing after the DON'T WALK indication is displayed.

Short-Term Recommendations (1 to 3 years)

- Increase the length of the WALK interval for the Burke Lake Road crossing. The minimum required by the Manual of Uniform Traffic Control Devices (MUTCD) is 7 seconds, but the WALK interval may need to be longer in this case due to pedestrian crossing volumes at arrival and dismissal times.
- Evaluate whether the pedestrian change interval also needs to be increased. According to the MUTCD, the pedestrian change interval should be timed to, at minimum, enable a person who starts crossing at the end of the WALKING PERSON signal indication to complete the crossing while traveling at a speed of 3.5 feet per second. Middle- and high-school age students generally walk slower than this speed when walking in groups, so a pedestrian change interval that is longer than the MUTCD minimum should be considered here.



Figure 18: Pedestrian pushbutton is not accessible to people who use wheelchairs.

Issue: Pedestrian waiting space

There is insufficient waiting space for the large volume of student pedestrians at arrival and dismissal times. Due to the lack of space, students sometimes stand too close to fast-moving traffic or too far away from the corner to take advantage of the existing WALK interval, e.g., in the trees on the northeast corner of the intersection.

Short-Term Recommendations (1 to 3 years)

- Create larger waiting spaces, particularly on the northeast and southeast corners.

Issue: Motor vehicle turning movements

Right and left turning vehicles conflict with crossing pedestrians. According to members of the LBSS SRTS Committee, not all drivers comply with NO RIGHT TURN ON RED signage (Figure 19) when turning from northbound Lake Braddock Drive.

Short-Term Recommendations (1 to 3 years)

- Implement leading pedestrian intervals for all crossings.

Issue: Visibility and width of marked crosswalks

The road is curved and sloped for eastbound traffic in advance of the crosswalk, making the crosswalk more difficult for fast-moving motorists to anticipate and see. The crosswalks are marked with standard parallel line crosswalk markings (Figure 20), which are more difficult to see than high-visibility markings. Due to the high volume of student pedestrians crossing at this location, students frequently walk outside the crosswalk markings.

Short-Term Recommendations (1 to 3 years)

- Install SIGNAL AHEAD (W3-3a) signage to warn drivers of upcoming intersection.
- Convert crosswalks to high-visibility and widen to 12'.



Figure 19: NO RIGHT TURN ON RED signage on northbound Lake Braddock Drive at Burke Lake Road.



Figure 20: The crosswalks at Burke Lake Road and Lake Braddock Drive are not marked with high-visibility crosswalk markings, making the crossing more difficult to see.

Map ID 4: Burke Lake Road and school main access driveway

Issue: Uncontrolled marked crosswalk of multilane arterial roadway and lack of waiting space

This is one of the primary crossing points for students and other members of the school community to access the school. During the walkabout, 141 students were counted crossing at this location. (Figure 21)

Burke Lake Road is an arterial roadway with high motor vehicle volumes and speeds. Annual Average Daily Traffic (AADT) between Burke Road and Rolling Road in 2021 is estimated to be 22,000, with much of this traffic likely coinciding with arrival and dismissal times.

The speed limit is 40 mph at most times, and the design of the roadway appears to support that speed. A 25-mph school zone speed limit is in effect when the school zone speed limit signs are flashing. The school zone speed limit signs flash for two 45-minute windows at school arrival and dismissal times.

A crossing guard is posted at the intersection during arrival and dismissal times to assist pedestrians crossing Burke Lake Road at this location (Figure 22) but is not present at other times. Many students participate in afterschool activities when the crossing guard is not present, and the school also hosts activities in the evenings and on weekends.

The Burke Lake Road crossing is uncontrolled. Pedestrians must find a gap in fast-moving traffic and cross two lanes of through traffic in each direction. This creates the potential for a multiple threat crash. A multiple threat crash involves a driver stopping in one lane of a multilane road to permit a pedestrian to cross, and an oncoming motorist traveling in the same direction crashing into the pedestrian. Obstructed sight lines between the crossing pedestrian and the oncoming motorist caused by the stopped car are a contributing factor to this crash type.



Figure 21: Students gather on north side of marked crosswalk across Burke Lake Road.



Figure 22: A crossing guard assist students crossing Burke Lake Road at arrival and dismissal times, but many students participate in afterschool activities.



Although there is a median on Burke Lake Road, it does not extend through the crosswalk, which means there is not a pedestrian refuge island where pedestrians can wait to make a two-stage crossing.

Walkabout participants reported that buses sometimes have difficulty turning into and out of the school's main driveway at arrival and dismissal times.

Short-Term Recommendations (1 to 3 years)

- Conduct a study to determine whether a pedestrian hybrid beacon or traffic signal should be installed at this intersection.
- Add advanced yield markings and a coordinated YIELD HERE TO PEDESTRIANS (RI-5) sign oriented to westbound traffic at least 20 feet in advance of the marked crosswalk.
- Add an interim median "nose" on the opposite side of the crosswalk using striping and flex posts to create a pedestrian refuge island. Add detectable warning surfaces at the entrance and exit points to the refuge area.

Long-Term Recommendations (4 to 7 years)

- Implement pedestrian hybrid beacon or traffic signal.
- Add a permanent median "nose" on the opposite side of the crosswalk from the existing median to formalize the pedestrian refuge.
- Construct concrete waiting spaces on both sides of crosswalk.

Issue: Crosswalk visibility in low-light and dark conditions

Students and other members of the school community cross Burke Lake Road at this location in low light and dark conditions. However, the positioning of the overhead cobra lights on Burke Lake Road is not ideal for illuminating the Burke Lake Road crosswalk. Crosswalk lighting should be positioned to illuminate crosswalk approaches; however, the lighting on the westbound approach is positioned 100 feet away from the crosswalk, which is likely too far away to effectively illuminate pedestrians in the crosswalk.

Long-Term Recommendations (4 to 7 years)

- Install a streetlight on the westbound approach to this crosswalk. The light should be positioned between 10 and 20 feet in advance of the crosswalk. See Federal Highway Administration Publication No. FHWA-HRT-08-053, Informational Report on Lighting Design for Midblock Crosswalks for additional details.

Issue: Unmarked crosswalk, curb ramps, and cut-through island

The crosswalk across the school main access driveway is unmarked (Figure 23). All three curb ramps at this intersection as well as the cut through island in the driveway crosswalk do not meet current ADA guidelines because they lack detectable warning surfaces and level landing areas.

Short-Term Recommendations (1 to 3 years)

- Mark high-visibility crosswalks across the LBSS driveway and upgrade the curb ramps and cut-through island to meet current ADA guidelines.

Map ID 5: Burke Lake Road and Signal Hill Drive

Issue: Uncontrolled marked crosswalk of multilane arterial roadway

The marked crosswalk across Burke Lake Road at Signal Hill Drive is located approximately one-half mile from the main access driveway. It is a potential crossing point for students and other members of the school community wishing to access the school by pedestrian or bicycle travel. There are also bus stops located at this intersection serving the 17K and 306 bus lines, which have stops at the Burke Lake Road/Lake Braddock Drive intersection adjacent to the school.

Burke Lake Road is an arterial roadway with high motor vehicle speeds and volumes. The speed limit at this location is 45 mph. The Burke Lake Road crossing is uncontrolled. Pedestrians must find a gap in fast-moving traffic and cross two lanes of through traffic in each direction, creating the potential for a multiple threat crash (Figure 24). Although there is a median on Burke Lake Road, it does not extend through the crosswalk, which means there is not a pedestrian refuge island where pedestrians can wait to make a two-stage crossing.



Figure 23: The crosswalk across the school main access driveway is unmarked.



Figure 24: Uncontrolled crosswalk across Burke Lake Road at Signal Hill Drive.



Short-Term Recommendations (1 to 3 years)

- Conduct study to determine whether a pedestrian hybrid beacon should be installed to support the Burke Lake Road crossing.
- Add advanced yield markings and a coordinated YIELD HERE TO PEDESTRIANS (RI-5) sign oriented to westbound traffic at least 20 feet in advance of the marked crosswalk.

Long-Term Recommendations (4 to 7 years)

- Implement pedestrian hybrid beacon or rectangular rapid flashing beacon.
- Widen median by reducing motor vehicle travel lane widths and add “nose” to create pedestrian refuge island.

Issue: Unmarked crosswalk

The crosswalk on the west side of the intersection is unmarked, requiring some pedestrians to either take a circuitous route through the intersection or cross using the unmarked crosswalk.

Long-Term Recommendations (4 to 7 years)

- Install marked crosswalk with ADA-compliant curb ramps and pedestrian refuge island across west leg of intersection.

Issue: Crosswalk visibility in low-light and dark conditions

Students and other members of the school community are likely to cross Burke Lake Road at this location in low light and dark conditions. However, the positioning of the overhead cobra lights on Burke Lake Road is not ideal for illuminating the crosswalk. Crosswalk lighting should be positioned to illuminate crosswalk approaches; however, there is no lighting on the eastbound approach and the nearest lighting on the westbound approach is located more than 150 feet away from the crosswalk, which is likely too far away to effectively illuminate pedestrians in the crosswalk.

Long-Term Recommendations (4 to 7 years)

- Install streetlights to illuminate the crosswalks across Burke Lake Road on the eastbound and westbound approaches. The lights should be positioned between 10 and 20 feet in advance of the crosswalk.

Map ID 6: Lake Braddock Drive (Olley Lane to Burke Lake Road)

Issue: Motor vehicle speeds

The speed limit on Lake Braddock Drive is 25 mph; however, motor vehicle travel lanes are wide and there is concern about motor vehicle speeds.

Short-Term Recommendations (1 to 3 years)

- Install speed humps at mid-points between intersections. (Intersection-related traffic calming discussed below).
- Install edge lines to reduce the perceived width of the roadway and delineate curbside parking locations. Edge lines have already been installed south of Burke Lake Road.
- Update school zone speed limit signs and flashers to current MUTCD standard.

Issue: Sidewalks

Sidewalks are present on both sides of the street but are narrow (4.5 to 5 feet) considering the volume of student pedestrians and are often partially obstructed by poles and sign panels (Figure 25).

Short-Term Recommendations (1 to 3 years)

- Expand sidewalks along school property to 6-8 feet wide with a minimum 2.5-foot-wide landscaped buffer to enable pedestrians to travel comfortably side by side.

Long-Term Recommendations (4 to 7 years)

- Expand other sidewalks along corridor to 6 feet wide minimum.
- Consider reallocating roadway space to create space for bike lanes.



Figure 25: Sidewalk on Lake Braddock Drive

Map ID 7: Lake Braddock Drive and Mersea Court (north side)

Issue: Uncontrolled marked crosswalk of major collector roadway

This is a key pedestrian crossing location for students and other members of the school community accessing the school.

Lake Braddock Drive is a major collector roadway. The speed limit is 25 mph. 2021 AADT is estimated to be to 2,000. Much of this traffic is likely concentrated during school arrival and dismissal times.



Figure 26: Crosswalk across Lake Braddock Drive at Mersea Court (north side).

This intersection is uncontrolled for traffic on Burke Lake Road (Figure 26), and there is no crossing guard to assist students crossing during arrival and dismissal times. The existing marked crosswalk across Lake Braddock Drive is not high-visibility and does not take advantage of the median to create a pedestrian refuge. The curb ramps that serve the crossing are not ADA-compliant, because they lack detectable warning surfaces and level landings.

Short-Term Recommendations (1 to 3 years)

- Re-mark existing marked crosswalk with high-visibility markings.
- Construct interim curb extensions with flex posts and striping to support existing crosswalk by reducing pedestrian crossing distance, reducing motor vehicle speeds, and improving sight lines between motorists and crossing pedestrians. The interior of the curb extension could be an asphalt art project designed by students at the school.
- Conduct study to determine appropriateness of a rectangular rapid flashing beacon (RRFB) as an additional countermeasure to support existing crossing.

Long-Term Recommendations (4-7 years)

- Construct permanent curb extensions with refuge island to support existing crosswalk. If study recommends RRFB, install concurrently.
- Upgrade curb ramps to comply with ADA guidelines.
- Consider installing marked crosswalk on north side of intersection.

Issue: Unmarked crosswalks

None of the other crosswalks at this intersection is marked.

Short-Term Recommendations (1 to 3 years)

- Mark a high-visibility crosswalk across Mersea Court.

Long-Term Recommendations (4-7 years)

- Mark a high-visibility crosswalk across the north leg of the intersection with curb extensions, cut-through pedestrian refuge, and ADA-compliant ramps.
- Reconfigure the school entrance driveway to indicate pedestrian priority by carrying the sidewalk across the driveway and adding a driveway apron to ramp up to sidewalk level.

Map ID 8: Lake Braddock Drive and Mersea Court (south side)

Issue: Curb ramps, curb radii, and crosswalk markings

The crosswalk across Mersea Court is unmarked, the curb ramps do not comply with ADA requirements due to lack of detectable warning surfaces and level landings, and the large curb radii for the entrance to Mersea Court increase pedestrian crossing distance and may facilitate high-speed turns by motorists (Figure 27).

Long-Term Recommendations (4 to 7 years)

- Construct curb extensions on the northeast and southeast corners to reduce pedestrian crossing distances and slow motorists.
- Mark high-visibility crosswalks with ADA-compliant curb across Mersea Court.



Figure 27: Crosswalk across Mersea Court (south side) at Lake Braddock Drive.

Map ID 9: Lake Braddock Drive and Cotherstone Drive

Issue: Curb ramps, curb radii, and crosswalk markings

Cotherstone Court connects to several townhouse communities. In addition, there are bus stops on either side of Lake Braddock Drive, and there is a shared use path connection to a network of paths around Lake Braddock a few yards to the north. These facts, taken together, make this intersection a likely crossing point across Lake Braddock Drive for students and community members. However, none of the crosswalks at this intersection are marked, the curb ramps do not comply with ADA requirements due to lack of detectable warning surfaces, and the large curb radii for the entrance to Cotherstone Court increase pedestrian crossing distance and may facilitate high-speed turns by motorists (Figure 28).

Long-Term Recommendations (4 to 7 years)

- Construct curb extensions on all corners to reduce pedestrian crossing distances and slow motorists.
- Mark high-visibility crosswalks with ADA-compliant curb ramps on all crosswalk legs.



Figure 28: Crossing across Cotherstone Court at Lake Braddock Drive.

Map ID 10: Lake Braddock Drive and Raintree Road

Issue: Uncontrolled marked crosswalk of major collector roadway

This is a key pedestrian crossing location for students and other members of the school community accessing the school.

This intersection is uncontrolled for traffic on Burke Lake Road, and there is no crossing guard to assist students crossing during arrival and dismissal times (Figure 29). The existing marked crosswalk across Lake Braddock Drive is not high-visibility, does not encompass the curb ramp on the north side of the crosswalk, and is narrowed by the median, which extends into the crosswalk space without providing an accessible refuge.



Figure 29: Crosswalk across Lake Braddock Drive at Raintree Road.

The curb ramps that serve the crossing are not ADA-compliant, because they lack detectable warning surfaces.



Short-Term Recommendations (1 to 3 years)

- Re-mark existing marked crosswalk with high-visibility markings.
- Construct interim curb extensions and refuge island with flex posts and striping to support existing crosswalk by reducing pedestrian crossing distance, reducing motor vehicle speeds, and improving sight lines between motorists and crossing pedestrians. The interior of the curb extension could be an asphalt art project designed by students at the school.
- Conduct study to determine appropriateness of a rectangular rapid flashing beacon (RRFB) as an additional countermeasure to support existing crossing.

Long-Term Recommendations (4-7 years)

- Construct permanent curb extensions with refuge island to support existing crosswalk. If study recommends RRFB, install concurrently.
Upgrade curb ramps to comply with ADA guidelines.

Issue: Unmarked crosswalks

None of the other crosswalks at this intersection are marked.

Short-Term Recommendations (1 to 3 years)

- Mark a high-visibility crosswalk across Raintree Road.

Long-Term Recommendations (4-7 years)

- Mark a high-visibility crosswalk across the south leg of the intersection with curb extensions, cut-through pedestrian refuge, and ADA-compliant ramps.
- Reconfigure the school entrance driveway to indicate pedestrian priority by carrying the sidewalk across the driveway and adding a driveway apron that ramps up to sidewalk level.

Map ID 11: Lake Braddock Drive and Old Burke Lake Road

Issue: Uncontrolled crossing of major collector

This is a key crossing point for students and other members of the school community to access the school.

There are no marked crosswalks at this intersection. The crossing of Lake Braddock Drive is relatively long (approximately 80 feet) and involves crossing three travel lanes in the northbound direction (Figure 30). There is curbside parking in the southbound direction.

Short-Term Recommendations (1 to 3 years)

- Mark high-visibility crosswalk marking on all crosswalks.
- Install School Crossing Assembly (S1-1 and W16-7P) for crosswalks across Lake Braddock Drive.

Long-Term Recommendations (4 to 7 years)

- Install curb extensions on the northwest, southwest, and southeast corners to reduce pedestrian crossing distance, reduce motor vehicle speeds, and improve visibility between motorists and crossing pedestrians.
- Add "nose" to median on north side of intersection to create pedestrian refuge island.



Figure 30: Crosswalk across Lake Braddock Drive at Old Burke Lake Road.

Map ID 12: Old Burke Lake Road

Issue: Sidewalk gap

There is a gap in the sidewalk on the north side of Old Burke Lake Road along the frontage of 9224 Old Burke Lake Road (Figure 31).

Long-Term Recommendations (4 to 7 years)

- Address sidewalk gap by constructing sidewalk in front of 9224 Old Burke Lake Road.



Figure 31: Sidewalk gap on Old Burke Lake Road.



Programmatic Recommendations

SRTS programmatic recommendations are designed to work in conjunction with each other and the infrastructure recommendations to encourage more students to walk and bicycle to school and instill safe walking, bicycling and driving practices. The recommendations are organized according to the [Virginia SRTS Building Blocks](#): Equitable and Sustainable Program, Welcoming Campuses, Safe Behaviors, Supportive Culture (Figure 32).

Equitable & Sustainable Program

Continue the LBSS SRTS Committee. Task committee members with championing the recommendations in this report and working with local partners to fund and implement them.

Engage students. Engage students in evaluating/monitoring existing conditions for school travel and planning and implementing SRTS activities. Efforts to encourage safe behaviors and build a supportive culture are likely to be more successful with student involvement and leadership. Student travel is part of every student's daily experience. This experience is valuable in its own right and a natural jumping off point for developing leadership and civic skills. Potential groups to involve include student government, environmental and bicycling clubs, and physical and health education classes, science classes, art classes, and drama classes.

Reach out to parents. Develop and send an informational flyer or email on the LBSS SRTS program and what parents can do to support it.

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. Student Travel Tally Week normally takes place on a week of the school's choosing in September or October. (Note that Student Travel Tallies can also be conducted in spring, if spring collection coordinates better with the school calendar.) Student Travel Tally 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/srts_student_travel_tally_week.asp

Continue surveying parents about their concerns related to school travel, especially after recommended infrastructure changes are complete. Administering parent surveys at least every other 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.virginiadot.org/programs/resources/safe_routes/2016-2017/Resources/Parent_Survey_LDLv2.pdf



Figure 32: Virginia SRTS Building Blocks



Welcoming Campuses

Continue to pursue additional crossing guards. The school should continue to pursue an additional crossing guard through the FCPS Transportation Office. An additional crossing guard is especially needed at Lake Braddock Drive and Raintree Road, where many students cross but there is no traffic control on Lake Braddock Road.

Consider installing asphalt art on campus and on Lake Braddock Drive adjacent campus for traffic calming (e.g., asphalt art curb extensions with flex posts), arrival/dismissal process guidance, and placemaking. Have students take a leadership role in developing and implementing these designs.

Safe Behaviors

Implement speed awareness and enforcement strategies to reduce motor vehicle speeds in the school zone. Yard signs, speed feedback devices, and photo enforcement can be used to encourage slow, cautious driving in the school zone. Photo enforcement has recently been enabled by the state of Virginia (E. Key Policies Supporting Recommendations). A school zone enforcement area could be implemented at LBSS to raise funds for improvements. Yard sign graphics and other school zone safety resources are available on the Virginia SRTS website:

http://www.virginiadot.org/programs/srts_zone_in_not_out.asp

Communicate with parents about arrival and dismissal procedures and expectations using email, the school website, and other appropriate means. The communication should indicate that walking, bicycling, and taking the school bus are the preferred means for students to access the school and address problematic or unsafe driver behaviors. See Arrival and Dismissal in the Zone for additional ideas about how to adjust arrival and dismissal to support sustainable transportation and safety:

https://www.virginiadot.org/programs/resources/SRTS_2016/ZINO_Arrival_and_Dismissal_in_the_Zone.pdf

Provide parents and guardians with safe driving information. This information should stress the importance of driving safely in school zones and being alert for pedestrians and bicyclists during arrival and dismissal. Information can be distributed via email, newsletters, social media, and/or events like back-to-school nights, health and safety fairs, Walk to School Days, or virtual meetings. Several organizations offer free materials 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
- 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>
- The Virginia Safe Routes to School Program has a Zone In, Not Out school zone safety program which includes a safe driver pledge kit and yard signs. Resources are available on the Virginia SRTS website: http://www.virginiadot.org/programs/srts_zone_in_not_out.asp



Implement a bicycle safety and skills education program for 7th graders. Bicycle safety and skills education is available through the FCPS SRTS program.

Review and potentially modify the driver education program to include more information about driver responsibilities toward pedestrians and bicyclists and how to interact safely with pedestrians and bicyclists while driving.

Supportive Culture

Participate 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. Even if students can't walk to school, a Walk AT School event can help establish a walking culture. Resources to help plan Walk to School Day are available on the Virginia SRTS Program website. http://www.virginiadot.org/programs/srts_all_website_resources.asp

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 keeping 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/srts_marketing_toolkit.asp

Help parents coordinate carpools. Ideally, students will walk, bicycle, or ride the school bus for travel to and from school. However, some students are not eligible for school bus service, and some parents/caregivers prefer their students be driven due to safety concerns and other reasons. In such cases, the school can improve conditions for walking and bicycling and reduce traffic around the school by encouraging the parents/caregivers of these students to arrange carpools. Specific steps the school can take are include exploring mobile apps for carpool facilitation and implementing an outreach messaging campaign to parents/caregivers to encourage them to arrange carpools rather than each parent driving their student(s) separately.

Identify alternative drop-off/pick-up locations. The school can also reduce traffic around the school and improve conditions for walking and bicycling by encouraging parents who drive their student to school to use alternative off-campus drop-off/pick-up locations. Potential alternative drop-off/pick-up locations include the Kings Park Library and the trailhead for the Pohick Stream Valley-Burke VRE Trail. In addition, Wakefield Park could potentially serve as a shuttle bus drop-off/pick-up location.

Appendices

A. Walkabout Participants

Name	Organization
Lindsey Kearns	Principal, LBSS
Christopher Farmerie	Assistant Principal, LBSS
Julie Moore	Administrative Assistant, LBSS
Bob Gaylord	PTSA President
Michele Richoux	LBSS SRTS Committee
Lenny Richoux	LBSS SRTS Committee



Name	Organization
Jorge Torrico	LBSS SRTS Committee Member
Andrew Suddarth	President, Lake Braddock Community Association
Mike Doyle	Founder of NOVA/Fairfax Families for Safe Streets
Eric Lengel	Retired FCPS teacher
Merari Zemany	FCPS Facilities Management
Andrew Reinoso	FCPS Facilities Management
Kerrissa Watson	FCPS Transportation
Isaac Robert	FCPS Safety and Security Specialist
Lauren Delmare	Fairfax County DOT Pedestrian Program Manager
Sally Kidalov	Fairfax County Board of Supervisors
Clayton Medford	Fairfax County Board of Supervisors Chairman
Bryan Rochefort	Fairfax County Police Department
Katherine Graham	VA SRTS Coordinator, VDOT
Carrie Saunders	GIS Analyst, VDOT
Bobby Mangalath	Project Manager/Engineer, VDOT NOVA District
Barbara Mosier	Director of Traffic Engineering, Mid-Atlantic, Toole Design
Jim Elliott	VA SRTS Local Technical Assistance Coordinator, Toole Design
Sean Dajour	VA SRTS Local Technical Assistance Coordinator, Toole Design
Leon Yacoubian	Engineer II, Toole Design



B. Road Information Table

Street Name	Posted Speed Limit (mph)	Approximate Road Width	No. of travel lanes in each direction	AADT ²	Road Classification ³
Burke Lake Road	40	~68'	2	21,000	Minor Arterial
Lake Braddock Road	25	~62'	1	2,000	Major Collector

C. Planning-Level Cost Estimates

Item	Unit	Low Estimate	High Estimate
Crosswalk	Each	\$20,000	\$30,000
5-foot sidewalk	Per mile	\$313,000	\$1,013,000
10-foot shared use path	Per mile	\$1,120,000	\$1,800,000
Rectangular Rapid Flashing Beacon	Each	\$4,500	\$52,000
Pedestrian Hybrid Beacon	Each	\$21,000	\$128,000
Temporary roundabout	Each		\$175,000
Curb extension or median extension (using vertical delineators)	Per corner	\$2,000	\$20,000

D. Glossary of Infrastructure Terms

The following infrastructure treatments can be used to improve the bicycle and pedestrian environment around LBSS. Location-specific recommendations are referenced under the section, 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.

² Average Annual Daily Traffic (AADT) counts from 2021 VDOT Daily Traffic Volume Estimates, <https://www.virginiaroads.org/datasets/traffic-volume>

³ Road classification from VDOT, http://www.virginiadot.org/projects/fxn_class/maps.asp



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.

<https://www.access-board.gov/prowag/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.

High-Visibility Crosswalks

While standard crosswalks use transverse lines (two parallel lines), high-visibility crosswalks also use bar-pairs, ladders, longitudinal lines, or zebra patterns to improve detection of the crosswalk.

In-Street Pedestrian Crossing Signs

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

Manual on Uniform Traffic Control Devices (MUTCD)

This document produced by the Federal Highway Administration specifies the standards that traffic signals, signs, and roadway markings must adhere to including shapes, colors, fonts, and placement. The *2011 Virginia Supplement to the MUTCD* contains standards and guidance specific to Virginia.

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 helps illuminate the sidewalk and improves pedestrian safety and security.

Public Right-of-Way Accessibility Guidelines (PROWAG)

The United States Access Board produces guidelines to ensure all pedestrians have equal access to sidewalks and streets, including crosswalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way.



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.

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.

Traffic Calming

Traffic calming measures are designed to improve safety for motorists, pedestrians and bicyclists, usually by altering the physical design of the roadway to reduce motor vehicle speeds. Common traffic calming measures include speed tables, curb extensions, chicanes, and neighborhood roundabouts.



E. Key Policies Supporting Recommendations

HB 1442 Photo speed monitoring devices; civil penalty.

Summary as enacted with Governor's recommendation

Photo speed monitoring devices; civil penalty. Authorizes state and local law-enforcement agencies to operate photo speed monitoring devices, defined in the bill, in or around school crossing zones and highway work zones for the purpose of recording images of vehicles that are traveling at speeds of at least 10 miles per hour above the posted school crossing zone or highway work zone speed limit within such school crossing zone or highway work zone when such zone is indicated by conspicuously placed signs displaying the maximum speed limit and that such photo speed monitoring devices are used in the area. The bill provides that the operator of a vehicle shall be liable for a monetary civil penalty, not to exceed \$100, if such vehicle is found to be traveling at speeds of at least 10 miles per hour above the posted highway work zone or school crossing zone speed limit by the photo speed monitoring device. The bill provides that if the summons for a violation is issued by mail, the violation shall not be reported on the driver's operating record or to the driver's insurance agency, but if the violation is personally issued by an officer at the time of the violation, such violation shall be part of the driver's record and used for insurance purposes. The bill provides that the civil penalty will be paid to the locality in which the violation occurred if the summons is issued by a local law-enforcement officer and paid to the Literary Fund if the summons is issued by a law-enforcement officer employed by the Department of State Police. This bill incorporates HB 621 and HB 1721.

[Click here for link to full text of enacted bill.](#)