



A SAFE SCHOOLS TRANSPORTATION STUDY

Beverly Shores Elementary School Leesburg, FL

March 2013





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Beverly Shores Elementary School

Beverly Shores Elementary School Snapshot

May 16, 2012

Grades: Pre-Kindergarten – 5th

Total Students: 495

- Provided Bus Transportation : 247
- Not Provided Bus Transportation: 248
- Buses assigned to school (5 reg, 5 ESE) 10

Students Living within the “Walk Zone”: 271

- Provided Bus Transportation: 137
- Not Provided Bus Transportation: 134

Observation Day (Sunny)

- Walkers: 20
- Bike Riders: 8

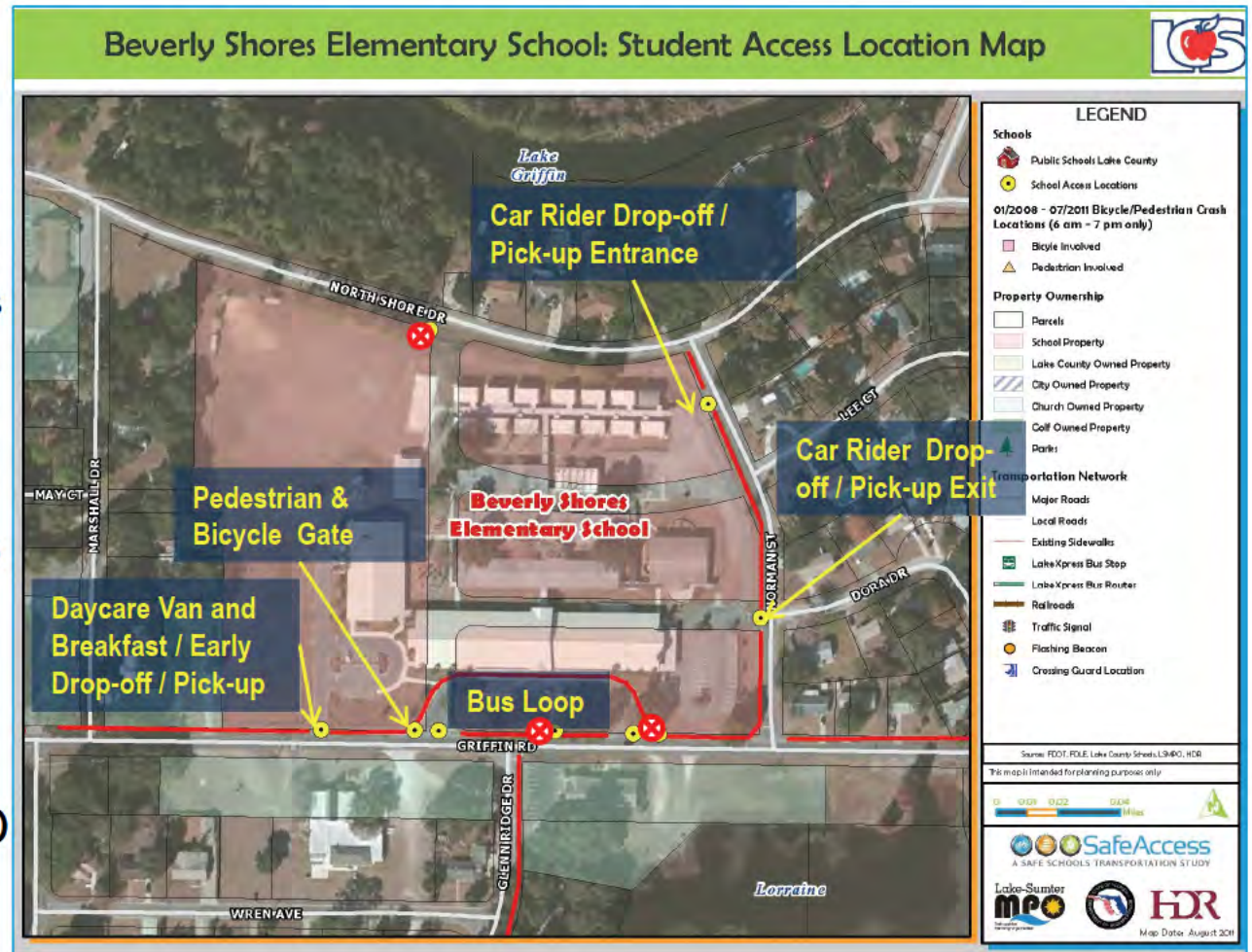


- ✓ Beverly Shores Elementary School website – Click [here](#)
- ✓ City of Leesburg website – Click [here](#)
- ✓ Lake County Schools website – Click [here](#)

Beverly Shores Elementary School

Findings:

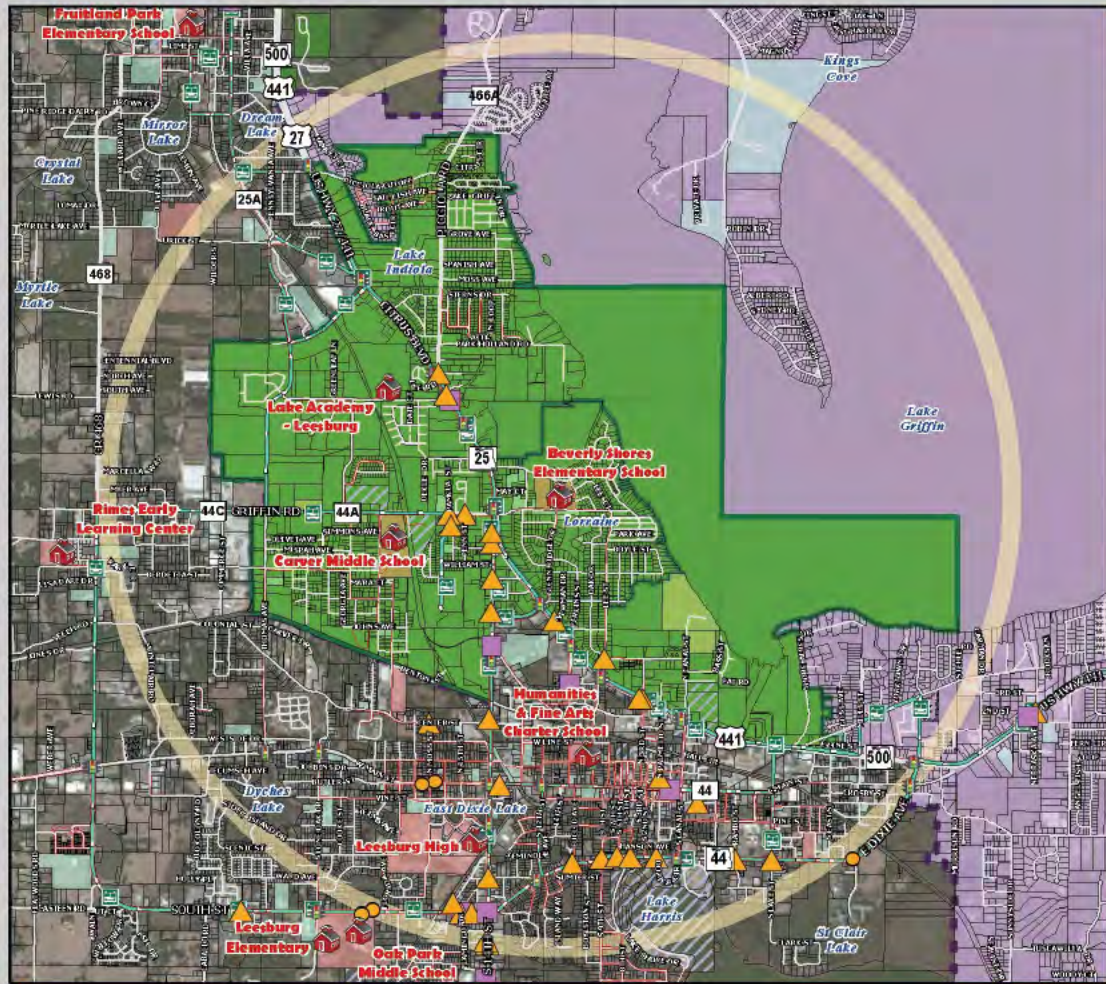
- ✓ School has an agreement with church to south (across Griffin Rd) for parking. Lot is used for remote drop off, parents act as crossing guards to assist students
- ✓ Pedestrians and bicyclists enter and exit through a single gate on Griffin Rd
- ✓ One-way drop-off/pick-up loop off of Norman St
- ✓ Crossing guards are only stationed at US 441 and Griffin Rd (intersection was under construction during observation)
- ✓ Bus loop is off Griffin Rd
- ✓ Daycare vans use separate entrance



- ✓ Police officer aides with traffic enforcement near the school when available

Attendance and 2-Mile "Walk" Zone Map

Beverly Shores Elementary School: Attendance and 2-Mile "Walk" Zone Map



LEGEND

Schools

- Public Schools Lake County
- 2-Mile Buffer of Beverly Shores ES
- Parent Responsibility Zone
- Special Exception Areas
- Beverly Shores ES Attendance Zones (2010-2011)

01/2008 - 07/2011 Bicycle/Pedestrian Crash Locations (6 am - 7 pm only)

- Bicycle Involved
- Pedestrian Involved

Property Ownership

- Parcels
- Parks

Transportation Network

- Major Roads
- Local Roads
- Existing Sidewalks
- LakeXpress Bus Stop
- LakeXpress Bus Routes
- Railroads
- Traffic Signal
- Flashing Beacon

Source: FDOT, FDEE, Lake County Schools, LDMPO, HDR
 This map is intended for planning purposes only.

0 0.2 0.4 0.8 Miles

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Lake-Sumter MPO
 HDR
 Map Date: August 2011



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Arrival and Dismissal Schedule

- 6:00 am:** ELC starts (65 students signed up in the morning, 15 for breakfast, rest don't eat)
- Before 8:15 am:** Free breakfast available
- 8:00 am:** Official start of car drop-off line; earlier arrivals report to cafeteria via west entrance
- 8:30 am:** School start time
- 3:00 pm:** School release time
- 6:00 pm:** ELC ends (50 students signed up for afternoons)

Note: Students are released one hour early on Wednesdays



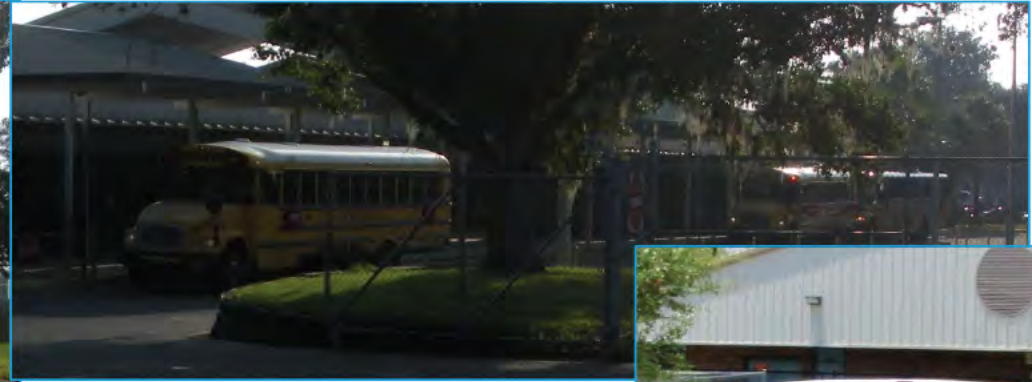


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Beverly Shores Elementary School

Bus Access



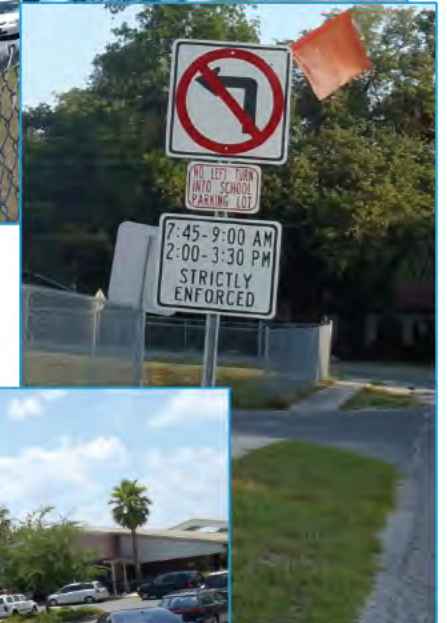
Findings:

- ✓ The bus loop operations, and loading and unloading work well
- ✓ Buses are staggered in two waves
- ✓ Adequate storage is provided on-site for all 10 buses (5 regular, 5 ESE)
- ✓ Daycare buses/vans (7) operate at the cafeteria area

Findings:

- ✓ All parent drop-off / pick-up occurs on east side of school
- ✓ Vehicles did not start to queue until about 10 minutes before school started
- ✓ Vehicles enter pick-up / drop-off from southbound Norman St and make a right turn into the school
- ✓ Driveways to the drop-off / pick-up are not marked with crosswalks
- ✓ Afternoon queue was contained on property except for very brief queue before gate opened
- ✓ Only 3 cars may load at a time because fence openings are too close together for multiple loadings
- ✓ They do not have child identification signs in car window
- ✓ Queue dispersed by 2:15 PM (early release day)

Afternoon Pick-up Queue



Afternoon Pick-up



Findings:

- ✓ Several students walk / ride bikes to school; a teacher assists students across school driveways and across Griffin Rd and Norman St in the afternoon
- ✓ All walkers and bicyclists enter and exit through one gate on Griffin Rd; bicyclists must walk bikes on campus
- ✓ Bicycle parking is secure and is on a concrete pad within the campus; racks are of a newer style
- ✓ All students coming from east or northeast must cross the bus loop driveways, which are 100 feet wide
- ✓ Buses are required to stop 'back' from the crosswalk when walkers are present
- ✓ Some vehicles did not yield to pedestrians, even with police presence



Crosswalk at Bus Loop Exit



Crosswalk at Bus Loop Exit (AM)



Crosswalk at Bus Loop Exit (PM)



Crosswalk at Bus Loop Exit (PM)

Findings:

- ✓ Crosswalks are faded or missing at several driveways and roadway crossings adjacent to the school
- ✓ There are apparent drainage / maintenance issues at sidewalk on the southeast corner
- ✓ There are no sidewalks on Lee Ct and Dora Dr north of Norman St
- ✓ Vegetation at the north fence is overgrown



Drainage Issues at Southeast Corner



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Bike/Walk Access

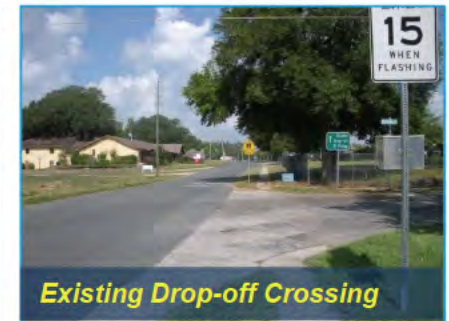


Recommendations:

- ✓ Install crosswalks at car rider drop-off and pick-up driveways
- ✓ Install crosswalks at Norman St and Griffin Rd
- ✓ Consider restriping crosswalks at bus loops closer to gates to shorten crossing distance
- ✓ Install detectable warning mats where missing at sidewalk ramps



Existing Griffin Rd Crossing



Existing Drop-off Crossing



Existing Bus Loop Crossing



Existing Bus Loop Crossing



Crossing at Griffin and Norman St

Remote Drop-off/Pick-up



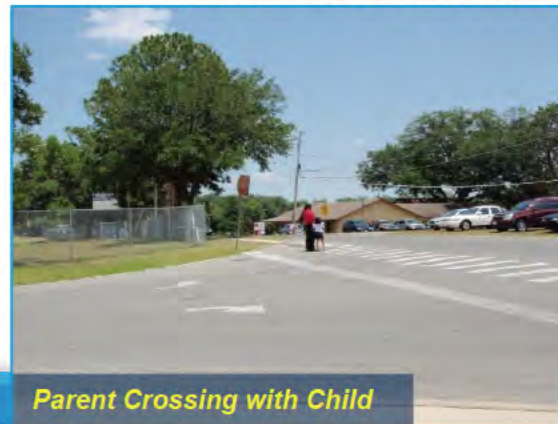
Current Crosswalk Near Entrance

Findings:

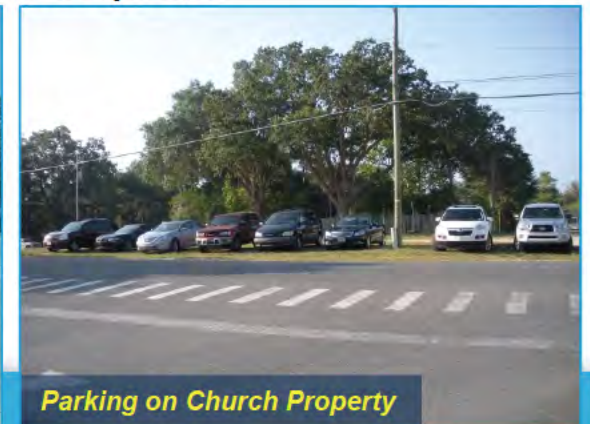
- ✓ Some parents (10) were observed to park at the church across Griffin Rd from the school. Some parents escorted their children to the school, others just watched while children crossed to the school. Some parents acted as impromptu crossing guards to assist children crossing, including those walking from the south. The school currently has an agreement with the church to allow for parking (teacher and event) at the church lot.
- ✓ The current crosswalk is not consistently used by remote parkers and could be updated to a more visible (ladder) style; an additional crosswalk may be needed on the east side of the bus loop exit.



Parent Crossing with Child

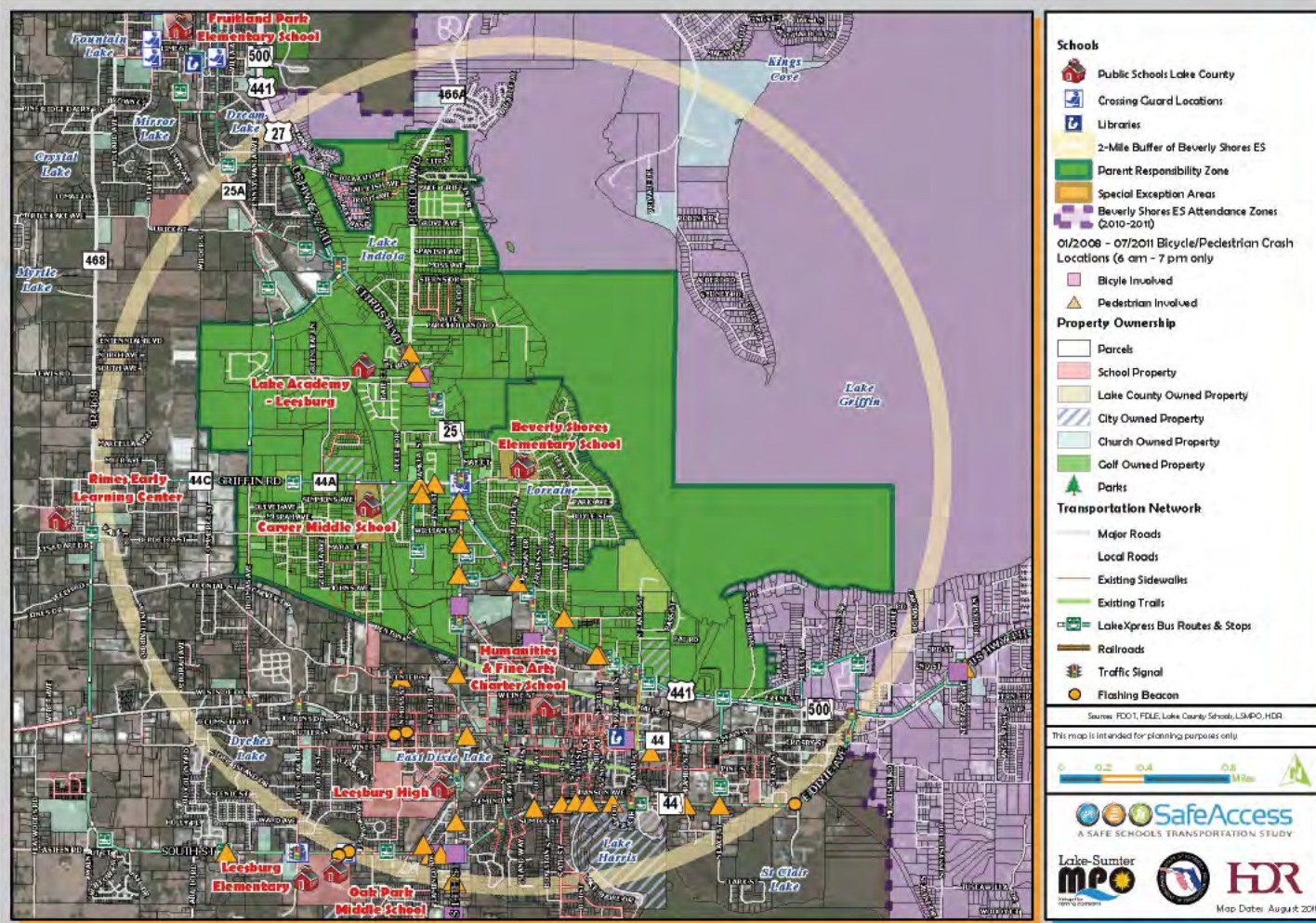


Parent Crossing with Child



Parking on Church Property

Beverly Shores Elementary School: Existing Conditions Map





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Programmed Project

Thomas Avenue Sidewalk



Findings:

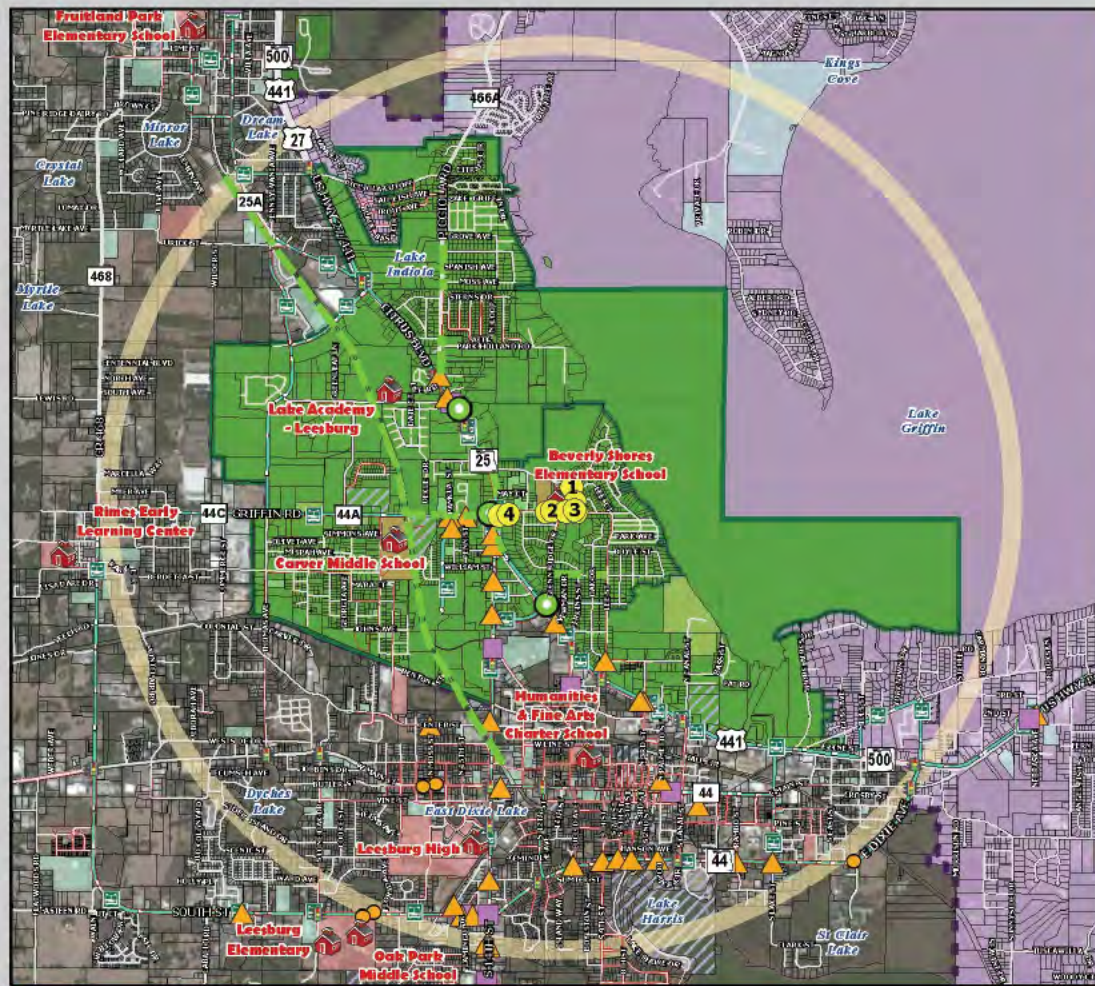
- ✓ Lake County currently has a project funded to construct sidewalk (construction funded in 2013/14) on the west side of Thomas Ave from the end of the current sidewalk north of Dockside Dr / Tally Rd to Griffin Rd
- ✓ Once complete there will be an small section of Thomas Ave, between Griffin Rd and Harlem Ave, that does not have sidewalk

Recommendation:

- ✓ Coordinate with Lake County on the schedule of the current project, and on design of crossing features at the Thomas Ave / Griffin Rd intersection
- ✓ Coordinate with the City of Leesburg, Lake County and Lake County Schools to identify funding for completing sidewalk on Thomas Ave between Griffin Rd and Harlem Ave

Transportation Access Master Plan

Beverly Shores Elementary School: Transportation Access Master Plan

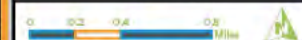


LEGEND

- Schools**
- Public Schools Lake County
 - Crossing Guard Locations
 - Libraries
 - 2-Mile Buffer of Beverly Shores ES
 - Parent Responsibility Zone
 - Special Exception Areas
 - Beverly Shores ES Attendance Zones (2010-2011)
- 01/2008 - 07/2011 Bicycle/Pedestrian Crash Locations (School Pickup/Dropoff Times)**
- Bicycle Involved
 - Pedestrian Involved
- Property Ownership**
- Parcels
 - School Property
 - Lake County Owned Property
 - City Owned Property
 - Church Owned Property
 - Golf Owned Property
 - Parks
- Transportation Network**
- Major Roads
 - Local Roads
 - Existing Sidewalks
 - Existing Trails
- Identified Improvement Projects**
- Priority Projects (by Project ID)
 - Recommended Projects

Source: FDOT, FDLE, Lake County Schools, LCMDO, HDR

This map is intended for planning purposes only.



Beverly Shores Elementary School: Priority Projects



LEGEND

- Schools**
 - Public Schools Lake County
- Identified Improvement Projects**
 - Priority Projects (by Project ID)
 - Recommended Projects
- Property Ownership**
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 - Railroads
 - Traffic Signal
 - Flashing Beacon
 - Crossing Guard Location

Source: FDOT, FDLE, Lake County Schools, LSMPO, HDR

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Recommended Priority Projects



Priority Projects:

1. Install FDOT ladder style crosswalks with detectable warning mats at:
 - ✓ all school driveways
 - ✓ across Griffin Rd to parking areas
 - ✓ at Griffin Rd and Norman St
2. Move existing crossing locations at bus loop to shorten crossing distances
3. Investigate and correct drainage issues at southeast corner and repair sidewalk at this location
4. Designate a 'pedestrian space' or crosswalks across driveways and install sidewalk in the open asphalt area on the north side of Griffin Rd between the school and US 441





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Beverly Shores Elementary School

Priority Project #1

Crosswalks

Recommendations:

1. Install high visibility FDOT ladder style crosswalks with detectable warning mats at:
 - ✓ all school driveways
 - ✓ across Griffin Rd to parking areas (restore existing and add an additional crosswalk west of Church Driveway)
 - ✓ at Griffin Rd and Norman St
 - ✓ at North Shore Dr and Norman St



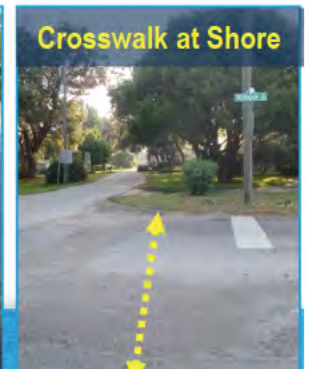
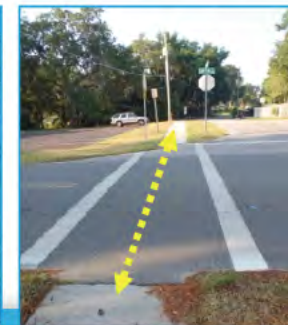
Example Ladder Style Crosswalk



Crosswalk at Car Rider Entrance



Crosswalk on (lt) and Across (rt) Griffin Rd



Crosswalk at Shore



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Priority Project #2

Modify Crossings at Bus Loop

Recommendations:

- ✓ The existing crossings at the bus loop entrance and exit are very wide at 100 feet. To shorten crossing distances it is recommended to move existing crossing locations closer to the gates to shorten crossing distances at least at the exit. The stop sign and stop bar for the busses would also need to be moved.
- ✓ Add sidewalk to connect new crossing to existing sidewalk.





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Priority Project #3

Correct Drainage Issues and Repair Sidewalk at SE Corner



Findings

- ✓ It appears the existing on-site drainage & retention at the school may be inadequate, causing runoff and the observed washout at the sidewalk

Recommendations:

- ✓ Investigate and correct drainage issues at southeast corner and repair sidewalk at this location; likely can be corrected by restoring a proper retention area in southeast corner of school property
- ✓ Repair drainage damage
- ✓ Concrete spillway may be needed if determined erosion will continue



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Priority Project #4

Safety Improvements at US 441 and Griffin Rd

Griffin Rd East of US 441, Looking West



Griffin Rd East of US 441, Looking East



Recommendation:

- ✓ Designate a 'pedestrian space' or crosswalks across driveways and install sidewalk in the open asphalt area on the north side of Griffin Rd between the school and US 441.
- ✓ Crossing guard noted that the turning radius on the northwest corner is tight, and sometimes trucks 'jump' the curb. This corner is very tight due to the building on this corner.
- ✓ Conduct additional analysis of this intersection to identify additional safety improvements regarding access to BP and adjacent development and pedestrian movement. Any future redevelopment on this corner should include expanding this sidewalk / corner.



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Cost Estimates

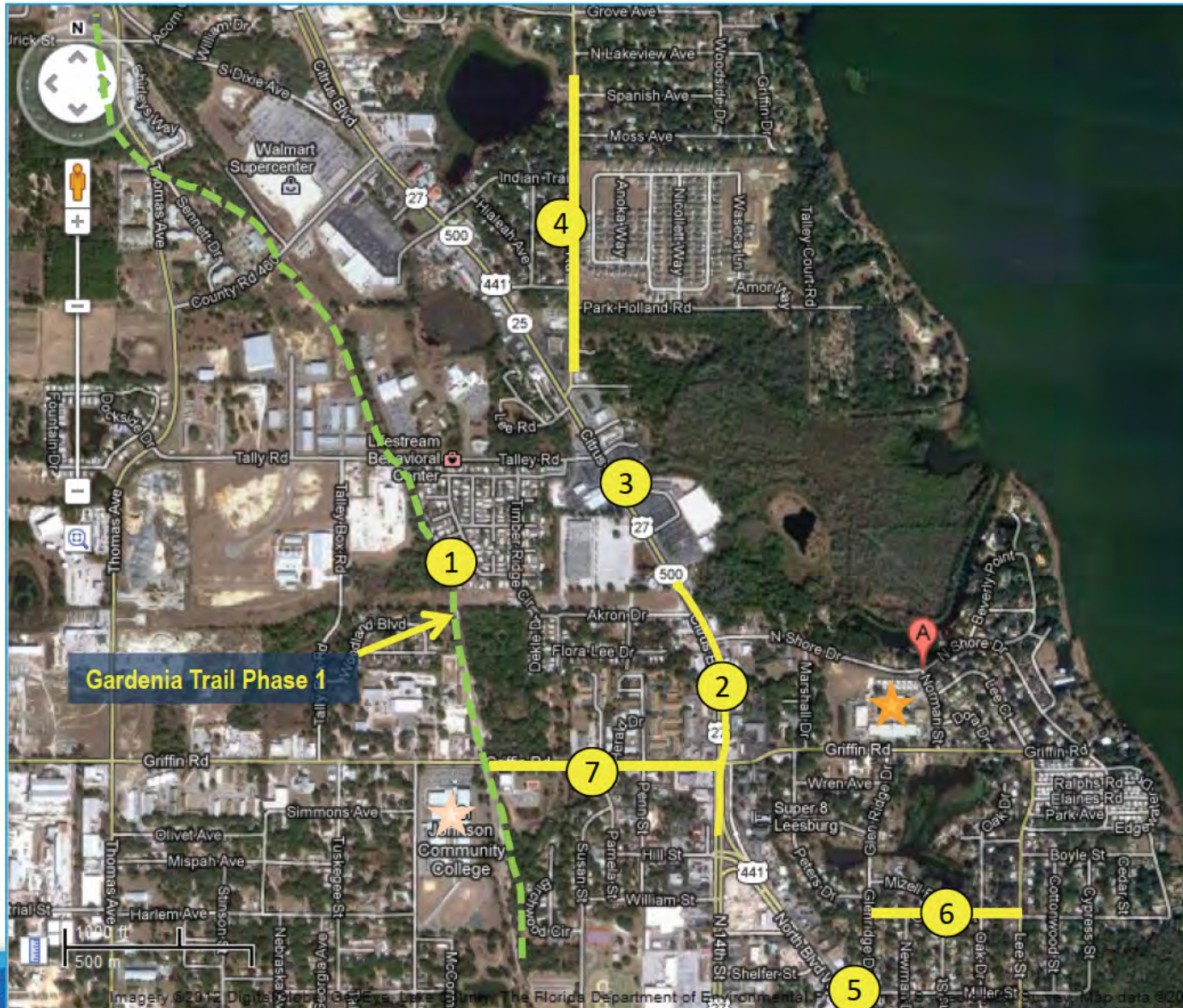
For Priority Projects

Priority #	Item	Quantity	Units	Total
1	Crosswalks (9)	423	ft	\$944.00
2	Crosswalks (2)	74	ft	\$165.00
2	Sidewalk	200	ft	\$37,400.00
4	Crosswalks (6)	183	ft	\$409.00
4	Sidewalk	195	ft	\$37,100.00

ESTIMATE BASIS AND ASSUMPTIONS:

- Sidewalk estimates based on estimating tool developed for Phase 1, Estimates for all other improvements based on Unit Costs per FDOT Lake County (Area 7) averages (07/2011 - 06/2012).
- Estimate does not include design costs, CEI costs, or utility relocation costs, utility relocation assumed by others.
- The mobilization costs are based on 15% of the construction cost and estimates include maintenance of traffic costs (15% of construction costs).
- Regular excavation & embankment to 1 ft depth is assumed
- No R/W costs included
- No specialized landscaping (beyond sodding) is included.
- Sidewalk is assumed to be 5 feet wide, unit given is in linear feet.

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Other Sidewalk Projects

Recommendations:

1. Coordinate with Lake County and the Lake~Sumter MPO to prioritize and identify funding to complete Gardenia Tr
2. US 441 - Connect existing sidewalk on east side of street between the Bealls southern driveway and existing sidewalk at US 27 (N 14th St) [FDOT currently designing]
3. Conduct a safety / access management study on US 441 to identify potential measures to limit new driveways, close existing driveways, incorporate pedestrian facilities and improve safety
4. Picciola Rd between US 441 and Sail Fish Ave (east side), a small section is currently built
5. Glen Ridge Rd / Citizens Blvd at US 441 (small section of sidewalk missing, largely open driveway)
6. Gibson St from Glenn Ridge to Lee St
7. Griffin Rd from US 441 to Gardenia Trail Phase 1. This would include designating a pedestrian area at the open parking at the northwest corner of the Griffin Rd and US 441, revising the parking areas for the businesses at this corner (shared parking) and constructing a sidewalk.

Most of the above are lower priorities due to existing conditions on US 441. The high number of wide driveways and the location of the sidewalk in very close proximity to a high volume and speed 6 lane facility creates an unsafe walking condition for most elementary students. If sidewalks were completed, a walking school bus type program could potentially be implemented for students that would travel this route.



Beverly Shores Elementary School

Contact Information

This website represents an ongoing commitment to increase safe access to schools within the Lake~Sumter Metropolitan Planning Organization Planning Area.

Updates to data, and suggestions for programming and project ideas are welcome from all agencies and the general public.

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*Promoting Regional
Transportation Partnerships*