



A SAFE SCHOOLS TRANSPORTATION STUDY

Astatula Elementary School

Astatula, FL

August 2013



Astatula Elementary School Snapshot

November 28, 2012
Grades: Pre-K – 5th

Total Students: 616

- Provided Bus Transportation : 367
- Not Provided Bus Transportation: 249
- Buses Assigned to School (8 reg, 5 ESE) 13

Students Living within the FTE “Walk Zone”: 173

- Provided Bus Transportation: 83
- Not Provided Bus Transportation: 90

Students Living within the LCS PRZ * 30

- Provided Bus Transportation: 0
- Not Provided Bus Transportation: 30

Observation Day (Sunny)

- Walkers: 14
- Bike Riders: 2



- ✓ Astatula Elementary School website – Click [here](#)
- ✓ Town of Astatula website – Click [here](#)
- ✓ Lake County Schools website – Click [here](#)

*LCS PRZ is the Lake County Schools Designated Parent Responsibility Zone

Astatula Elementary Hazardous Walking Area

Findings:

- ✓ There is a designated Hazardous Walking Area (HWA) on CR 48 east of the school
- ✓ 8 Students reside within the HWA
 - ✓ 1 ESE student is transported
 - ✓ 7 students find their own way
- ✓ There is limited shoulder or walking area on this section of CR 48, which combined with the posted speed has created the HWA per state law
 - ✓ Based on state law requirements, this section of CR 48 would need a 4-foot flat walking surface, offset three feet from the road. The current roadway does not have this much level space adjacent to the roadway.



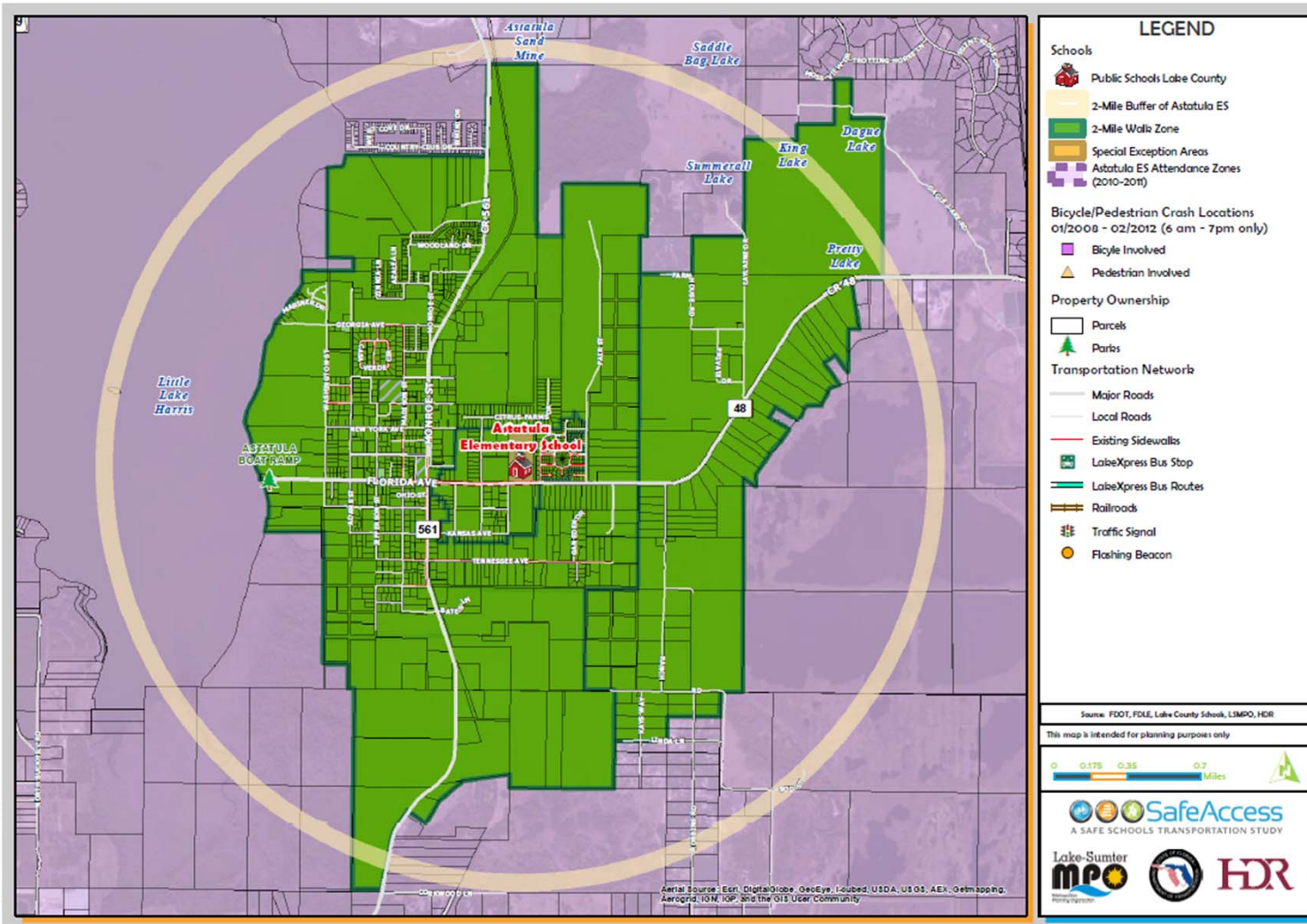
Start 55 MPH speed zone, just past the sign the HWA begins



Within the HWA

Attendance and 2-Mile "Walk" Zone Map

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



Arrival and Dismissal Schedule

- 7:00 am:** Breakfast / ELC
- 8:00 am:** Gates are opened; Supervision for student arrival starts
- 8:35 am:** School start time
- 3:00 pm:** Pre-K and K students released
- 3:05 pm:** School end time; Staggered release – walkers / bike riders, then car riders; Bus riders released as buses arrive
- 6:00 pm:** ELC ends



Note: Students are released one hour early on Wednesdays



Findings:

- ✓ 8 regular service buses and 5 ESE buses (13 total)
- ✓ Bus riders are released as buses arrive; Approximately 3 or 4 buses loaded at a time; Students can only be loaded where the curb is painted yellow
- ✓ Buses do not arrive at the same time; Sufficient storage observed on site for staggered bus arrival; Earliest buses attempt to line up in same order every day
- ✓ Bus operations were observed to be well-run and efficient

Student Drop-off & Pick-up

Findings:

- ✓ City allows school to use adjacent parcel for car queue
- ✓ Students may be loaded / unloaded from cars only where sidewalk curb is painted yellow
- ✓ AM drop-off starts about 7:50 AM; PM queue starts about 30 minutes before school ends
- ✓ No vehicle conflicts or queue observed on Florida Ave
- ✓ 1 staff member monitors traffic at the parking gate to deter “cutters”; Staff will allow PM vehicles to “jump” the queue in order to park
- ✓ Several parents observed to back in and park in handicap spaces before school lets out (have placards); No vacant handicap spaces available by school dismissal
- ✓ Safety patrol utilized to keep students on / near benches



Findings:

- ✓ Pre-K and kindergarten is typically released 5 minutes early so staff can get them seated on benches
- ✓ Several parents observed to park in lot and have students walk to car; School moved crosswalk to end of car ramp and place a staff member to help get students to parking lot; Crosswalk is very worn after 1 year of use and accesses sidewalk via a former handicap parking space
- ✓ School has received funding to install gates along car pick-up; Gates will consist of fencing with openings for students to load / unload from vehicles; Currently ID “gates” with numbers on posts – Gates installed by end of 12/13 school year
- ✓ Overall, arrival and dismissal was observed to work efficiently with no queue backup on Florida Ave and most students were gone within 15 minutes of dismissal



Recommendations:

- ✓ Enforce policy requiring parents to line up outside of car gate until dismissal; Use cones to discourage “cutting” the line; Parents requesting to park should be encouraged to use most direct parking spaces
- ✓ Repaint / stripe car loop as one-way including exit; Repaint crosswalk at car loop exit with high visibility ladder style crosswalk
- ✓ Install upgraded detectable warning mats on all ramps
- ✓ Upgrade designated crosswalk with durable material (i.e. colored stamped concrete)



Remote Drop-off & Pick-up

Findings:

- ✓ 2 parents were observed to park along travel lanes near car loop exit and wait for students
- ✓ 1 parent was observed to pick up student from shoulder of Florida Ave just outside pedestrian access gate

Recommendations:

- ✓ Install “No Stopping, Standing, or Parking” signage along Florida Ave from Alamanda Dr to Harrison St (signs were installed on Florida Ave after observations and should be monitored for enforcement)

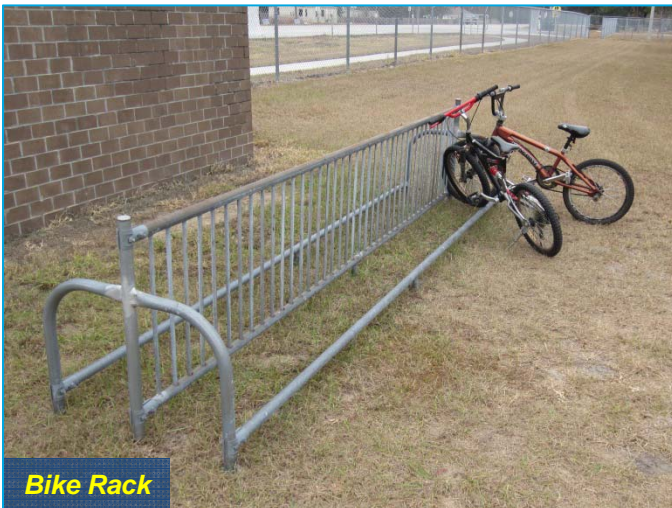




Vehicles Stopped for Pedestrians on Florida Ave

Findings:

- ✓ Cars / buses observed to stop for pedestrians crossing Florida Ave at Harrison St during AM; Police car monitors traffic at this intersection during PM
- ✓ Small sidewalk gap located on entrance of bus loop at Florida Ave
- ✓ Flashing beacon on Florida Ave west of school was not working in AM
- ✓ Bicycle riders and walkers are released first at dismissal
- ✓ Emergency evacuation plan “A” is to relocate students to playground of vacant development behind school; No gate or sidewalk connections to neighborhood
- ✓ Bicycle rack relocated to pedestrian gate in grass



Bike Rack

Findings:

- ✓ Several crosswalks throughout 2-mile walk zone were noted to be faded
- ✓ Several pedestrians observed to arrive to school from Harrison St which has no sidewalk
- ✓ Sidewalk gaps noted on Georgia Ave and Madison St; Damaged sidewalk on Madison St

Recommendations:

- ✓ Repaint / install ladder style crosswalks throughout 2-mile walk zone
- ✓ Construct sidewalk along Harrison St and Kansas Ave
- ✓ Close sidewalk gaps / fix sidewalk on Georgia Ave and Madison St



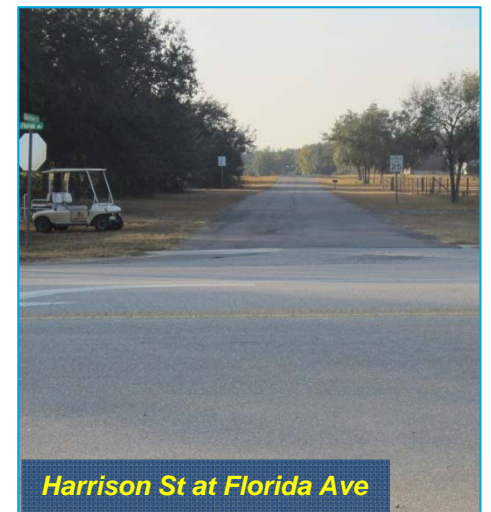
CR 561 at CR 48



Sidewalk Gap on Madison St at Alabama Ave



Damaged Sidewalk on Madison St



Harrison St at Florida Ave



Recommendations:

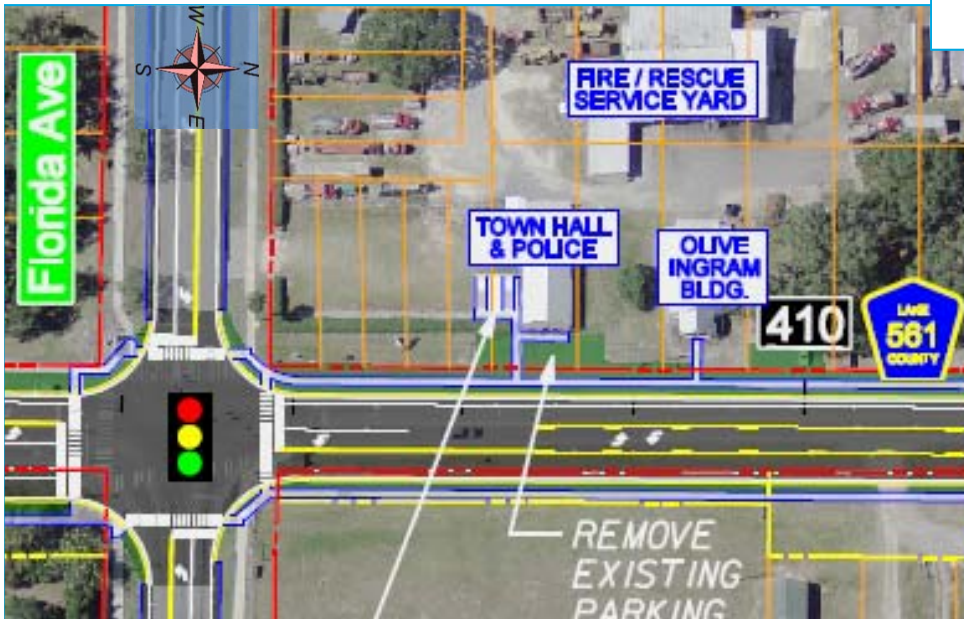
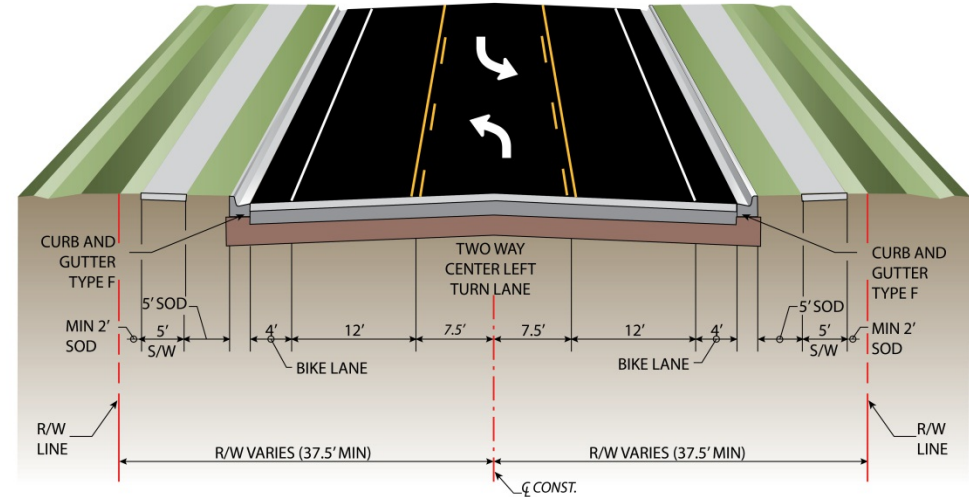
- ✓ Construct sidewalk connection at bus loop entrance and Florida Ave; Upgrade pavement markings on Florida Ave at Harrison St
- ✓ Coordinate with City to construct sidewalk connection from car loop storage to development behind school; Install gates in school fencing with access to new connection
 - ✓ Parcel is City easement that extends through neighborhood to north
 - ✓ Tree farmer north of neighborhood is business partner to school
- ✓ Construct concrete pad for and update bicycle rack to inverted “U” or ribbon style bike rack



Findings:

- ✓ Lake County completed a PD&E study for CR 561 from CR 455 to Country Club Drive in September 2010
- ✓ The PD&E study recommendation from Maryland Ave to Virginia Ave was a 3 lane roadway, with 5 foot sidewalks on either side

Preferred Typical Section
Segment 3 and Segment 4



- ✓ The study included a recommendation to move the parking area in front of the Town Hall and create a sidewalk and walkway in this area



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Astatula Elementary School

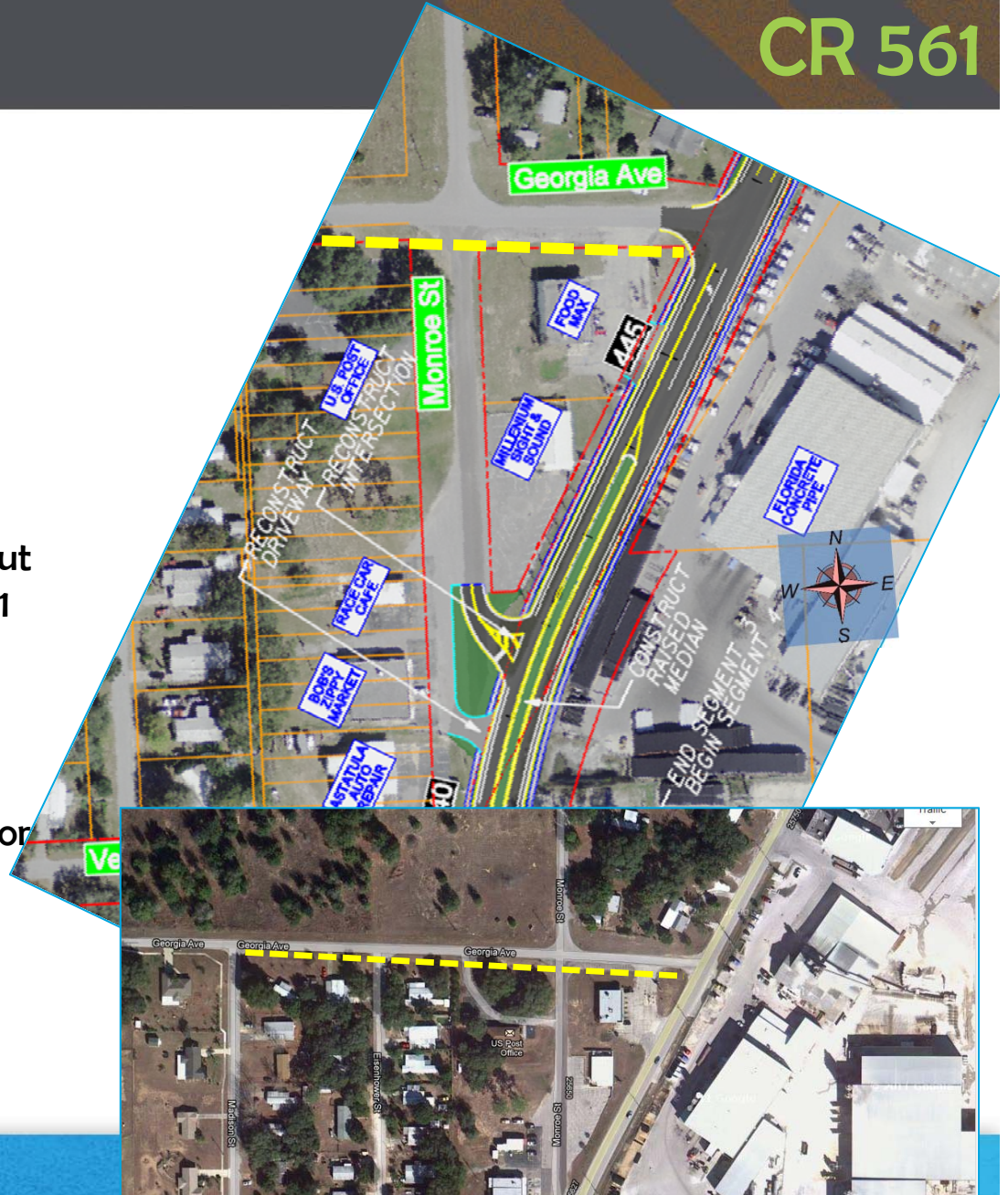
Other Projects CR 561

Findings:

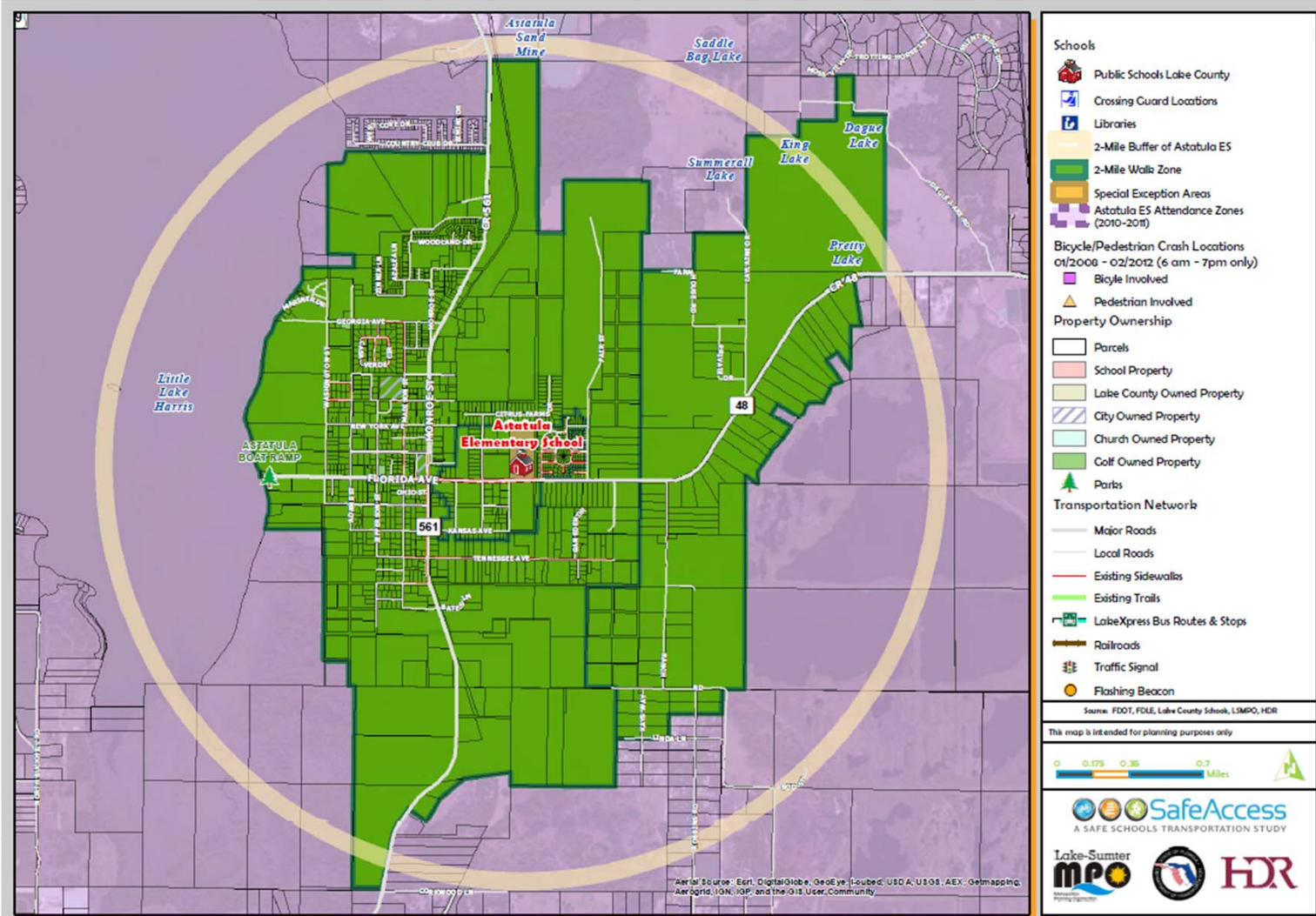
- ✓ The triangular area created by Monroe St, Georgia Ave, CR 561 and Vermont Ave is challenging for pedestrians, especially children, due to the number of open driveways and the lack of a defined pedestrian space
- ✓ The CR 561 PD&E concept plans include converting Monroe St to a right-in / right-out only configuration with a median on CR 561

Recommendations:

- ✓ In conjunction with the CR 561 project, or future redevelopment, construct sidewalk or define pedestrian space along Monroe St
- ✓ Add sidewalk on Georgia Ave and to connect CR 561 to Madison St sidewalk



Astatula Elementary School: Existing Conditions Map

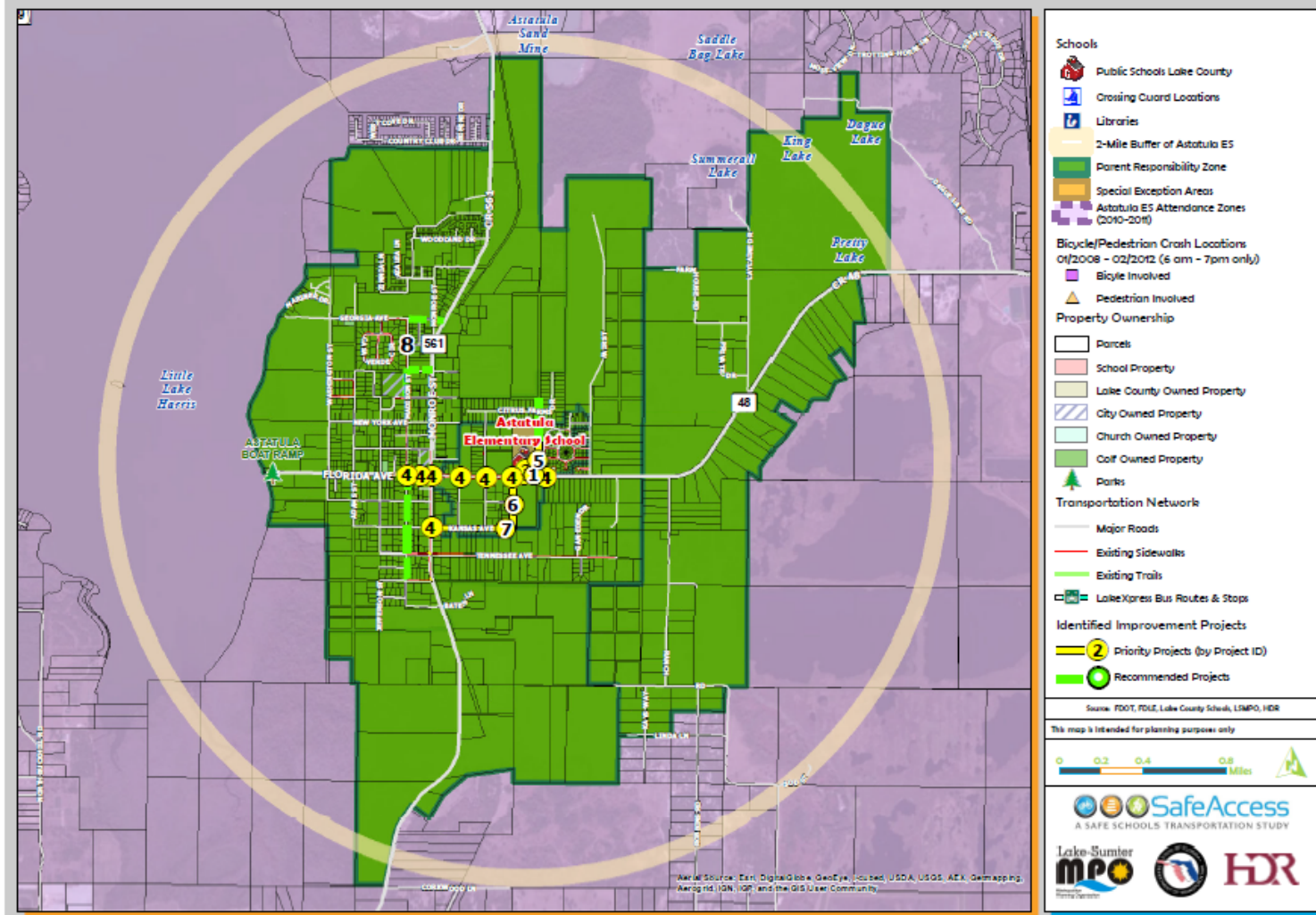


Findings:

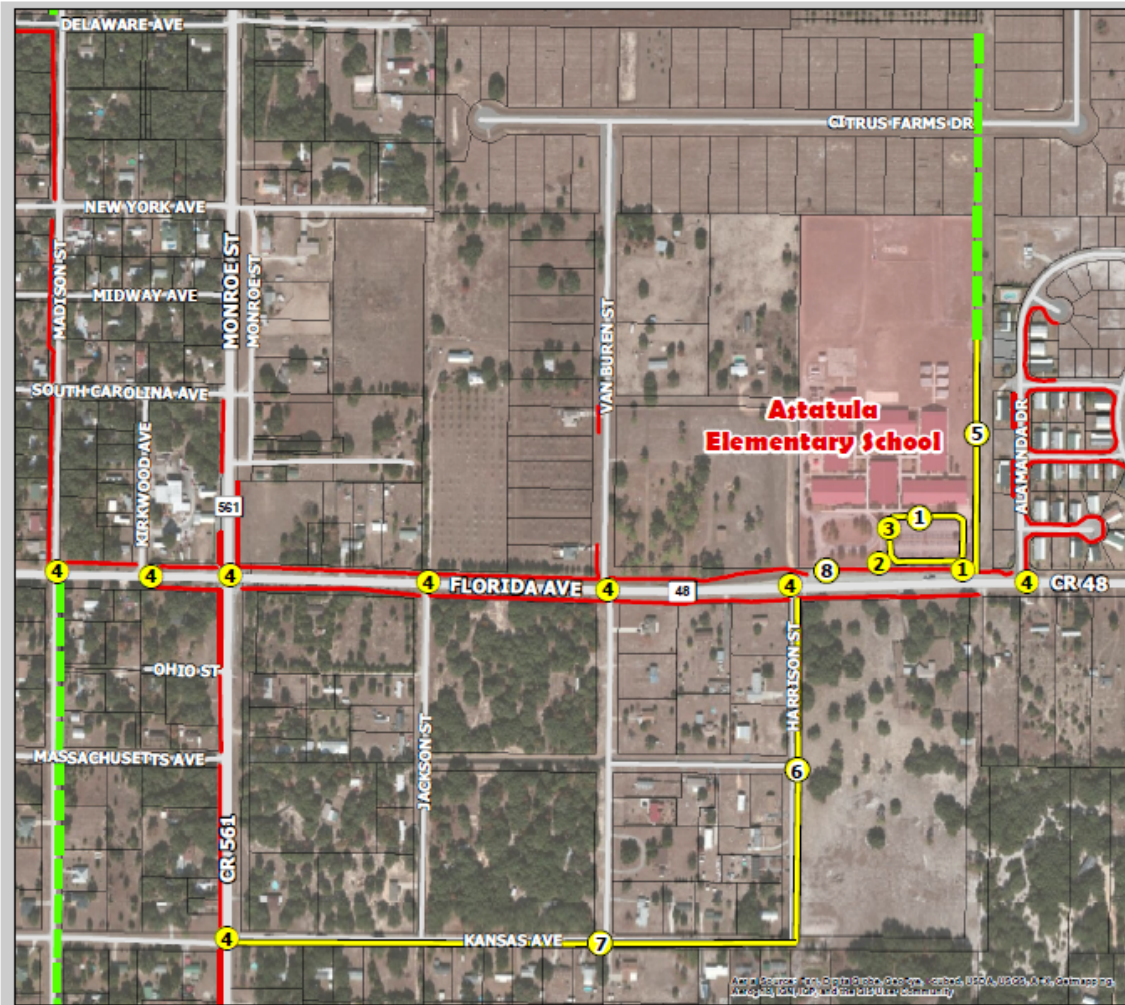
- ✓ On June 24, 2013 the Lake County School Board voted to formally discontinue all courtesy busing for elementary and middle school students who live within 2-mile walk zone of the school
 - This essentially makes the new parent responsibility zone equal to the 2-mile walk zone, except for schools with identified Hazardous Walking Areas
- ✓ 83 Students were courtesy bused last year within the 2-mile walk zone for Astatula Elementary School
- ✓ It is likely some of these children will be brought to school by car, and additional car queue issues and wait times should be anticipated
- ✓ A crossing guard at the CR 561 / Florida Avenue intersection will assist in getting students safely to school
- ✓ Implementing the recommended sidewalk projects will facilitate allowing these children to walk or bicycle to school
- ✓ The Board is also considering combining middle and high school students on the same bus for the 2014-2015 school year.
 - This would involve moving middle school start times earlier from their existing 9:05 to 9:15 time frame to the proposed 7:35
 - This would also cause the elementary schools to be moved back almost 25 minutes to start around 8:55 in the morning

Transportation Access Master Plan

Astatula Elementary School: Transportation Access Master Plan



Astatula Elementary School: Priority Projects



LEGEND

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

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

This map is intended for planning purposes only.

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All data sources: Tomlin, South Florida Planning, Inc. (2014). 2014 Florida Statewide Transportation Planning Products. Lake County, Florida. Retrieved from: https://www.lakecountyfl.gov/transportation-planning

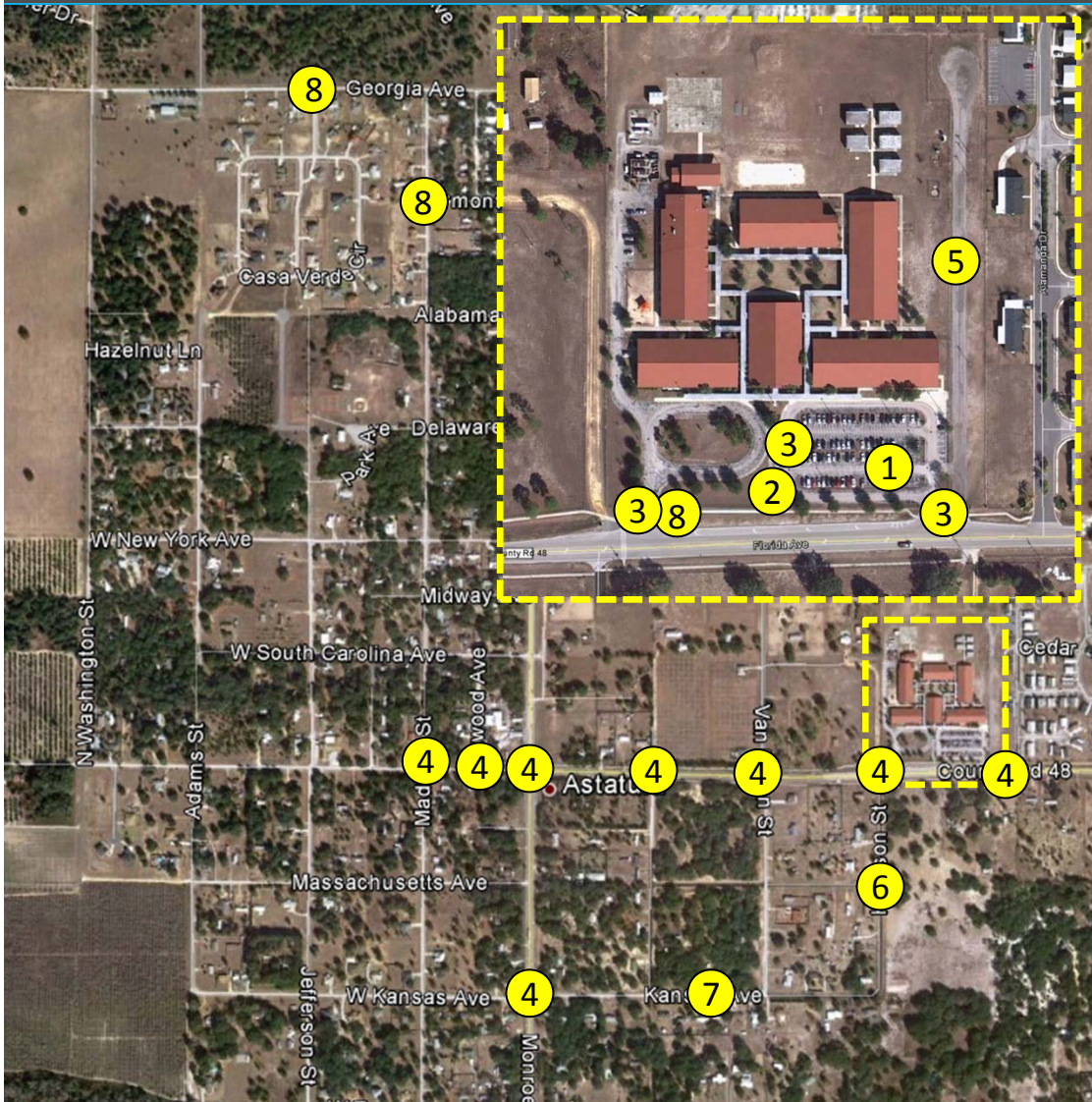


SafeAccess

A SAFE SCHOOLS TRANSPORTATION STUDY

Recommended Priority Projects

Astatula Elementary School



Recommendations:

1. Repaint car loop as one-way
2. Replace bicycle rack with U or Ribbon Style racks on a concrete pad
3. Update crosswalks at school driveways and upgrade designated car loop crossing
4. Install / update crosswalks on CR 48 from Madison St to Alamanda Dr; Install crosswalks at CR 561 / Kansas Ave
5. Pave car loop queue; Install sidewalk
6. Install new sidewalk on Harrison St
7. Install new sidewalk on Kansas Ave
8. Close sidewalk gaps on Georgia Ave, Madison St, bus loop entrance and at CR 561 and Maryland Ave and Tennessee Ave (off Map)

Recommended Project List

Project Number	Roadway	Location	Project
1	At School	Car Loop	Enforce traffic flow; Repaint car loop as one-way, add no stopping or standing signs and additional handicap spaces
2	At School	Bicycle Parking	Upgrade bicycle parking
3	At School	Car Loop	Update crosswalks at school driveways and upgrade designated car loop crossing to color stamped asphalt or similar "durable" improvement
4	CR 561	At Kansas Ave	Install new crosswalks
	CR 48	Update / add crosswalks from Alamanda Dr to Madison	Install crosswalks and add mid-block treatments at Harrison St and Alamanda Dr Intersections;
5	At School	Car Loop Queue	Pave car loop with sidewalk on west side



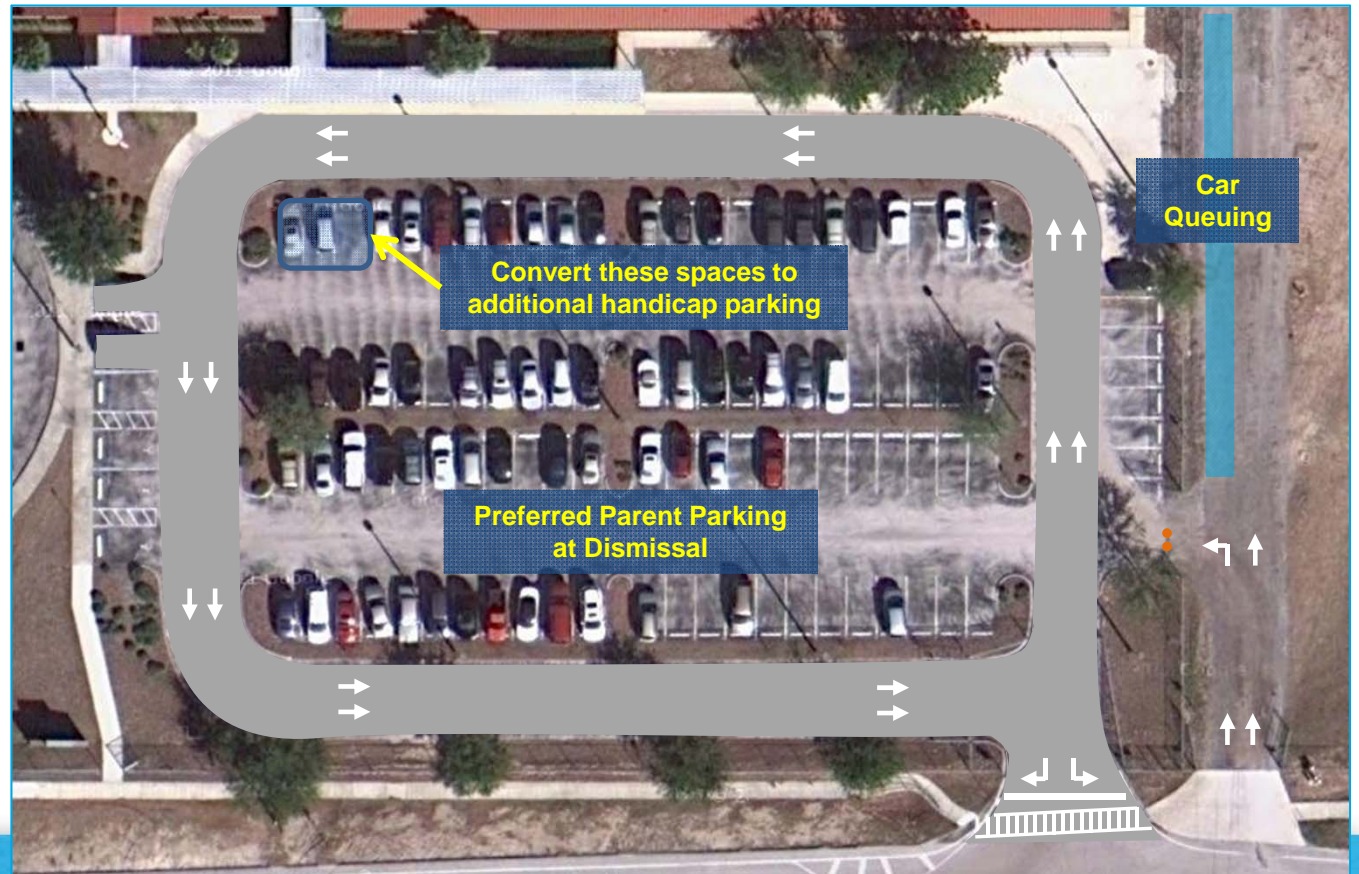
Astatula Elementary School

Project Number	Roadway	Location	Project
6	Harrison St	CR 48 to Kansas Ave	Install new sidewalk
7	Kansas Ave	CR 561 to Harrison St	Install new sidewalk
8	Georgia Ave	At Miss Ollie Dr	Close sidewalk gap; install detectable warning mats
	Madison St	At Vermont Ave	Close sidewalk gap
	CR 48	At Bus Loop	Close sidewalk gap on east side of bus entrance / exit
	CR 561 (Monroe St)	At Tennessee and Maryland Avenues	Fill sidewalk gaps at corners



Recommendation:

- ✓ Enforce policy requiring parents to line up outside of car gate until dismissal; Use cones to discourage “cutting” the line; Parents requesting to park should be encouraged to use most direct parking spaces
- ✓ Repaint / stripe car loop as one way including exit; Repaint crosswalk at car loop exit with high visibility ladder style
- ✓ Repaint spaces in NW corner to be additional handicap spaces





A SAFE SCHOOLS TRANSPORTATION STUDY

Astatula Elementary School

Recommended Project #2

Improved Bicycle Parking

Recommendation:

- ✓ Construct concrete pad for and update bicycle rack to inverted “U” or ribbon style bike rack



Inverted “U” Bike Rack (Beverly Shores ES)

Recommendation:

- ✓ Repaint crosswalk at car loop driveways with high visibility ladder style crosswalks
- ✓ Repaint crosswalks at all school driveways with high visibility ladder style crosswalks
- ✓ Install detectable warning mats on all ramps
- ✓ Upgrade designated crosswalk with durable material (i.e. colored stamped asphalt)



Recommended Project #4

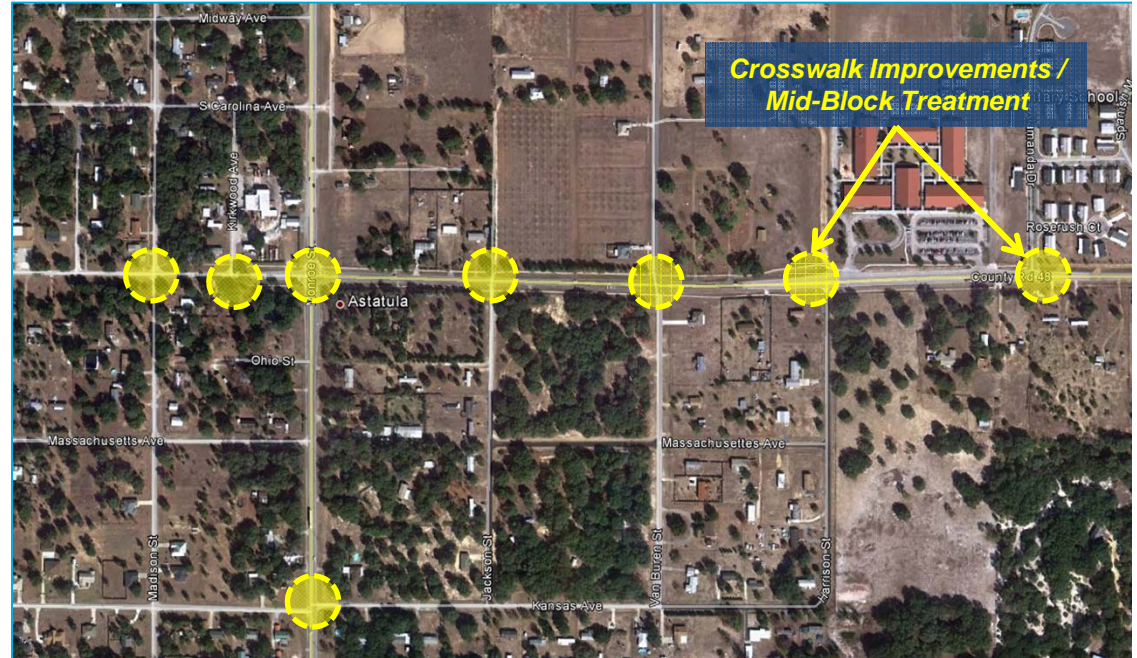
Crosswalk Improvements

Findings:

- ✓ Several walkers were observed to arrive / depart school from southeast
- ✓ Crosswalks were noted to be missing or faded

Recommendations:

- ✓ Install crosswalks / mid-block treatments on CR 48 at Harrison St and Alamanda Dr
- ✓ Repaint crosswalk at CR 48 / CR 561 intersection
- ✓ Repaint / install crosswalks and ADA detectable warning mats on all CR 48 cross streets from Madison St to Alamanda Dr
- ✓ Install new crosswalks at CR 561 / Kansas Ave intersection



Recommended Project #5

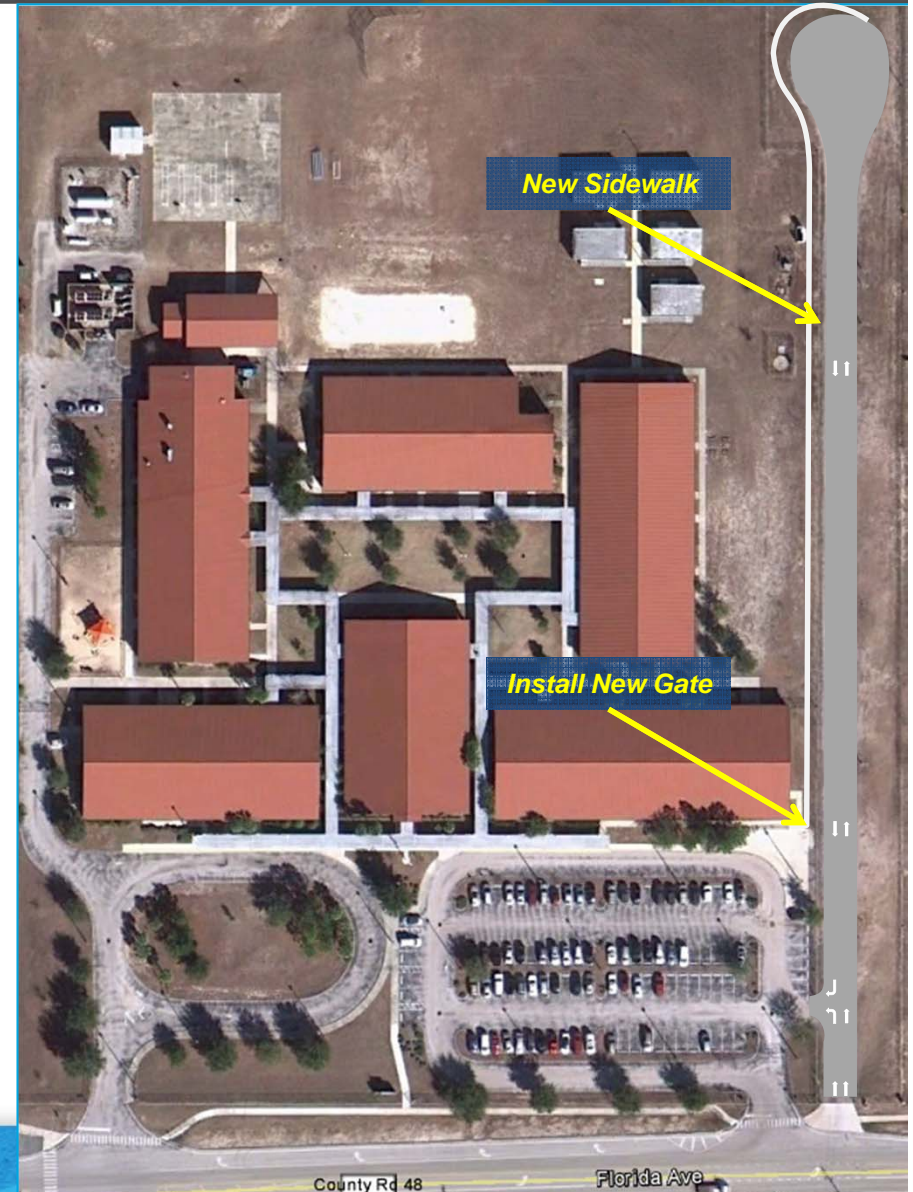
Pave Car Loop Queue

Findings:

- ✓ Car queue utilizes unpaved City parcel
- ✓ Emergency evacuation route involves leading student up the car queue and cutting the fence to evacuate to vacant neighborhood north of school

Recommendations:

- ✓ Coordinate with City to pave car loop queue
 - ✓ Include appropriate signage and pavement markings
- ✓ Construct new sidewalk along west side of car loop queue from existing sidewalk along car loop to evacuation point on north end of car loop queue
 - ✓ Install new gate at existing sidewalk along car loop queue



Recommended Project #6

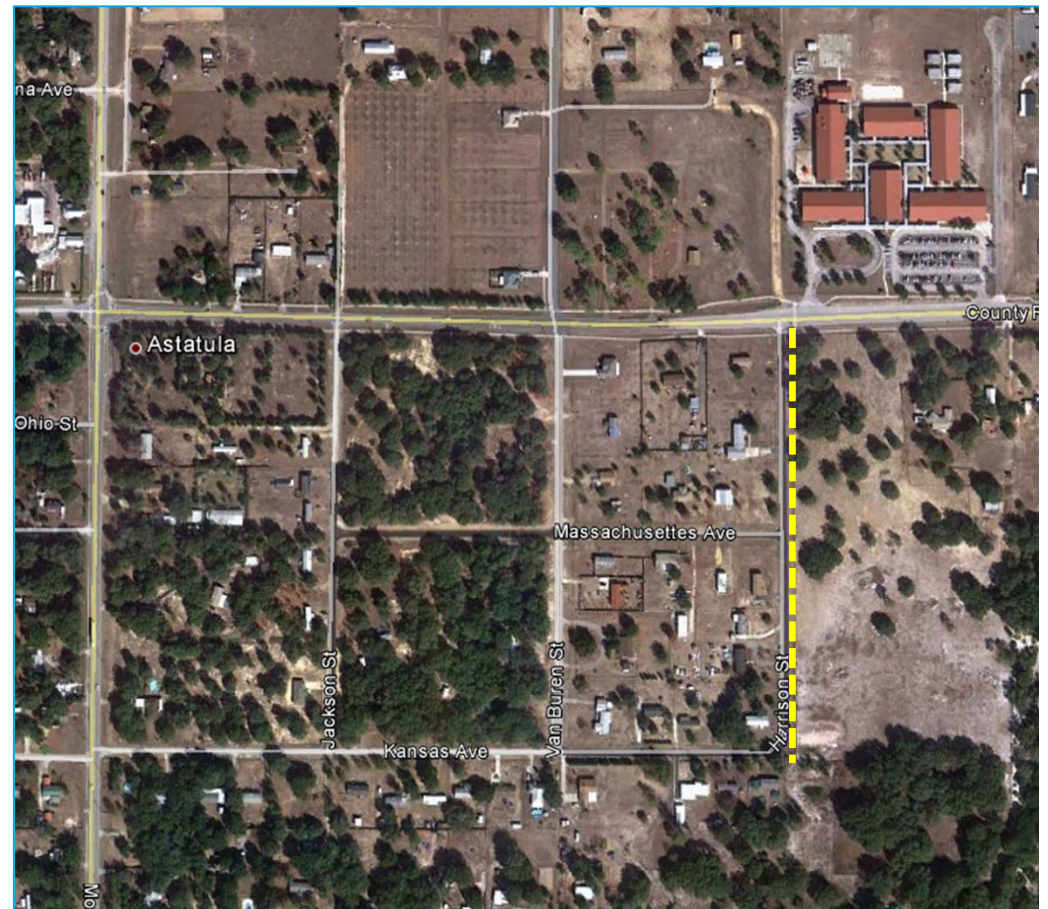
Construct New Sidewalk on Harrison St

Findings:

- ✓ Several students observed to walk from southwest

Recommendations:

- ✓ Install new sidewalk on Harrison St from CR 48 to Kansas Ave



Recommended Project #7

Construct New Sidewalk on Kansas Ave

Findings:

- ✓ Several students observed to walk from southwest

Recommendations:

- ✓ Install new sidewalk on Kansas Ave from CR 561 to Harrison St





A SAFE SCHOOLS TRANSPORTATION STUDY

Astatula Elementary School

Recommended Project #8

Close Sidewalk Gaps

Recommendation:

- ✓ Georgia Ave at Miss Ollie Dr; Also install crosswalk / detectable warning mats on Miss Ollie Dr
- ✓ Madison St at Vermont Ave
- ✓ East side of bus loop at CR 48
- ✓ CR 561 (Monroe St) at Maryland Ave and Tennessee Ave



Tennessee / 561 Sidewalk Gap



Maryland / 561 Sidewalk Gap



Georgia Ave Sidewalk Gap



Madison St Sidewalk Gap



Bus Loop Sidewalk Gap

Priority #	Item	Quantity	Units	Total
1	Stop Bar	40	ft	\$155.00
1	Car Line Arrows	28	Arrows	\$2,800.00
2	Crosswalk	175	ft	\$391.00
2	Detectable Mats	5	Mat	\$1,750.00
5	Roadway	850	ft	\$106,500.00
5	Sidewalk	670	ft	\$74,000.00
5	Crosswalk	600	ft	\$1,340.00
5	Crosswalk	265	ft	\$592.00
5	Car Line Arrows	15	Arrows	\$1,500.00

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.

Priority #	Item	Quantity	Units	Total
6	Sidewalk	1,250	ft	\$121,900.00
7	Sidewalk	2,000	ft	\$182,300.00
8	Sidewalk	28	ft	\$23,500.00
8	Sidewalk	147	ft	\$33,100.00
8	Sidewalk	37	ft	\$24,100.00
8	Crosswalk	20	ft	\$45.00

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- 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.



Other Recommendations List

Roadway	From/To	Project
Car Loop Parcel	North end of Car Loop to Tree Farm	Add sidewalk; pedestrian gate
Madison Street	Maryland Ave to Florida Ave	Add sidewalk
Madison Street	Delaware Ave to Alabama Ave	Add sidewalk on west side of Madison
Alabama Avenue	Madison St to CR 561	Add sidewalk
Georgia Avenue	Madison St to CR 561	Add sidewalk
CR 561	CR 455 to Country Club Drive	Coordinate with Lake County and Lake~Sumter MPO



Other Sidewalk Connections

New Emergency Evacuation Route Sidewalk / Neighborhood Connection

Findings:

- ✓ School's existing emergency evacuation plan is to evacuate students to an undeveloped residential neighborhood behind school
- ✓ City-owned easement currently utilized for car queue storage extends through neighborhood
- ✓ Tree farmer north of neighborhood is partner to the school

Recommendation:

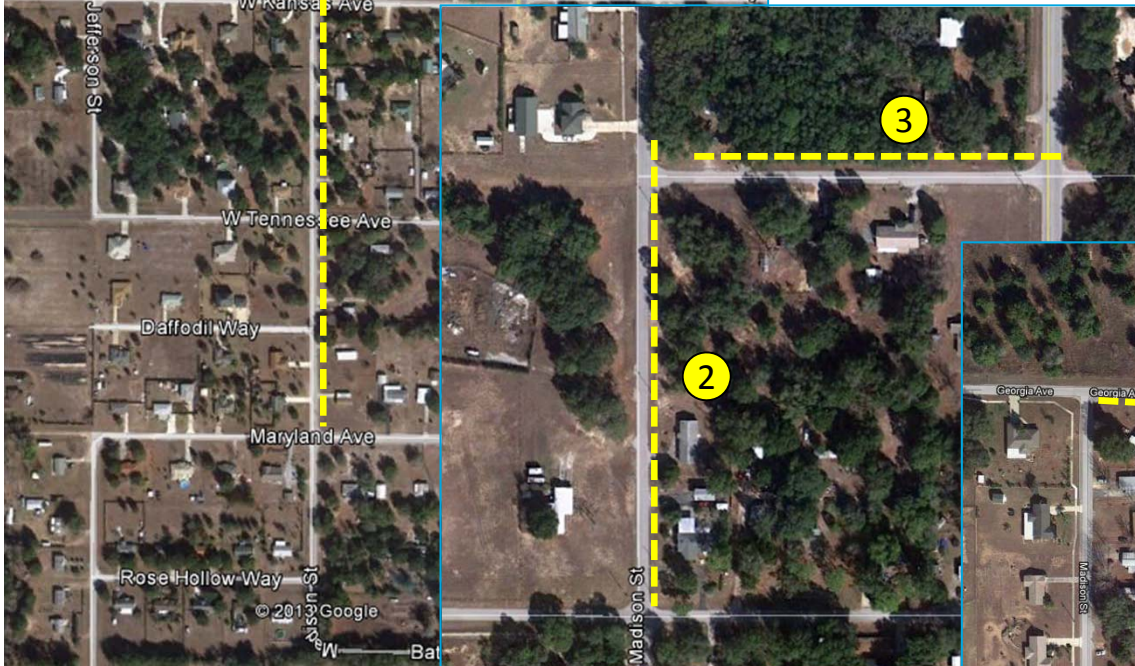
- ✓ Coordinate with City to construct sidewalk connection from car loop storage to development behind school; Install gates in school fencing with access to new connection
 - ✓ Would also provide a sidewalk connection to future neighborhoods behind school



Astatula Elementary School

Sidewalk Recommendations:

1. Madison St from Maryland Ave to Florida Ave
2. West side of Madison St from Delaware Ave to Alabama Ave
3. Alabama Ave from Madison St to CR 561
4. Georgia Ave from Madison St to CR 561
5. Continued Coordination with Lake County and Lake~Sumter MPO on any future plans for CR 561





Astatula 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.

Mike Woods

Project Manager, Transportation Planner

(352) 315-0170

mwoods@lakesumtermpo.com



Mindy Heath, AICP

Consultant Project Manager

(407) 420-4200

mindy.heath@hdrinc.com



*Promoting Regional
Transportation Partnerships*

Recommendation:

- ✓ Enforce policy requiring parents to line up outside of car gate until dismissal; Use cones to discourage “cutting” the line; Parents requesting to park should be encouraged to use most direct parking spaces
- ✓ Repaint / stripe car loop as one way including exit; Repaint crosswalk at car loop exit with high visibility ladder style
- ✓ Install gates along pick-up / drop-off area
- ✓ Install detectable warning mats on all ramps
- ✓ Upgrade designated crosswalk with durable material (i.e. colored stamped asphalt)

