

**Volusia County
MPO**

November 2008



Deltona Lakes Elementary School

Bicycle and Pedestrian School Safety Review Study

Phase 3B



School Summary

Deltona Lakes Elementary School is located in the City of Deltona, with the majority of the walk zone located to the south of the school. Students attending Galaxy Middle School may also walk through the Deltona Lakes Elementary School walk zone.

Of the 904 students attending this school, 413 live within the designated walk zone area. During the 2007/2008 school year, approximately 45 of these students walked or rode bicycles to school.

At the time of this study, there were four crossing guard locations serving Deltona Lakes Elementary School students. The crossing guard location at the school entrance drive and Adelia Boulevard closed for the 2008/2009 school year. No bicycle or pedestrian crashes during estimated school travel times and involving elementary school age children have been reported within the walk zone during the last three years.

This Study recommends the construction of new sidewalks on campus to reduce the number of conflict points between pedestrians/bicyclists and vehicles. School District staff received an advance draft of this Study to review these recommendations. The school plans to add fenced/gated bicycle areas to reduce bicycle theft.



Figure 3.1.1

Deltona Lakes Elementary School – Summary Sheet

School Address: 2022 Adelia Boulevard
Deltona, FL 32725

School Principal: Judith Rivera Hilaire
Phone: 386-575-4133
Email: jmriver1@volusia.k12.fl.us

Assistant Principal: Melviona Thomson
Phone: 386-575-4133
Email: mgthomso@volusia.k12.fl.us

Volusia County School District Representative: Saralee Morrissey, AICP
Phone: 386-947-8786, ext. 50772
Email: smorriss@volusia.k12.fl.us

Volusia County Public Works Traffic Engineering: Jon Cheney, P.E., Director
Phone: 386-736-5968 ext. 2709
Email: jcheney@co.volusia.fl.us

Crossing Guard Supervisor: Julyann Rivera
Phone: 386-860-7030
Email: jrivera@vcso.us

City Representatives: Tom Burbank, Acting Planning and Development Services Director
(Previous representative, Becky Mendez is no longer with the City)
Phone: 386-878-8608
Email: tburbank@deltonafl.gov

Scott McGrath, Principal Planner
Phone: 386-878-8624
Email: smcgrath@deltonafl.gov

Volusia County MPO: Stephan Harris, Bicycle and Pedestrian Coordinator
Phone: 386-226-0422 ext. 34
Email: scharris@co.volusia.fl.us

Site Visit Observation Date: April 15, 2008 (weather: clear, unseasonably cold)

Coordination Meeting: April 15, 2008

Meeting Attendees:

- Judith Rivera Hilaire, School Principal
- Melviona Thomson, Assistant Principal
- Julyann Rivera, Crossing Guard Supervisor
- Scott McGrath, Deltona Principal Planner
- Stephan Harris, MPO Bicycle and Pedestrian Coordinator
- Ginger Hoke, Hoke Design, Inc.

Number of Enrolled Students (2008 data): 904

Estimated Number of Students Living in Walk Zone: 413

Number of School Buses: 10

Number of Aftercare Buses/Vans: 9

Estimated Number of Walkers/Bicycle Riders: 40-50

Number of Bicycles on Site: 11 bicycles, and 1 set of inline skates

Number of Bicycle Helmets (stored with bicycle): 8

Staggered Student Dismissal: Bus riders are released first, followed by walkers and car riders.

Estimated Number of Students Attending Breakfast: 400 (starts at 7:30 a.m.)

Number of Students for School Site Aftercare: 111

Teachers Assisting in Arrival and Dismissal Safety:

Arrival: 6

Dismissal: 6

Title One School: Yes (56.84%)

Backpack Policy: Teacher discretion

Summary of Principal Comments:

- The assistant principal stated that the school will be getting fenced bicycle racks for both locations
- An estimated 20 bicycles were stolen this school year

Crossing Guard Locations:

- Providence Boulevard and school entrance drive (2 guards)
- Providence Boulevard and Elkcarn Boulevard (2 guards)
- Elkcarn Boulevard and Adelia Boulevard (1 guard)
- Eastern school entrance and Adelia Boulevard (closed 08/09)

Summary of Crossing Guard Supervisor Comments:

- If a sidewalk is constructed on school property as discussed at the intake meeting, the crossing guard location at the school entrance and Adelia Boulevard could be eliminated
- The crosswalk markings at Elkcarn Boulevard and Providence Boulevard are very faded and need to be repainted

Number of Bicycle and Pedestrian Crash Events within the Existing Walk Zone (elementary age, during estimated school travel times, 2005-2007):
0

Planned Road, Sidewalk, or other Improvements: The City of Deltona has an ongoing sidewalk construction plan and budget

Planned Development in Walk Zone: None

Number of Students Transported Due to Hazardous or Unique Conditions:
None

Votran Route in Walk Zone: Yes, along Elkcarn Boulevard

Findings and Recommendations

Circulation Description: One access road provides access from the east (traffic from Adelia Boulevard) and west (traffic from Providence Boulevard) sides of the school site. Bus circulation enters the east access side and exits the west access side. Current drop-off and pick-up policy requires motorists to enter and exit from the same access point, creating two separate drop-off and pick-up areas.



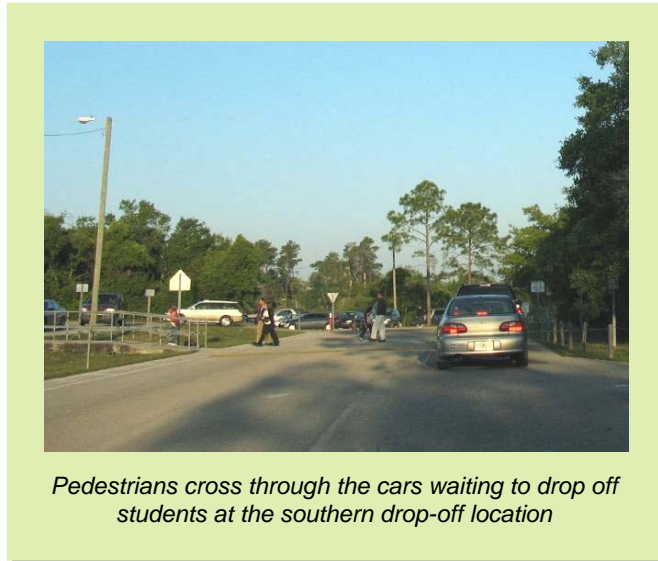
Motorists drop off students at the south parking lot



The crossing guard location at Adelia Boulevard will close for 08/09

Note: Yellow squares indicate pedestrian and vehicular conflict points.

East Side Findings: The visitor parking area is located south of the main access roadway and contains an area for motorists to pick up and drop off students (See Figure 3.1.2). Students using this drop-off area or those who park in this parking lot must cross the school access road and the parking area adjacent to the school. School staff crosses students/parents across the access road (also shown on Figure 3.1.2).



A crossing guard is located at Adelia Boulevard and the school access road. The guard primarily crosses students across the school access road to the existing sidewalk on the north side. This crossing guard location is currently planned for closure.

Recommendations:

Option 1: Construct a sidewalk along the south side of the visitor parking area from Adelia Boulevard to the crosswalk at the staff parking exit. Relocate the existing bicycle racks to an area adjacent to the recommended walkway (illustrated in Figure 3.1.3.).

Students walking or bicycling to and from school using Adelia Boulevard will not need to cross the school entrance road at Adelia Boulevard and will not cross school-related traffic.

Students living east of Adelia Boulevard and south of Elkcam Boulevard will need to travel to the crossing guard location at Elkcam Boulevard and Adelia Boulevard to cross with a guard.

Option 2: Relocate the east side student drop-off and pick-up area to the north side of the access road near the existing connector trail through the wooded area. Construct a wide sidewalk along the north side of the access road to the bus/staff parking exit crosswalk. Maintain the current one-way traffic pattern that flows through the visitor parking lot. Nine parking spaces now used for the drop-off/pick-up area can be reopened (see Figure 3.1.3).



This option will eliminate the need for staff to cross students across the drop-off and pick-up traffic line. Additionally, students will no longer cross through the staff parking lot and bus loading and unloading area.

A trial version of this option can be implemented by painting the existing asphalt and using flexible bollards to separate pedestrian and vehicular movement. Additionally,

the existing bicycle racks are not permanently installed and can be relocated to determine the most suitable location. According to the principal, new bicycle racks and fencing are planned for this school. The addition of fenced and gated enclosures for bicycles will greatly reduce the higher number of bicycle thefts this school experiences.

Option 3: Combine Options 1 and 2



Figure 3.1.3

West Side Findings: The walk zone for Deltona Lakes Elementary School is located south of the school. Most students use the sidewalks along Providence Boulevard to approach the west side of the school via the school access road. The school access road has one wide sidewalk on the north side of the road. This creates the need for students to cross the school access road at Providence Boulevard with the crossing guard at this location. Students cross school related traffic again when they reach the beginning of the loop to the student drop-off and pick-up area on the west side of the school.



Crossing guards also cross middle school students over Providence Boulevard



Figure 3.1.4

Recommendation: Construct a wide sidewalk along the south side of the access road connecting the sidewalk along Providence Road with the crosswalk at the staff parking exit. Relocate the bicycle racks to the south side of this sidewalk near the school. The small, recently paved parking area should be considered as a bicycle rack location. The need for a crossing guard to cross students across Providence Boulevard should be evaluated to determine if this crossing can be closed (see Figure 3.1.4).

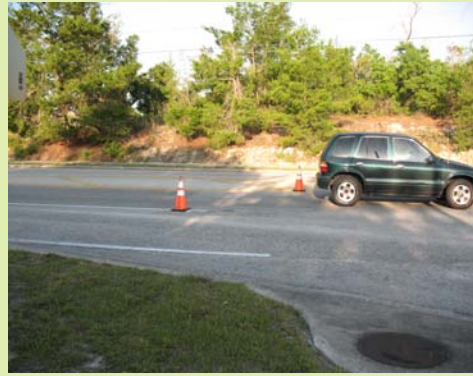
Note: Students living west of Providence Road would need to cross at the intersection of Elkcarn Boulevard with the existing crossing guards at this location.

Considerations:

- The sidewalk along the south side of the entrance road may be difficult to construct in some areas due to property limitations and changes in grade.
- There is only one crosswalk, located at the staff/bus exit area, which will create a pedestrian/vehicle conflict that may need to be monitored by school district staff.
- Students will not be able to walk or bicycle north from the school access road on Providence Boulevard unless a crossing guard or school staff mans this location. Currently, property within the walk zone north of the intersection of the school access road and Providence Boulevard is publicly owned. However, some students may choose to walk or ride bicycles to the library or Lyonia Preserve, resulting in the need to cross Providence Boulevard unaided.
- Middle school students will no longer be able to cross with the guards at Providence Boulevard and the school access road.
- Students living on Acadian Drive or Giles Street will need to walk to the intersection of Providence Boulevard and Elkcarn Boulevard to cross Providence Boulevard with crossing guards.
- Guards will need to cross a higher number of students, possibly in more directions, at the intersection of Elkcarn Boulevard and Providence Boulevard. This intersection experiences high levels of traffic and is signalized with pedestrian features.

Findings: The north-bound turn lane along Providence Boulevard into the school access road is short because of the close proximity of Acadian Drive to the south. The sign for the turn lane is located north of the intersection of Acadian Drive.

According to the crossing guards, motorists do not realize that they are in a turn lane and drive straight through. This location currently has two crossing guards and students cross Providence Boulevard and the school access road. Motorist error concerning the turn lane may reduce student safety in this area. The painted shoulder along Providence Boulevard south of the school access road does not curve with the entrance and may contribute to motorist confusion.



The painted shoulder does not curve with the radius of the turn lane into the school

Recommendations: Re-stripe the painted shoulder to follow the radius of the school access drive.

Review the possibility of adding a turn arrow to the pavement to clarify the turn lane location.



Some motorists attempt to drive straight through the turn lane to the school from Providence Boulevard

Findings: Galaxy Middle school students frequently cross Providence Boulevard unaided. The sidewalk on the east side of Providence Boulevard terminates at the Deltona Lakes school access road.

Recommendations: A sidewalk along the east side of Providence Boulevard from the school access road to Eustace Avenue should be considered to provide bicycle and pedestrian facilities for students attending Galaxy Middle School, Daytona State College, and for residents who walk or bicycle to City Hall, the library or Lyonia Preserve. If constructed, this sidewalk would also service Votran Bus customers.

The construction of this sidewalk would increase the need for a signalized intersection at Eustace Avenue and Providence Boulevard. If a sidewalk is constructed along the east side of Providence Boulevard from Eustace Avenue to Joyner Drive, the crossing guard at Joyner Drive and Providence Boulevard (serving Timbercrest Elementary School) should be reviewed for relocation to the intersection of Eustace Avenue and Providence Boulevard.

See the Timbercrest Elementary School Study, Chapter 3.9, for additional information.

Finding: There is no sidewalk along the north side of Elkcarn Boulevard from Adelia Boulevard to Howland Boulevard. Students living north of Elkcarn Boulevard may cross the road at various locations to reach the existing wide sidewalk on the south side. These students would need to cross Elkcarn Boulevard again to reach the guard at Adelia Boulevard.

Recommendation: Construct a minimum five foot wide sidewalk along the north side of Elkcarn Boulevard to provide a designated area for students to walk or ride bicycles to and from school. Extend the sidewalk down the north side of Nemo Drive North to Adelia Boulevard.



Adelia Boulevard at the intersection of Elkcarn Boulevard

Findings: Utility companies, delivery vehicles and government vehicles sometimes use sidewalks for access or parking. This practice may create a safety issue for sidewalk users.

Recommendations: Educate drivers of such vehicles not to use sidewalks.

Give warnings or tickets, especially during school arrival and dismissal times.



A student approaches a utility vehicle along the Providence Boulevard sidewalk

Findings: Crosswalks at the intersection of Providence Boulevard and Elkcarn Boulevard are very faded and may not be visible to motorists. Two crossing guards cross students at this intersection.

Recommendation: The County needs to repaint the crosswalks and stop bars on Providence Boulevard at this intersection.

Note: Elkcarn Boulevard is a city-maintained road and crosswalks were repainted within a few weeks of the coordination meeting with the school.



Guards cross students at the intersection of Providence Boulevard and Elkcarn Boulevard

Finding: The crossing guards are using their own money and labor to repaint faded yellow lines on the sidewalk to indicate a “stop and wait” marker for students waiting to be crossed.

Recommendations: Consider applying for grants or requesting assistance from the City of Deltona. Long-term solutions such as 3M tape may also be considered (860 yards for \$100).



Crossing guards repaint the faded lines on the sidewalk.

Findings: Students walk or ride bicycles in groups, especially in the afternoon when they are released for dismissal. Some sidewalks within the walk zone are too narrow to accommodate groups of students.

Recommendation: Walking in groups should be encouraged to increase visibility of students and to provide “safety in numbers”. Sidewalks along major travel routes should be constructed eight to ten feet wide to accommodate groups of students and multiple user groups.



A group of students walks along the west side of Providence Boulevard

Findings: The push-button controls at the northwest corner of Elkcarn Boulevard and Providence Boulevard are not fully accessible. The area around the pole is unpaved and a bench blocks full access.

Recommendations: The sidewalk at this corner should be extended to the pole to increase accessibility for all users. Additionally, the bench should be relocated to allow complete access to the push button control.



Access to the pedestrian push-button should be paved at the intersection of Elkcarn Boulevard and Providence Boulevard

Master Plan

The following Bicycle and Pedestrian Master Plan specifies a network of sidewalks and trails that, if implemented, will greatly increase the convenience and safety of travel for pedestrians and bicyclists. A 24"x36" fold-out map is included as a deliverable with this Study.

The Bicycle and Pedestrian Master Plan includes the following information:

Existing Conditions:

- Existing Walk Zone area from School District GIS (shaded tan)
- Courtesy Transportation Zone from School District, if applicable (shaded blue)
- Hazardous Transportation Zone from School District, if applicable (shaded yellow)
- Existing Student Home Locations from School District (dark blue dot)
- Existing Trails from County GIS and field review (solid green line)
- Existing Wide Sidewalk 6-8' from field review (solid blue line)
- Existing Sidewalks 3-5' from field review (solid red line)
- Existing Crossing Guard Locations from County GIS and field observations (green cross for existing to remain and yellow cross for existing to be closed)
- Bicycle or Pedestrian Crash Event Locations from 2005-2007 from County GIS data, during estimated school travel times and involving an elementary age bicyclist or pedestrian (pink star).
- Existing Votran Routes and stops from Volusia County MPO (yellow lines along roadway centerline with yellow squares at bus stops).

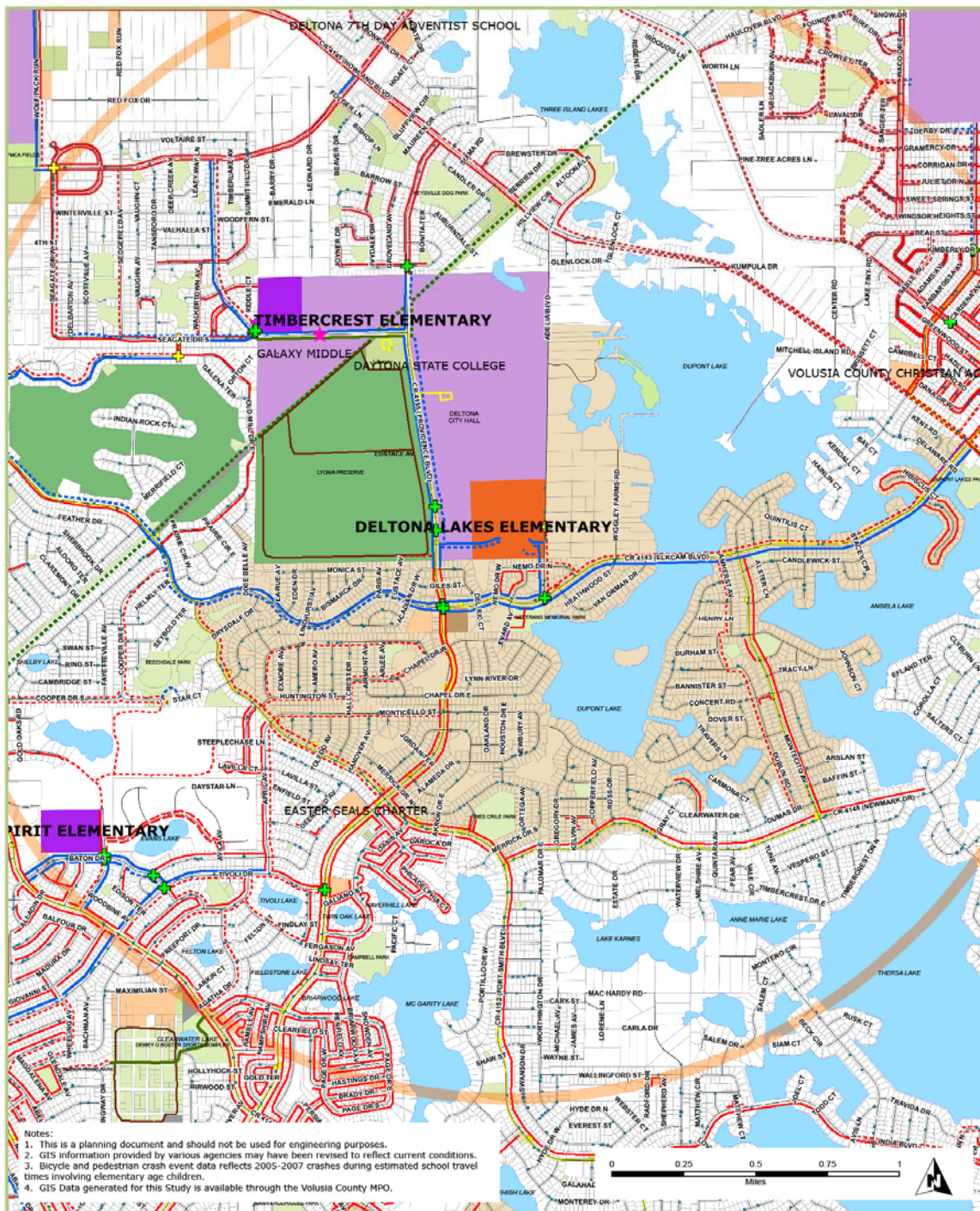
Planned Conditions:

- Planned trail (long dashed dark green line)
- Planned wide sidewalk (long dashed blue line)
- Planned sidewalk (long dashed red line)

Recommendations of this Study:

- Proposed Trails (dashed dark green line)
- Proposed Sidewalks 6-8' wide (dashed blue line)
- Proposed Sidewalks 5' (dashed red line)

This Master Plan and supplemental information supplied within the Implementation Report are meant as a guideline for sidewalk and trail planning. The Master Plan is not an engineering document.



Legend

Trails/Sidewalks

- Existing Sidewalk
- Planned Sidewalk
- Proposed Sidewalk
- Existing Wide Sidewalk
- Planned Wide Sidewalk
- Proposed Wide Sidewalk
- Existing Trail
- Planned Trail
- Proposed Trail
- Existing Unpaved Trail

Location Information

- Student Home Location
- Crossing Guard Location
- Recently Closed Crossing Guard Location
- Existing Transit Stop
- Existing Transit Route

Recommended Priority Projects

School Property Sidewalks (See Report)

Walk Zone Information

- School Walk Zone
- 2 - Mile Radius

Property Identification

- School Studied
- School Property - Public
- School Property - Private
- Utility Owned Property
- Church Owned Property
- Publicly Owned Property
- Park/ Conservation/ Golf
- City Jurisdiction



Deltona Lakes Elementary School Bicycle and Pedestrian Master Plan Deltona, Florida

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