

**Volusia County MPO**

**March 2008**



# **George Marks Elementary School**

## **Bicycle and Pedestrian Safety Review Study**



## Introduction

George Marks Elementary School is located in an established residential neighborhood in DeLand, Florida. The Volusia County School District plans to completely rebuild a new school on the existing site in 2011. This provides the opportunity to make recommendations for bicycle and pedestrian improvements. Conceptual site plans were not available at the time of this Study.

Currently, there are many access points to the school. Most students walking or riding their bicycles use the main entrance on Amelia Avenue or the rear entrance on Garfield Avenue. Many motorists park along John Thomas Avenue or Garfield Avenue to pick up or drop off children. These students use the crossing guard located at John Thomas Avenue and Garfield Avenue to cross Garfield Avenue.

DeLand High School is located within the walk zone of George Marks Elementary School. Elementary School "Z" is planned to the west of George Marks Elementary School and will open in 2010. Some students within the George Marks Elementary School attendance zone may be rezoned to Elementary School "Z".

The City of DeLand is planning a multi-use trail from Sperling Park to Stetson University that may incorporate the wide sidewalk along the west side of Garfield Avenue. The continuation of a sidewalk along Boston Avenue is suggested as a recommended priority project for this school.

There are two designated hazardous conditions areas due to unsafe crossing conditions along U.S. Highway 17-92 and International Speedway Boulevard (shown as a shaded yellow area on the Bicycle and Pedestrian Master Plan).

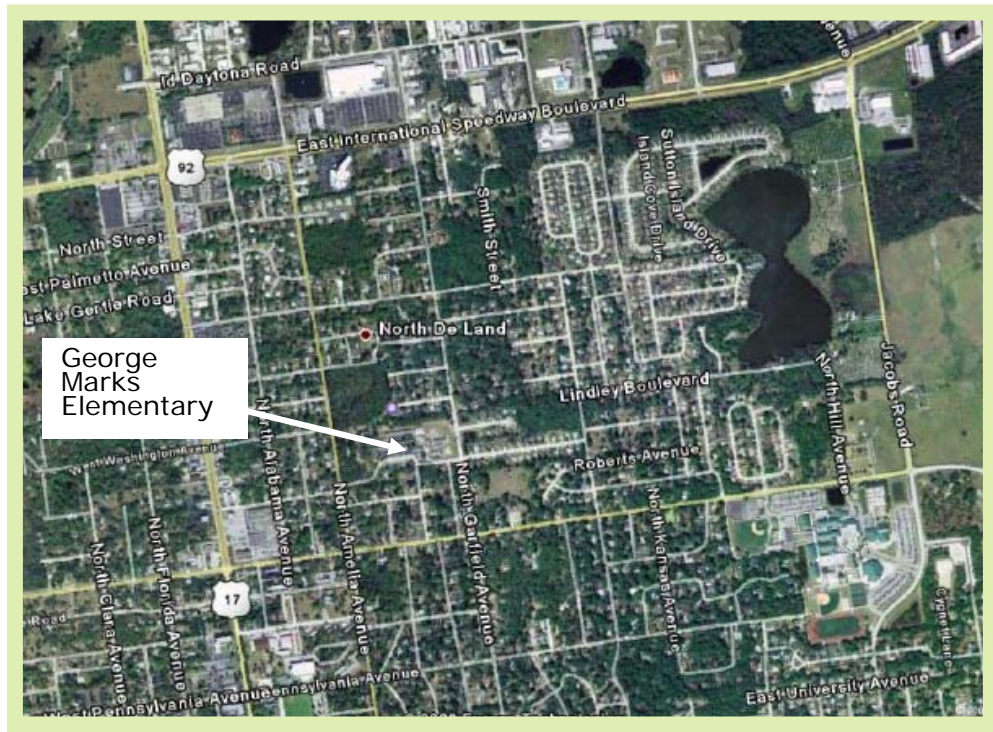


Figure 4.4.1

## George Marks Elementary School – Summary Sheet

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**Address:** 1000 North Garfield Avenue  
DeLand, FL 32724

**Principal:** Ms. Marlene Hughes  
Phone: 386-822-6986  
Email: MHUGHES@volusia.k12.fl.us

**School Contact:** Rachel Hazel, Assistant Principal  
Phone: 386-822-6986  
Email: rbhazel@volusia.k12.fl.us

**Crossing Guard Supervisor:** Bea Leatherman  
Phone: 386-943-7866 or 386-736- 5999  
Email: bleatherman@so.co.volusia.fl.us

**City Representative:** Mike Holmes, Planning Director  
Phone: 386-740-5700  
Email: holmesm@deland.org

**School District Representative:** Saralee Morrissey, AICP  
Phone: 386-736-5968  
Email: smorriss@volusia.k12.fl.us

**Site Visit Observation Date:** October 1, 2007 (weather: off and on rain)  
December 18, 2007 (weather: clear)

**Site Plan:** Not Available

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**School Status:** Complete on-site rebuild in 2011, no available concept or site plan

**Number of Enrolled Students (2007 data):** 946

**School Capacity (Planned):** 1000

**Estimated Number of Students in Walk Zone:** 254

**Estimated Number of Walkers/Bicycle Riders:** eight to ten at Amelia Avenue entrance, 25 at Garfield Avenue

**Number of Bicycles on Site:** Garfield Avenue side (six), Amelia Avenue side (five)

**Number of Bicycle Helmets (stored with bicycle):** three (Garfield Avenue bicycle rack)

**Number of Bicycle and Pedestrian Crash Events within the Existing Walk Zone (Elementary Age, During Estimated School Travel Times, 2004-2006):** one pedestrian crash at the intersection of Amelia Avenue and Plymouth Avenue

| Crash Symbol Number                | Location                      | Date    | Time | Bicycle or Pedestrian | Age | Light | Road Surface | Vehicle       |
|------------------------------------|-------------------------------|---------|------|-----------------------|-----|-------|--------------|---------------|
| George Marks Elementary (75505920) | Amelia Ave. and Plymouth Ave. | 6/22/05 | 801  | Pedestrian            | 9   | Dawn  | Wet          | Passenger Van |

**Number of School Buses:** 11 (not full, transports students for gifted program)

**Number of Aftercare Buses/Vans:** six

**Votran Route in Walk Zone:** No (runs along 17/92)

**Percentage of Title One Students (2008 data):** 55.23%

**Estimated Number of Students Attending Breakfast:** 600-700

**Number of Students for School Site Aftercare:** 115 (YMCA sponsored) and band practice before and after school on different days

**Backpack Policy:** Policy according to teacher

**Teachers Assisting in Arrival and Dismissal Safety:** Three at bus loop, two at student drop-off location and one at the Maryland Terrace drop-off location.

**Crossing Guard Locations:**

- Garfield Avenue and John Thomas Avenue
- Amelia Avenue and John Thomas Avenue
- Plymouth Avenue and Garfield Avenue (planned for closure)

**Summary of Assistant Principal Comments:** Motorists often park along John Thomas Avenue (on school campus), sometimes encroaching on the sidewalk. (Note: a fence was added to prevent parking in this area after the initial site visit).

**Summary of Crossing Guard Supervisor Comments:** Motorists drop off or pick up students on external roadways.

**Planned Road, Sidewalk or other Improvements:** The City of DeLand is planning a trail or wide sidewalk along Garfield Avenue as part of a 3.6 mile trail connecting Sperling Park to Stetson University where it will connect to a trail planned along the north side of International Speedway. The alignment for this trail is included at the end of this Chapter and is reflected on the master plan.

The Florida Department of Transportation is planning a multi-use trail along the north side of International Speedway beginning at US Highway 17-92 and continuing east beyond the school walk zone.

Volusia County plans to add a signal to the intersection of International Speedway and Brunswick Lane.

**Planned Development:** No known development planned

**Additional Information:** This school includes a middle school bus stop at the bus loop for George Marks Elementary School. DeLand High School is within the walk zone for George Marks Elementary School. The planned construction and opening of Elementary School "Z" in 2010 will most likely affect the attendance zone for George Marks Elementary School.

**Hazardous Conditions Description (Source: School District Data February 2008, rephrased by Hoke Design, Inc.):**

Description 1 - located north of U.S. 92 (International Speedway Boulevard West) (see yellow shaded area on Master Plan).

Reason - No pedestrian feature on U.S. 17-92 at the acceleration lane for U.S. 92 (International Speedway); no pedestrian feature on International Speedway at Garfield Avenue; no 4 foot flat walk space along Old Daytona Road by Garfield Avenue.

Description 2 - bordered by U.S. Highway 17-92 to the east, International Speedway to the north, Stone Street to the west, and Plymouth Avenue to the south (see yellow shaded area on Master Plan).

Reason - No pedestrian feature on U.S. Highway 17-92 @ acceleration lane for 92 (International Speedway).

**Recommended Priority Project (For BPAC consideration):** Boston Avenue Sidewalk, including a connection along Lindley Boulevard.



## Findings and Recommendations

**Finding:** The school campus sidewalk system offers students a choice of entrance/exit points, providing a shorter travel route for some students. The internal sidewalk through the wooded area provides a scenic connection from one end of the campus to the other. This internal sidewalk system successfully eliminates the need for some students to walk along the north side of Plymouth Avenue where there are no sidewalks.

**Recommendation:** If possible, the multiple access points and sidewalks through the wooded areas should be retained and incorporated into the new school campus design. The sidewalk terminating into the parking area should be redesigned to connect to the sidewalk leading to Amelia Avenue.



*A sidewalk connects Amelia Avenue to the school buildings.*



*A sidewalk crosses through a wooded area on campus.*



*A sidewalk terminates into the parking area.*

**Finding:** The sidewalk along the west side of Amelia Avenue does not connect to the school sidewalk along the north side of John Thomas Avenue.

**Recommendation:** Construct a sidewalk in the Amelia Avenue right of way connecting the school sidewalk to the crosswalk at John Thomas Avenue.



*The sidewalk along Amelia Avenue does not connect to the school sidewalk*

**Finding:** The existing school is on a large site and has good vehicular and pedestrian access. There are no sidewalks along the east side of Amelia Avenue along school property. This is most likely due to the difficult terrain, possible wetlands and the location of a wide sidewalk on the west side of Amelia Avenue.

**Recommendation:** If possible, the redesign of this school should include a sidewalk along the west side of the school property (east side of Amelia Avenue).



*Amelia Avenue has a wide sidewalk along the west side and no sidewalk along the east side along the school site.*

**Finding:** Motorists who pick up or drop off students park along external roadways to avoid the car line.

**Recommendation:** Continue to educate parents (and children) on the proper drop-off and pick-up procedures through flyers and newsletters, especially at the beginning of the year. Request enforcement through the Volusia County Sheriff's office as needed.



*Motorists park along John Thomas Avenue to avoid the car line.*

**Finding:** The crossing guard location at Plymouth Avenue and Garfield Avenue is planned for closure. The existing walk zone extends south of Plymouth Avenue to Pennsylvania Avenue. The guard currently crosses two to eight students at this intersection. This is not a signalized intersection and the guard stops traffic along Plymouth Avenue to cross students. There is a possibility that students may continue to use this location to cross Plymouth Avenue after this crossing guard location is closed.

**Recommendations:** If this crossing guard location closes, the City of DeLand, Volusia County and School District staff



*Students wait for the crossing guard to stop traffic along Plymouth Avenue at Garfield Avenue.*

may wish to coordinate efforts to provide an improved pedestrian crossing at Plymouth Avenue and Amelia Avenue. There was a reported bicycle and pedestrian crash at this location in 2005 involving an elementary age child. This intersection is currently signalized and includes pedestrian features. The following improvements are recommended to increase safety at this pedestrian crossing.

- Construct a sidewalk along the west side of Amelia Avenue from the end of the existing sidewalk at Woodmont Road to Plymouth Avenue. The sidewalk should extend to the cross button to allow access for all sidewalk users.
- The curb ramp at the northeast and northwest corners of the intersection should be replaced with an accessible curb ramp.
- The notification by the School Board of the crossing guard closing at Plymouth Avenue and Garfield Avenue should suggest that students cross at Plymouth Avenue and Amelia Avenue where pedestrian features are available.
- The County may wish to review and upgrade this intersection to enhance pedestrian features such as signing, crosswalks and signal timing.



*Curb ramps are missing along the north side of Plymouth Avenue at the intersection with Amelia Avenue.*

Alternatively, the School District may wish to consider providing bus transportation service to the students living south of Plymouth Avenue.

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**Finding:** There are no sidewalks on the north side of Plymouth Avenue from Amelia Avenue to Jacobs Road (the eastern limits of the walk zone).

**Recommendation:** Ideally, a minimum 5-8' wide sidewalk along the north side of Plymouth Avenue with a 5' separation from the roadway should be constructed. However, lack of right of way and funding reduce the likelihood of sidewalk construction on the north side at this time.

As an interim measure, if right of way is available, create a short sidewalk section (or clear level area) along the north side of Plymouth Avenue between New Bedford Drive and Montreville Avenue. This sidewalk section would link two neighborhoods; possibly reducing the need for students to cross Plymouth Avenue to reach the sidewalk on the south side (this would require the students to cross the road two times). This section of sidewalk may be difficult to construct due to the location of vegetation within the right of way. DeLand High School students would also benefit from the addition of this facility.



*Students living in Plymouth Place must walk along the north side of Plymouth Avenue for a short section to reach Montreville Avenue.*



**Finding:** The sidewalk along the south side of Plymouth Avenue is narrow and situated directly along the roadway. In some cases, the sidewalk is not fully curbed, increasing vehicular exposure to sidewalk users. The sidewalks on the south side of Plymouth Avenue along the DeLand High School property are incomplete.

**Recommendation:** Consider widening or relocating the existing sidewalk and constructing the missing section along DeLand High School. Due to right of way and funding constraints, the County may be unable to reconstruct this sidewalk. If possible, the County should upgrade the existing sidewalk to include curb ramps.



*Plymouth Avenue looking west from Kansas Avenue.*

**Finding:** Students living in the northeast section of the walk zone do not have a complete sidewalk system leading to their neighborhood. The students walking/bicycling home from school use the sidewalks along John Thomas Avenue to reach Boston Avenue, where there are no sidewalks. Students currently walk along the edge of the roadway.

**Recommendation:** The construction of a short sidewalk section along the east side of Boston Avenue and the south side of Lindley Boulevard is recommended to provide a continuous sidewalk connection from the neighborhood to the school. This project is outlined further as a Recommended Priority Project at the end of this chapter.



*Students walk along the edge of Boston Avenue*

**Finding:** Some of the four-way stop intersections within the walk zone do not have painted crosswalks. Crosswalks help to call attention to pedestrians at an intersection, direct sidewalk users where to walk, and increase visibility of the intersection. Kentucky Avenue and Amelia Avenue and Kentucky Avenue and Garfield Avenue are examples of such an intersection.

**Recommendation:** Paint crosswalks at intersections throughout the walk zone.



*There are no crosswalks at many of the four-way stop intersections.*

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**Finding:** The City of DeLand is planning a multi-use paved trail within the George Marks walk zone. The most recent alignment concept is reflected on the Bicycle and Pedestrian Master Plan. This trail is expected to connect to and extend the existing wide sidewalk on the west side of Garfield Avenue near George Marks Elementary School.

**Recommendation:** The construction of this trail will increase the need for a sidewalk network to provide safe access to the trail. The City of DeLand should plan to provide sidewalk connections to the trail and to George Marks Elementary and DeLand High School.

## 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 pink)
- Hazardous Transportation Zone from School District (shaded yellow)
- 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 2004-2006 from County GIS data, during estimated school travel times (pink star) and involving an elementary age bicyclist or pedestrian.
- Existing Votran Routes from Volusia County MPO (yellow lines along roadway centerline).

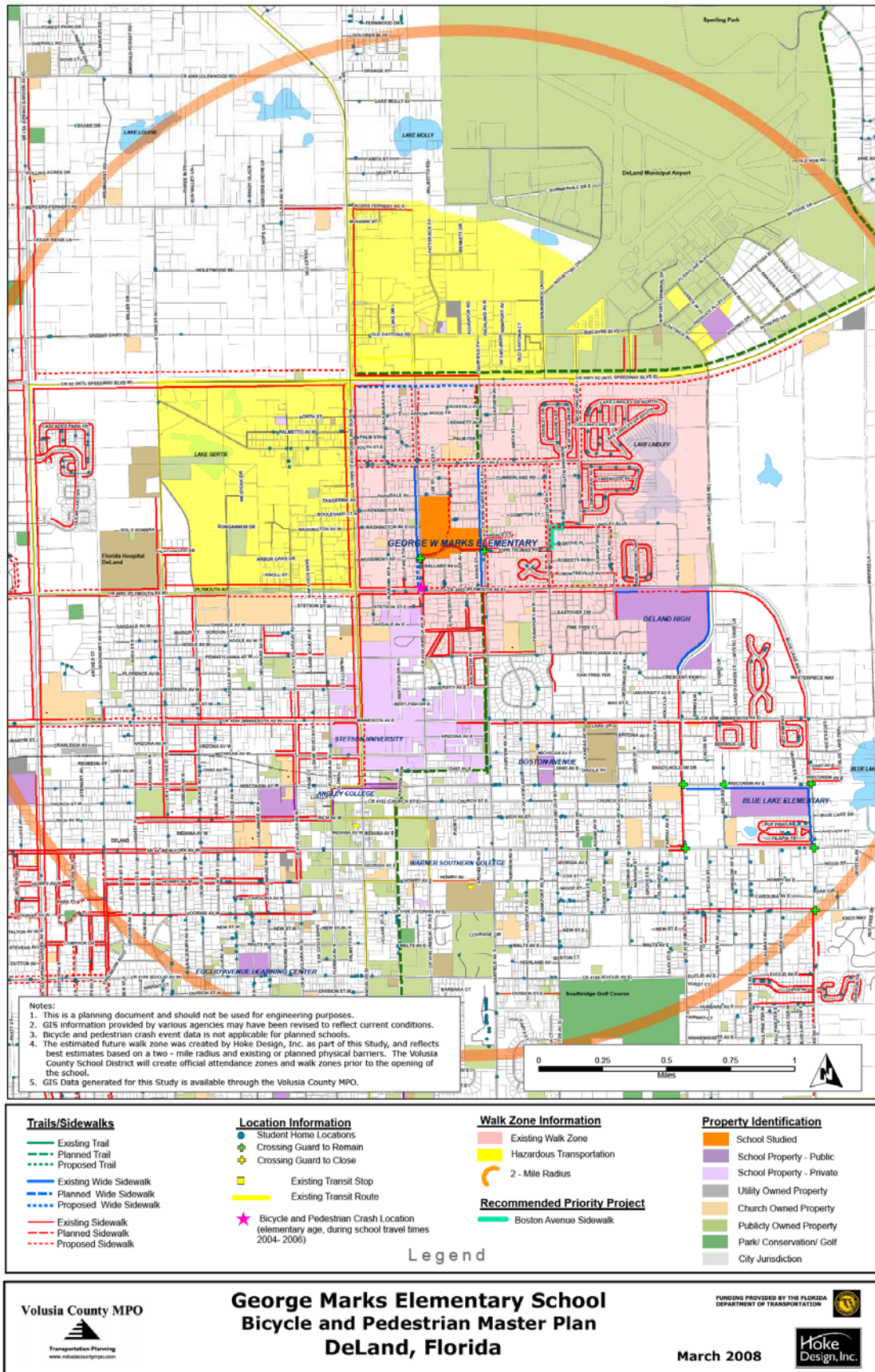
### Planned Conditions:

- Planned State of Florida sidewalk and roadway improvements from FDOT website, State or County GIS (medium blue roadway centerline)
- Planned Volusia County sidewalk and roadway improvements from County GIS data (medium green roadway line)
- 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)
- Recommended Priority Project (highlighted blue)

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.





## Recommended Priority Project

### **Boston Avenue Sidewalk**

**Project Location:** East Side of Boston Avenue from John Thomas Avenue to Lindley Boulevard and along the south side of Lindley Boulevard to the existing sidewalk

**Project Description:** 5-6' wide concrete sidewalk by 870 linear feet

**Estimated Cost:** \$82,650 (\$95/LF)

**Schools Served:** George Marks Elementary School and DeLand High School

**Maintaining Agency:** City of DeLand

**Finding:** There is an incomplete sidewalk system on Boston Avenue and Lindley Boulevard causing students to walk along the roadway for portions of their trip to and from school.

**Recommendation:** Construct a minimum 5' wide 500 linear foot sidewalk along the east side of Boston Avenue from the existing sidewalk section (located south of the intersection of John Thomas Avenue) to Lindley Boulevard. Construct a 370 linear foot sidewalk along the south side of Lindley Boulevard to connect to the existing sidewalk on Lindley Boulevard.



*A short section of sidewalk is located along Boston Avenue, south of the intersection with John Thomas Avenue*



*Vegetation encroaches into the walk area along the east side of Boston Avenue*