

Volusia County MPO

March 2008



Orange City Elementary School

Bicycle and Pedestrian Safety Review Study



Introduction

Orange City Elementary School is located in an established neighborhood in Orange City. This school is slated for renovation in 2011. A site plan was not available at the time of this Study. Reviewing this school prior to the development of concept design increases the possibility that recommendations from this Study can be incorporated into the future renovation project.

Most roadways within the Orange City Elementary School walk zone area have sidewalks, however many of these roadways only have sidewalks on one side. Although the walk zone includes a large area west of U.S. Highway 17-92, few students cross U.S. Highway 17-92 at the crossing guard location at University Avenue.

There were two school age pedestrian crash events within the Orange City walk zone that occurred during estimated school travel times between 2004 and 2006.

This school includes a hazardous conditions area located north and south of Graves Avenue from Florabunda Circle to I-4. The reason for the hazardous conditions area is due to the lack of a four foot wide level area along Graves Avenue.

The City of Orange City continues to budget and install sidewalks and sidewalk improvements. The primary complaint from the school principal and the crossing guard supervisor is the continued disregard for the drop-off and pick-up rules. Many motorists avoid the car line and instead pick up and drop off children at many points around the school.

There are two recommended priority projects within the Orange City Elementary School walk zone area.



Figure 4.5.1

Orange City Elementary School – Summary Sheet

School Address: 555 East University Avenue
Orange City, FL 32763

Principal: Lisa Buchanan
Phone: 386-575-4215
Email: LABUCHAN@volusia.k12.fl.us

Assistant Principal: Carrie Crkvenac
Phone: 386-575-4215
Email: clcrkven@volusia.k12.fl.us

Crossing Guard Supervisor: Susan Brennan
Phone: 386-668-3830
Email: slloomis@so.co.volusia.fl.us

Orange City Representative: Elaine Wilson, Planning and Zoning Analyst II
205 E. Graves Avenue
Orange City, FL 32763
Phone: (386) 775-5415
Email: ewilson@ci.orange-city.fl.us

Site Visit Observation Date: October 24, 2007 (weather: clear and seasonal)

Site Plan: Not Available

School Status: Renovations to this school are planned for 2011 to increase capacity. No site plan or concept plan was available at the time of this Study.

Number of Enrolled Students (2007 data): 640 (871 in 2006)

School Capacity (Existing): 517 students, excluding portables

Estimated Number of Students Living in Walk Zone: 367

Estimated Number of Walkers/Bicycle Riders Observed: Number difficult to determine due to multiple access points and students walking to and from automobiles at unofficial drop-off and pick-up sites.

Number of Bicycles on Site: five

Number of Bicycle Helmets (stored with bicycle): two

Number of School Age Bicycle and Pedestrian Crash Events within the Existing Walk Zone (Elementary Age, During Estimated School Travel Times, 2004-2006): Two, one at the intersection of French Avenue and Orange Avenue and the other at the intersection of West French Avenue and North Volusia Avenue (U.S. Hwy. 17-92).

Crash Symbol Number	Location	Date	Time	Bicycle or Pedestrian	Age	Light	Road Surface	Vehicle
Orange City Elementary (70917158)	French Ave. and Orange Ave.	1/18/05	800	Pedestrian	11	Dawn	Dry	Automobile
Orange City Elementary (76784153)	W. French Ave. and N. Volusia Ave.	4/25/06	1434	Pedestrian	11	Day	Dry	Pick-up Truck

Number of School Buses: three (half full)

Number of Aftercare Buses/Vans: six

Votran Route in Walk Zone: Yes, along U.S. Highway 17-92

Percentage of Title One Students: 51.49%

Estimated Number of Students Attending Breakfast: 140

Number of Students for School Site Aftercare: 100

Backpack Policy: Policy determined by teachers—some do not allow backpacks but walkers/bike riders are allowed backpacks.

Teachers Assisting in Arrival and Dismissal Safety: Five paid, two unpaid and one paraprofessional

Crossing Guard Locations:

- Orange Avenue and French Avenue
- Orange Avenue and University Avenue
- Orange Avenue and Graves Avenue (two guards)
- U.S. Highway 17-92 and University Avenue (two guards)

Summary of Principal Comments: Motorists pick up or drop off students along school perimeter to avoid the school car line.

Summary of Crossing Guard Supervisor Comments: Motorists pick up or drop off students along school perimeter to avoid the school car line.

Planned Road, Sidewalk, or other Improvements: The City of Orange City has a five year sidewalk plan that includes sidewalks within the Orange City Elementary School walk zone. These planned improvements are shown on the master plan as long red dashed lines.

Planned Development: The church along Graves Avenue is undergoing substantial renovation. The City is requiring a sidewalk along Graves Avenue with this renovation. At this time, the sidewalk has not been constructed.

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

Description - North and South of Graves Avenue East from Florabunda Circle to the I-4 overpass

Reason - No four foot flat walk space, narrow shoulder, limited right of way

Findings and Recommendations

Finding: The existing walk zone includes over 70 students living west of U.S. Highway 17-92. Only a few of these students cross U.S. Highway 17-92 as a pedestrian or bicyclist. Because of the low number of students crossing and budget constraints, this crossing location was scheduled to be closed. A recent increase in the number of students using this crossing prevented the loss of this crossing guard location. An elementary age pedestrian was involved in a crash at the intersection of French Avenue and U.S. Highway 17-92.



A student waits to cross U.S. Highway 17-92 with the crossing guard

Recommendation: Due to the large number of students living within the walk zone west of U.S. Highway 17-92, this crossing location should remain. Students should be reminded at the beginning of each school year. to cross with the guard. The School District may wish to consider revising the attendance zone to allow students living west of U.S. 17-92 to attend Manatee Cove Elementary School if the sidewalk system to that school can be completed.

Finding: The sidewalk at the school site along the east side of Orange Avenue is not continuous. The sidewalk is not connected through the service area and the existing sidewalk terminates into Orange Avenue. Additionally, there is no sidewalk along the west side of Orange Avenue. An elementary age pedestrian was involved in a crash near the intersection of Orange Avenue and French Avenue.



The sidewalk terminates into Orange Avenue near the school service area

Recommendation: If possible, include a continuous sidewalk along the east side of Orange Avenue from French Avenue to University Avenue when designing the school renovation. As an interim measure the School District should work with the City to create a dedicated sidewalk area to provide a continuous sidewalk along the east side of Orange Avenue. A combination of measures should be reviewed to provide this connection including dumpster relocation, signage, pavement markings, and enforcement. The sidewalk on the west side of Orange Avenue is detailed further as a Recommended Priority Project at the end of this chapter.

Finding: The School District plans to renovate this school in 2011.

Recommendation: Crossing guard locations along Orange Avenue should be taken into consideration for any future redesign of the school campus. Primary destination points on campus should be directly connected to the crossing guard locations along Orange Avenue to encourage students to cross with the existing crossing guards.

Finding: The car line is located along Leavitt Avenue with one point of student entry along the fence. During school arrival, students do not exit their vehicle until they are at the gate at the beginning of the line, resulting in longer wait times. This may be due in part to the narrow sidewalk and the adjacent fence location.



Recommendation: If the fence is replaced in the future, consider relocating the fence a minimum of two feet from the sidewalk edge. If possible, construct a wider curbed sidewalk to create more room for students entering and exiting vehicles. Increasing the number of access points may also improve the efficiency of the car line.

Finding: Motorists drop off and pick up children at several points around the school to avoid the car line. Many motorists also park temporarily and escort children to the school site or classroom.

Recommendation: Continue to educate motorists (and children) about the proper drop-off and pick-up procedures through flyers, and newsletters, especially at the beginning of the year. Request enforcement through the City of Orange City as needed.



A motorist drops a student off along University Avenue to avoid the car line.

Consider using staff to redirect motorists away from unsafe drop-off and pick-up areas during the first two weeks of school. Staff members should wear safety vests to increase their visibility and appearance of authority.

Findings: There are gaps in the sidewalk system throughout the walk zone. Some of the existing sidewalks do not have curb ramps. The City has budgeted for new sidewalks in the walk zone area.

Recommendations: The City should consider infilling the sidewalk gaps before adding new sidewalks. The City should continue efforts to install ramps at street crossings.



The sidewalk ends along the west side of Holly Avenue at Rose Avenue.

Finding: Sidewalks are not maintained by the adjacent property owner.

Recommendation: The City may wish to step up enforcement of maintenance issues for sidewalks within the school walk zone.



The sidewalk along Graves Avenue needs regular maintenance.

Finding: The intersection of University Avenue and Orange Avenue is currently a three-way stop. There is a sign stating that "West Bound University Does Not Stop" to help motorists realize that this is not a four-way stop. The three-way stop may increase the movement of vehicles from the area, but is atypical and creates a potential safety issue for the crossing guard and for anyone crossing University Avenue.



Recommendation: The City may wish to have this area reviewed by a traffic

engineer to determine if a four-way stop would increase safety for pedestrians and motorists at this intersection.

Finding: There is a sidewalk gap along the south side of Graves Avenue between Leavitt Avenue and the church property located across from Thorpe Avenue. The sidewalk gap may encourage students to cross Graves Avenue at locations other than Orange Avenue, where the crossing guards are located. The church located on the south side of Graves Avenue in this area has recently completed a substantial renovation. The City required the installation of sidewalk with this project. The status of the sidewalk is pending.



Recommendation: The City should continue working toward the construction of this sidewalk section. A small sidewalk gap will remain to the west of this project and will need to be constructed.

A sidewalk along the south side of Graves Avenue between Orange Avenue and Leavitt Avenue should also be constructed to encourage students to cross Graves Avenue with the crossing guard at the intersection with Orange Avenue.

The sidewalk along Graves Avenue is further detailed as a Recommended Priority Project at the end of this chapter.

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, if applicable (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).

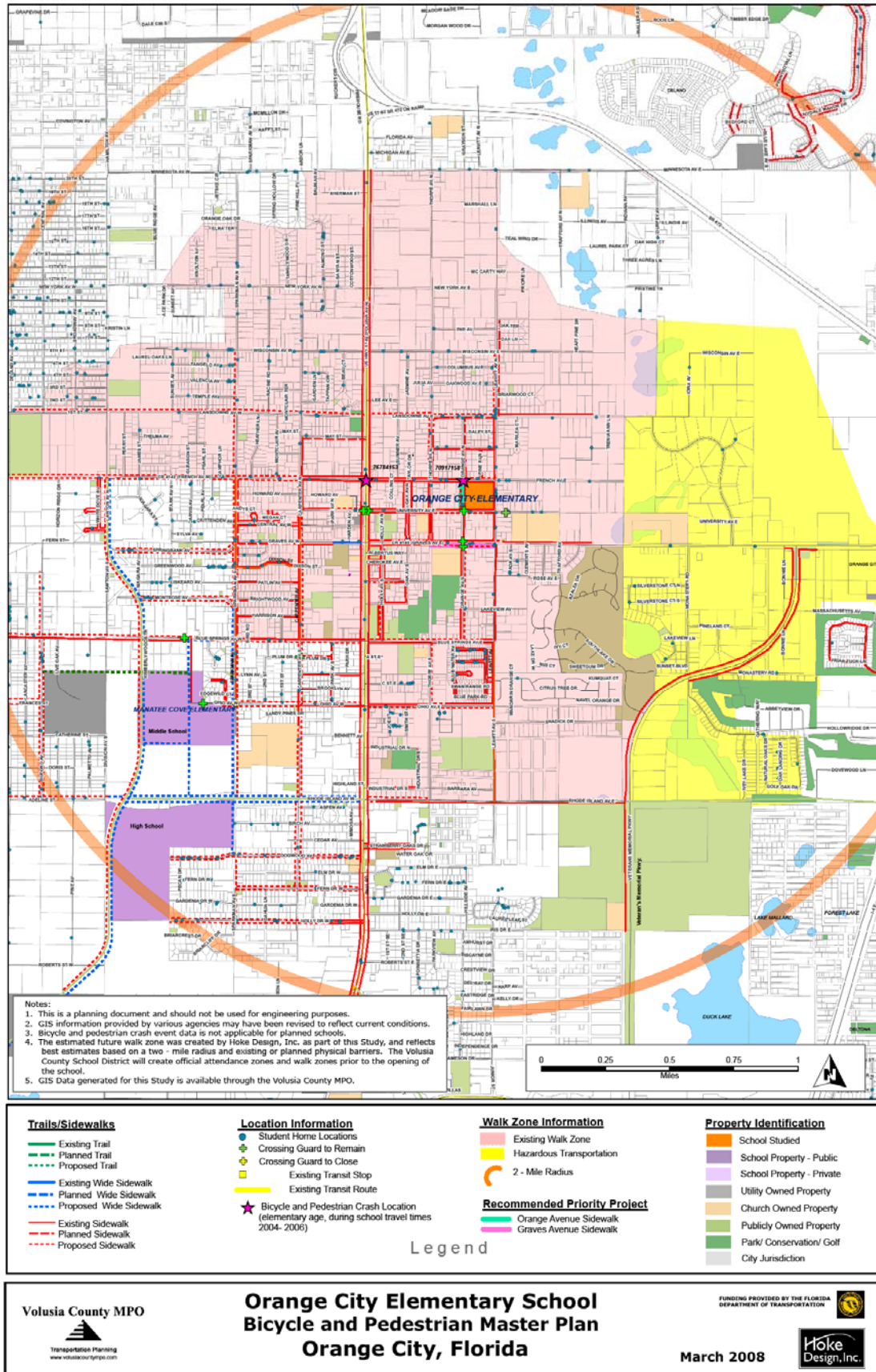
Planned Conditions:

- 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 Projects

Orange Avenue Sidewalk

Project Location: The west side of Orange Avenue from French Avenue to University Avenue

Project Description: 5-8' concrete sidewalk, 600 linear feet

Estimated Cost: \$75,000 (\$125/LF) to \$87,000 (\$145/LF) (not including right of way acquisition, if required)

School Served: Orange City Elementary School

Maintaining Agency: Orange City

Bicycle and Pedestrian Crash Event Location: There was a crash involving a school aged pedestrian at the intersection of French Avenue and Orange Avenue near the northwest corner of the school property.

Finding: There are no continuous sidewalks along the east or west side of Orange Avenue between French Avenue and University Avenue. Although this section of street is closed to through traffic during school arrival and dismissal times, there is vehicle movement in this area. The location of a parking area, the school's service area, and the motorists disregard for traffic cones create potential conflict for bicyclists and pedestrians.

Recommendations: Orange City may wish to consider the construction of a 5-8' wide sidewalk along the west side of Orange Avenue between University Avenue and French Avenue to provide a designated area for pedestrians and bicyclists.

Potential Constraints: There appears to be sufficient right of way along the west side of Orange Avenue. However,



Orange Avenue Sidewalk



Students walk along the western edge of Orange Avenue across from the school

one section will require clearing of vegetation and regrading.



Orange Avenue looking south from French Avenue



A student rides into Orange Avenue where the sidewalk ends along the school service area.



Graves Avenue Sidewalk

Project Location: Along the south side of Graves Avenue from Leavitt Avenue to just west of the church property (across from Thorpe Avenue)

Project Description: 5-6' wide concrete sidewalk, 1450 linear feet

Estimated Cost: \$137,750 (\$95/LF) (not including right of way acquisition, if required)

School Served: Orange City Elementary School

Maintaining Agency: Orange City

Finding: There is no sidewalk along the south side of Graves Avenue between Leavitt Avenue and just beyond the Thorpe Avenue right of way. The lack of sidewalk along this section of Graves Avenue may encourage students to cross Graves Avenue away from the crossing guard location.

Recommendation: The City of Orange City should continue working with the church to construct the majority of this recommended sidewalk. The missing section west of the Church property from Orange Avenue to Leavitt Avenue should be further reviewed for construction feasibility.

Potential Constraints: The right of way in front of the church appears to include some storm drainage retention. The sidewalk will need to be designed to avoid a few trees, mostly palm trees.





The sidewalk along the south side of Graves Avenue ends just before the Thorpe Avenue right of way (unopened)



The right of way in front of the church property has a swale, utilities and some palm trees



Graves Avenue looking west