

**Volusia County
MPO**

June 2009



Port Orange Elementary School

Bicycle and Pedestrian School Safety Review Study

Phase 3C



Volusia County MPO



**Transportation
Planning**

www.VolusiaCountyMPO.com

**Hoke
Design, Inc.**

School Summary

Port Orange Elementary School is located within the City of Port Orange. The walk zone for this school is located south of the school and is bordered by a railroad to the west and S.R. A1A to the east, creating a linear walk zone. There is a designated Hazardous Conditions Zone east of S.R. A1A. Students living east of S.R. A1A are provided transportation due to the lack of pedestrian crossing features or crossing guards.

Of the 385 students attending this school, 111 live within the designated walk zone area. During the 2008/2009 school year, approximately 25 of these students walked or rode bicycles to school. One student wore a helmet.

At the time of this Study, there were no crossing guard locations serving Port Orange Elementary School students. There was one reported pedestrian crash during estimated school travel times involving an elementary school age child within the walk zone from 2005-2007 (See Appendix I).

There is not a fully connected sidewalk system within the school walk zone and students often share the roadway with motorists. This Study recommends the construction of a sidewalk east side of Lafayette Street/Orange Avenue from Oak Street to Commonwealth Boulevard to provide a north-south route. Commonwealth Boulevard needs further review to determine if a signal or 4-way stop can be added to allow a safer crossing.



Port Orange Elementary School – Summary Sheet

School Address: 402 Dunlawton Avenue
Port Orange, Florida 32127

School Principal: Jim Bishop
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Volusia County School District Representative: Saralee Morrissey, AICP
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Site Visit Observation Date: October 29, 2008 (weather: clear and very cold)

Meeting Attendees:

- Jim Bishop
- Gwen Perney
- Stephan Harris
- Ginger Hoke

Number of Enrolled Students (2008 data): 385

Estimated Number of Students Living in Walk Zone: 111

Number of School Buses: 8

Number of Aftercare Buses/Vans: 5

Estimated Number of Walkers/Bicycle Riders: 15 to 30, some students walk with an adult to after school programs at area churches

Number of Bicycles on Site: 7 bicycles and 3 Ripstiks

Number of Bicycle Helmets (stored with bicycle): 1

Staggered Student Dismissal: Yes, car riders and walkers leave before buses

Estimated Number of Students Attending Breakfast: Fewer than 100

Number of Students for School Site Aftercare: 100

Teachers Assisting in Arrival and Dismissal Safety:

Arrival: 4

Dismissal: 4

Title One School: (2008/2009): No

Backpack Policy: None

Bicycle/Pedestrian Safety Education Programs: Nothing formal

Summary of Principal Comments:

- Students living south of Commonwealth Boulevard must travel long distances and cross Commonwealth Boulevard unaided. Recent budget reductions have eliminated bus transportation for these students. There are no continuous sidewalks to the school for these students
- A motorist parks his truck on the sidewalk and extends into the travel lane along the east side of Orange Avenue across from the school bus exit. This reduces the available turning area for the bus drivers and blocks the sidewalk

Number of Bicycle/Pedestrian Crash Events within the Existing Walk Zone (elementary age, during estimated school travel times, 2005-2007): 1

Planned Road, Sidewalk, or other Improvements: None

Planned Development in Walk Zone: None

Planned Stimulus Recovery Projects:

None within the walk zone

City use of GIS: Yes

Number of Students Transported (Designated as Hazardous): 3

Bus transportation is provided to students living east of U.S. Hwy. 1 due to the lack of pedestrian features or crossing guards

Votran Route in Walk Zone: Yes, along Dunlawton Avenue, Nova Road and U.S. Hwy. 1

Findings and Recommendations

Findings: Accessible parking is located on both sides of the main building and is connected to barrier-free access routes. There are no crosswalks over Orange Avenue at Dunlawton Avenue or along the drive that exits onto Orange Avenue.

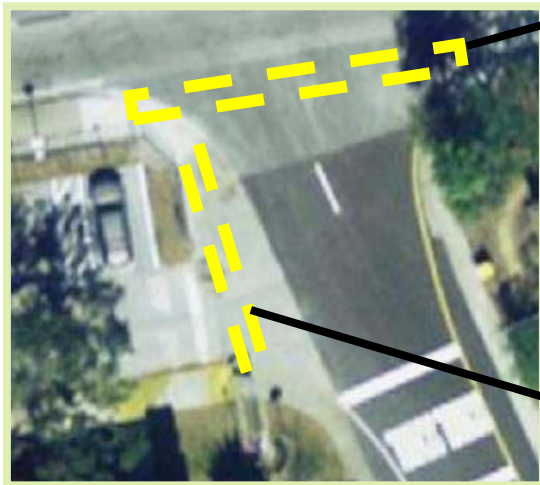
Recommendations: The adjacent City sidewalks should be connected to campus sidewalks using crosswalks. Provide a crosswalk along Orange Avenue at Dunlawton Avenue and along the exit onto Orange Avenue.



A crosswalk connects accessible parking to the main building



A crosswalk is needed along Dunlawton Avenue at Orange Avenue



A crosswalk is needed along the west side of Orange Avenue at the school exit

Findings: A curb ramp terminates into the east bound travel lane on Dunlawton Avenue at Orange Avenue. This ramp configuration does not provide a direct connection across Orange Avenue. Avoidance of drainage structures at the corner of the intersection may be the reason for the ramp location. Orange Avenue is one-way (southbound) from Dunlawton Avenue to Church Street.

Recommendations: A transportation engineer should research the relocation of the curb ramp to provide a direct connection over Orange Avenue. The travel lane along the east side of Orange Avenue should be reviewed for elimination to provide additional sidewalk width and ramp relocation. Consider relocating the crosswalk to the south of the drainage inlet to provide a ramp that does not direct sidewalk users into Dunlawton Avenue.



A ramp connects to the east bound travel lane on Dunlawton Avenue at Orange Avenue

Findings: The sidewalk along the east side of Orange Avenue at Dunlawton Avenue is too narrow for practical use. The street sign post location further reduces the usable sidewalk area. Although located at the edge of the walk zone for Port Orange Elementary School, this sidewalk may be used by students living along Dunlawton Avenue (one student at this time) and the general public.

Recommendations: The width of the sidewalk along Orange Avenue near Dunlawton Avenue should be expanded to meet the needs of all sidewalk users. Because the road is one-way in this section, reducing the road width to widen the sidewalk width should be considered.



The sidewalk along the east side of Orange Avenue at Dunlawton Avenue is too narrow for practical use

Findings: A motorist consistently parks on the sidewalk along the east side of Orange Avenue across from the bus exit area. The sidewalk in this area is 4 feet wide and is flush to the road. This section of Orange Avenue is one-way.

Recommendation: The City should review the possibility of striping and signing the area along the east side of Orange Avenue from Dunlawton Avenue to Church Street to prohibit parking. If possible, provide a wider sidewalk separated from the roadway.



A motorist uses the sidewalk along Orange Avenue near Dunlawton Avenue as a parking space

Findings: The sidewalk along the west side of Orange Avenue includes an uneven section of sidewalk that creates a potential trip hazard.

The sign stating speed limits during school hours is mounted too low and may obstruct sidewalk users. Additionally, the bottom of the school property fence has begun to unravel and extends into the sidewalk area. The fence is not very visible and could snag or trip sidewalk users.

Recommendations:

- Grind the adjacent raised sidewalk to create a flush surface or raise the sunken sidewalk section. As an interim measure, paint the uneven area yellow to warn pedestrians.
- Follow MUTCD regulations for sign mounting height (See Appendix H).
- Repair the school fence. If the fence is replaced in the future, consider relocating the fence to expand the pedestrian zone for sidewalk users.



Signs are mounted too low near the sidewalk along the east side of the school

Finding: Most students riding bicycles or Ripstiks did not wear helmets.

Recommendations: Educate students and their parents about the law requiring students to wear helmets. If available, provide helmets to students in need and offer incentives to students wearing helmets. A possible incentive would be to allow helmet users to leave earlier than other students.

Additional incentive ideas, including printable “walk-n-roll” punch cards can be found on the State of Florida Safe Routes to School website (See Appendix F).



A student carries his helmet while riding his bicycle

Finding: The layout of the walk zone and the location of the school within the walk zone result in a primary north-south spine as a travel route for students. There are no continuously connected sidewalks from the school to the southern end of the walk zone.

The majority of the students within the walk zone live east of Orange Avenue/Lafayette Street and south of Commonwealth Boulevard. Most of the existing sidewalks that provide north-south connectivity are substandard.



Students use the sidewalk along the west side of Pineland Avenue

Recommendations: Construct sidewalks and crosswalks along the east side of Orange Avenue/Lafayette Street to create a primary north-south collector for bicyclists and pedestrians. This sidewalk is recommended as a Priority Project and is further described at the end of this chapter.

Finding: Students often cross Orange Avenue mid-block to access the off-site parking lot on the east side of the road.

The “End School Zone” sign is located just before a busy pedestrian crossing area on Orange Avenue. The sign appears to have been installed for the crosswalk over Orange Avenue that is now closed.

Recommendation: Consider extending the school zone area to beyond the intersection of Oak Street and Orange Avenue.

Students (and their parents) should be encouraged to cross Orange Avenue using the Church Street crosswalk to access the off-site parking area on the east side of the road.



Pedestrians cross Orange Avenue to reach off-site parking



The intersection of Orange Avenue and Church Street looking north

Finding: Some sidewalks have not been well maintained and may create restricted or undesirable pathways.

Recommendations: Notify property owners of the need to provide sidewalk maintenance. The City may need to provide initial maintenance to uncover and repair sidewalks and to trim encroaching vegetation.



Orange Avenue sidewalk looking north

Finding: A ten-year old student walked into a moving vehicle while crossing Orange Avenue at Grant Street on his way home from school. The motorist attempted to avoid the student but the student was not looking when crossing the street (See Appendix I).

There are narrow (4-foot wide) sidewalks along both sides of Orange Avenue and no sidewalks along Grant Street. There is a two-way stop condition at Grant Street and Orange Avenue, with through traffic on Orange Avenue. There are no crosswalks at this location.

Recommendations: Students living east of Orange Avenue/Lafayette Street should be encouraged to cross Orange Avenue at Church Street or Oak Street where there are 4-way stop conditions. Paint crosswalks along Grant Street to discourage students from crossing Orange Avenue at Grant Street.

Increase bicycle and pedestrian safety education.

Finding: The intersection of Oak Street and Orange Avenue includes a 4-way stop and many students cross Orange Avenue at this intersection.

Recommendation: Crosswalks and stop bars should be added to all four sides of the intersection to emphasize pedestrian activity and to provide a designated crossing area for students.

The continuation of a north-south sidewalk from this intersection may encourage students to cross at this intersection and reduce the frequency of mid-block crossing.



Pedestrians cross Orange Avenue at Oak Street

Findings: There is a gap in the sidewalk system along the west side of Lafayette Street from Fox Place to Fleming Avenue. The gap includes a short section along Fox Place from Orange Avenue to Lafayette Street. There are no sidewalks along the east side of the road in this area.

The drainage grate within the pedestrian zone along the west side of Lafayette Street near the church property may be unsafe for pedestrians, bicyclists or people using wheelchairs or strollers.

Recommendations: If possible, construct a sidewalk along the west side of Lafayette Street from Fox Place to the existing sidewalk at Fleming Avenue. Also construct a section of sidewalk along the south side of Fox Place from Orange Avenue to Lafayette Street.

If possible, relocate the drainage grate away from the pedestrian zone. As an interim measure, repair the gap near the grate.



Sections of sidewalk are missing along Lafayette Street



A drainage grate needs repair along Lafayette Street

Finding: The sidewalk along the west side of Orange Avenue, south of Orchard Street, is narrow and flush to the adjacent asphalt.

Recommendation: If funding is available, relocate and widen the sidewalk on the west side of Orange Avenue south of Orchard Street to provide separation from the roadway.

To better serve students living within the walk zone, construct a minimum 5 foot wide sidewalk on the east side of Orange Avenue (see the recommended Priority Project at the end of this chapter).



The sidewalk along the west side of Orange Avenue is narrow and flush to the adjacent roadway

Finding: The sidewalk along the west side of Orange Avenue south of Bern Street directs sidewalk users toward Orange Avenue near a curve in the road.

Recommendation: Reconstruct the sidewalk south of Bern Street to provide separation from Orange Avenue. Realign and paint the crosswalk to increase visibility for motorists.



The sidewalk along Orange Avenue near Bern Street looking north

Findings: Commonwealth Boulevard appears to be a heavily traveled road. There is a wide sidewalk on the south side of the road and students cross Commonwealth Boulevard at various locations. Except for the crossing at U.S. Hwy. 1, there are no signalized intersections within the walk zone.

Entrance features reduce sight distance for motorists, pedestrians and bicyclists along the streets that intersect the southern side of Commonwealth Boulevard.

Recommendations: The County should review the possibility of adding a signalized crossing at the intersection of Commonwealth Boulevard and Orange Avenue. This would reduce traffic speeds in this area of the walk zone and provide a designated place for students to cross Commonwealth Boulevard.



Sight distance is reduced by entrance walls along Commonwealth Boulevard

If possible, the entrance walls should be removed or modified to increase sight distance for motorists, pedestrians and bicyclists.

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 Bicycle and Pedestrian Master Plan is included as a deliverable with this Study.

The Master Plan includes the following information:

Existing Conditions:

- Existing Walk Zone area from School District GIS (shaded tan)
- Hazardous Transportation Zone from School District, (shaded yellow)
- 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)
- 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).

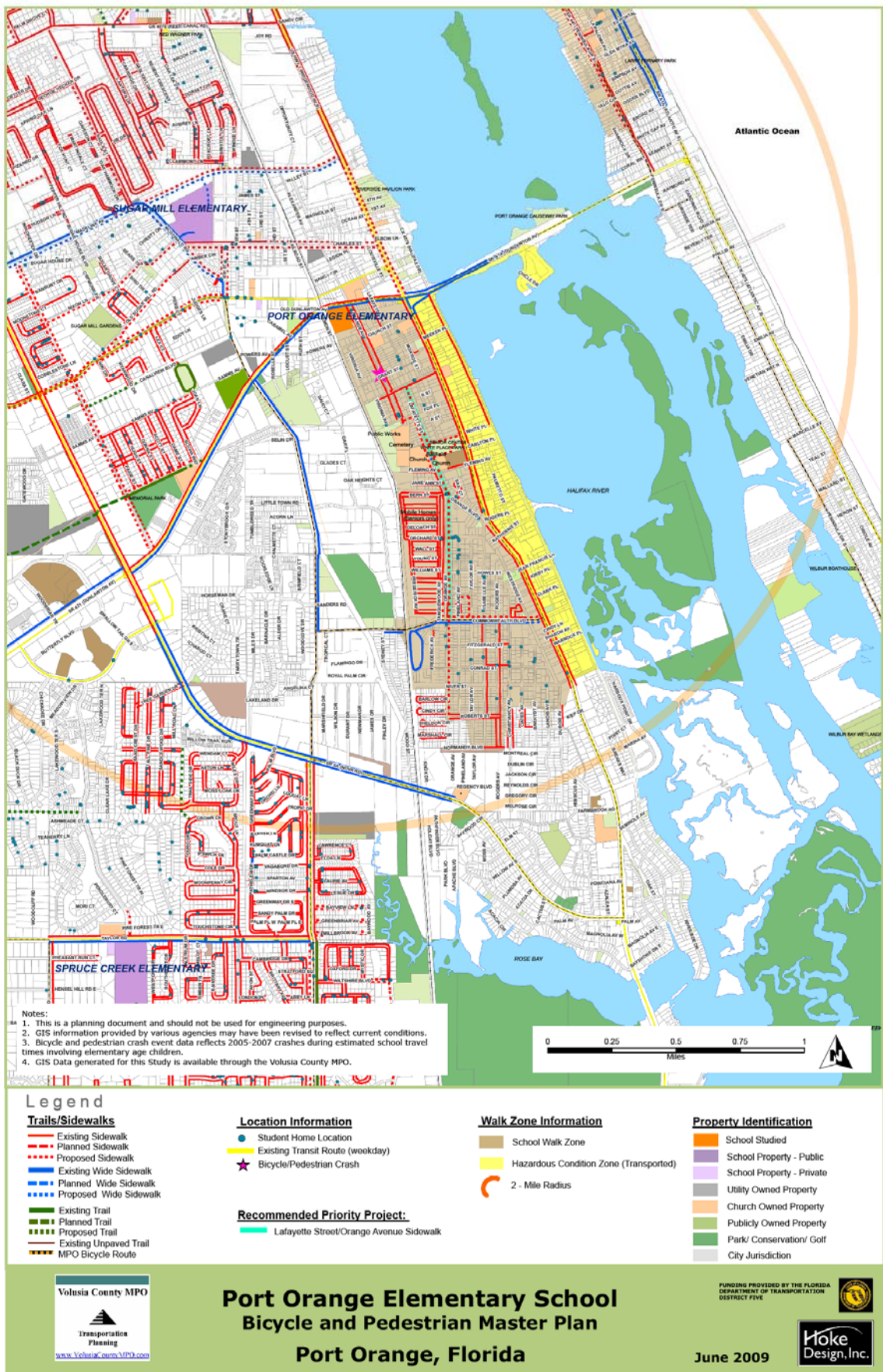
Planned Conditions:

- 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)
- Blue Highlighted sidewalk is a recommended Priority Project

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



Lafayette Street /Orange Avenue Sidewalk (east side)

School Served: Port Orange Elementary School

Project Location: The east side of Lafayette Street/Orange Avenue from Oak Street to Commonwealth Boulevard. Lafayette Street turns into Orange Avenue at Orange Boulevard.

Finding: Lafayette Street/Orange Avenue is part of the street network that provides the north-south spine from Port Orange Elementary School to Commonwealth Boulevard. There is not a contiguous sidewalk connection along this route. Most students within the walk zone live east of Lafayette Street/ Orange Avenue and cross these roads at various locations. There is a 4-way stop condition at Church Street and Orange Avenue and Oak Street and Orange Avenue. There are no 4-way stop conditions on Lafayette Street between Fox Place and Commonwealth Boulevard.

Recommendation: Construct a minimum 5 foot wide sidewalk along the east side of Orange Avenue/Lafayette Street from Oak Street to Commonwealth Boulevard to create a primary north-south collector for bicyclists and pedestrians. Encourage students to cross Orange Avenue at Church Street or Oak Street.

Maintaining Agency: The City of Port Orange

Potential Constraints: Pull-in parking at the park and church properties will need to be modified to allow sidewalk placement within the right of way.

Potential Opportunities: The location of the sidewalk on the east side of the north-south route will serve as a collector for students living east of Orange Avenue/Lafayette Street. The increased safety of this route may result in a higher number of students walking or bicycling to school.

Estimated Project Cost (not including right of way costs, if applicable): \$425,000

Project Description: Construct a minimum 5 foot wide sidewalk along the east side of Lafayette Street from Oak Street to Commonwealth Boulevard.

The following recommended route will serve students living east of Lafayette Street/Orange Avenue and those living south of Commonwealth Boulevard.

- Students should use the existing sidewalk along the west side of Orange Avenue from the school property to Oak Street where they should cross Orange Avenue at the existing 4-way stop.
- The route continues along the existing sidewalk along the south side of Oak Street to the intersection of Lafayette Street.
- Construct a sidewalk along the east side of Lafayette Street to Orange Boulevard, where Lafayette Street turns into Orange Avenue. Existing pull-in parking within the right of way should be replaced with parallel parking; a buffer strip and a minimum 5 foot wide sidewalk to provide a continuous sidewalk route (See photos below).

- Construct a sidewalk along the east side of Orange Avenue to Commonwealth Boulevard.
- The County should review the possibility of providing a 4-way stop condition or a signalized stop condition at Commonwealth Boulevard and Orange Avenue. The curve in the road on Commonwealth Boulevard may dictate the crossing location and result in the relocation of the sidewalk to align with this crossing recommendation.



Pull-in parking uses available right of way at White Place Park



Church Parking is placed within the right of way along the east side of Lafayette Street

Note: The Priority Project is highlighted in blue on the corresponding Bicycle and Pedestrian Master Plan.