

Bicycle and Pedestrian School Safety Review Study

Assessment & Implementation Report Ormond Beach Elementary School *Ormond Beach, FL*



March 7, 2011

**Volusia Transportation Planning Organization
Bicycle and Pedestrian School Safety Review Study**

**Assessment & Implementation
Reports
Ormond Beach Elementary School
*Ormond Beach, Florida***

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Acknowledgements

Lassiter Transportation Group, Inc. would like to thank the following people for their help and contribution in developing this Bicycle and Pedestrian School Safety Review Study for Ormond Beach Elementary School. The information and advice they have given, as well as the connections they shared was invaluable.

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EXECUTIVE SUMMARY

Lassiter Transportation Group, Inc. (LTG) was contracted by the Volusia Transportation Planning Organization (TPO) to prepare an Assessment Report for the Bicycle and Pedestrian School Safety Review Study for 17 Volusia County schools. The Assessment Report for the Bicycle and Pedestrian School Safety Review Study will enable the Volusia TPO to make recommendations for projects that will improve the walkability of students living within the school walk zone. The subject of this Assessment Report is Ormond Beach Elementary School.

Purpose

The purpose of the Bicycle and Pedestrian School Safety Review Study is to create a safe environment for students to walk or bicycle to school. The goal for the assessment phase of this study is to provide the Volusia TPO with a comprehensive study that will delineate each of the listed school's concerns, document the observed pedestrian and bicycle circulation routes adjacent to the school sites, and then make recommendations for improvements. The assessment includes the walk zone surrounding the school and it will evaluate safety issues that may affect students walking or bicycling to school. In addition, another goal of the assessment report is to continue the coordination among the stakeholders to implement the recommendations of these studies.

The U.S. Department of Health and Human Services Center for Disease Control (CDC) and Prevention has determined that students are not as active as they were 10 years ago when physical activity was incorporated into each student's schedule (KidsWalk-to-School, CDC). This has caused the percentage of overweight students from ages six to eleven years to double over the past 30 years. The CDC has determined that the following are benefits associated with students who walk or ride their bicycle to school.

- Increased practice of safe bicycle, pedestrian, and traffic skills
- Knowledge of their environment
- Improve childhood health
- Improve sense of self-image and autonomy
- Reduce childhood obesity
- Contributes to a healthy social and emotional development
- More alert students who do better in school
- Increased likelihood that students will grow up to lead a healthy lifestyle

The Safe Routes to School (SRTS) program and the CDC went on to say that not only does a safe walking and bicycling environment benefit students, but it also benefits the community in the following ways:

- Decline in the congestion on the roads
- Decreased opportunities for traffic accidents
- Improved air quality
- Improved community security
- Reduced fuel consumption
- Enhanced community accessibility
- Increased community involvement
- Improved partnerships among schools, parents, community groups, and the local government leaders

Table 1 summarizes safety concerns observed within Ormond Beach Elementary School's walk zone with recommendations documented in this report.

Table 1
Findings and Recommendations Summary
Ormond Beach Elementary School Assessment Study

Location	Agency Responsible	Observations	Recommendations
Throughout Walk Zone	Parents, Students, Staff, Crossing Guard, and Law Enforcement	Bicycling students were not wearing helmets	The Crossing Guard should take an active role in ensuring all students are wearing helmets. Law enforcement should issue warning, followed by the issuance of tickets (2009 Florida Statutes, 316.2065 Bicycle Regulations), to students who choose not to wear helmets then
North of School Campus on Corbin Avenue	City of Ormond Beach	Four NO PARKING panels in front of the school on the south side of Corbin Avenue are peeling and worn; panels do not meet the minimum height requirement set by the FDOT	The NO PARKING sign panels should be replaced and installed in accordance with Standard Index No. 17302
		Stop line is faded and unnoticeable	Refurbish stop line to City of Ormond Beach standards
East of School Campus on Eileen Butts Street	City of Ormond Beach	Mid-block crosswalk markings are old, faded, and do not meet current standards	Existing crosswalk markings should be removed and thermoplastic crosswalk markings should be installed in accordance with Standard Index No. 17346
		No curb ramp exists on the east and west sides of the mid-block crossing	Curb ramps (CR 23) should be installed in accordance with Standard Index No. 304
West of School Campus on South Ridgewood Avenue	School Board	Teachers and Safety Patrol students assist walkers and bicyclists in crossing at this crosswalk were stopping traffic and were not wearing reflective vests or using STOP paddles	Teachers who assist with student crossings during the arrival and dismissal periods should wear reflective vests and use STOP paddles; students should never stop traffic
	Ormond Beach Elementary School	Students crossed Ridgewood Avenue with and without the aid of an adult or crosswalk even though a crosswalk is located on this road	Students should be taught proper crossing procedures and these procedures should be printed in the school newsletter; law enforcement should periodically monitor the walk zone to ensure proper crossing procedures are followed

Table 1 (Continued)
Findings and Recommendations Summary
Ormond Beach Elementary School Assessment Study

Location	Agency Responsible	Observations	Recommendations
West of School Campus on South Ridgewood Avenue	City of Ormond Beach	Crosswalk signage at mid-block crossing is not appropriate for this crosswalk	Crosswalk signage should be replaced with an In-Street Pedestrian Crossing sign (R1-6c) which is appropriate for unsignalized school crossings with the inclusion of the STATE LAW legend; In-Street Pedestrian Crossing Assembly should be installed in accordance with Standard Index No. 17302 and also should be placed in the roadway at the crosswalk location on the center line
		Mid-block crosswalk markings, between Ormond Beach Elementary School and Emmanuel Church of the Living God, do not meet current standards	24" crosswalk markings should be installed
North and South of Granada Boulevard on Ridgewood Avenue	City of Ormond Beach	SCHOOL pavement markings are old and faded	Refurbish pavement markings to City of Ormond Beach standards
Along Ridgewood Avenue, North and South of Granada Boulevard	City of Ormond Beach	Trees and bushes have grown into the right-of-way and are blocking the sidewalk	Residents should be notified through code enforcement that they should trim their trees and bushes when they grow into the right-of-way and block public paths
Intersection of Tomoka Avenue and Ridgewood Avenue	City of Ormond Beach	STOP lines at this intersection are faded and worn	Refurbish STOP line to City of Ormond Beach standards
		Crosswalks on both sides of Ridgewood Avenue do not meet standards	Remove existing crosswalk markings and install thermoplastic special emphasis crosswalk markings in accordance with Standard Index No. 17346
Resident at 85 Ridgewood Avenue, Ormond Beach	City of Ormond Beach	Portions of a four foot high fence and gate are protruding into the sidewalk	Resident should replace or repair fence along Ridgewood Avenue (code enforcement)

Table 1 (Continued)
Findings and Recommendations Summary
Ormond Beach Elementary School Assessment Study

Location	Agency Responsible	Observations	Recommendations
Along Ridgewood Avenue North of Granada Boulevard at the intersections of Kenworth Avenue, Rosewood Avenue, Greenwood Avenue, Warwick Avenue, and Cumberland Avenue	City of Ormond Beach	STOP lines are faded and worn	Existing STOP lines should be removed and thermoplastic STOP lines should be installed
Along Ridgewood Avenue North of Granada Boulevard at the intersections of Wilmette Avenue and Sanchez Avenue	City of Ormond Beach	STOP lines and crosswalk pavement markings are faded and worn	Existing STOP lines should be removed and thermoplastic stop lines should be installed
			Existing crosswalk pavement markings should be removed and thermoplastic crosswalk pavement markings should be installed in accordance with Standard Index No. 17346
Ridgewood Avenue South at Lorillard Place, Fleming Avenue, South Ridgewood Avenue, and Reynolds Avenue	City of Ormond Beach	Four STOP lines are faded and worn	Remove existing STOP lines and install thermoplastic STOP lines

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INTRODUCTION

The following Assessment Report for Ormond Beach Middle School was conducted as part of a Bicycle and Pedestrian School Safety Review Study for the Volusia TPO. An aerial that shows the walk zone and the boundary of Ormond Beach Elementary School is presented as Figure 1. Ormond Beach Elementary School is located at 100 Corbin Avenue, south of Granada Boulevard, east of Yonge Street, and west of Beach Street, in the City of Ormond Beach. The purpose of this study is to evaluate the walk zone of Ormond Beach Elementary School for any safety issues that students might encounter if they choose to walk or bicycle to school.

Background on Ormond Beach Elementary School

Ormond Beach Elementary School (see Illustration 1) was built in 1906 and is surrounded by the residences that it serves. It is a small community-based school where all students can walk to school since they live within the two mile walk route. Students, parents, staff, and the community all contribute to the success of the school.

Ormond Beach Elementary School has received the Golden School Award for Volunteers for over 31 years and the Five Star School Award for seven consecutive years. It is an A-rated school and Southern Association of Colleges and Schools (SACS) accredited. SACS accredited schools focus on continuously improving student learning, organizational effectiveness, and engages the entire community in promoting excellence as a “habit and not an act.”



Illustration 1: Ormond Beach Elementary School on Tomoka Avenue looking north at the staff parking lot

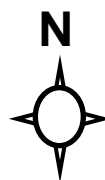
Students play an integral role within the school. The Care Bears are older students who act as mentors and reading partners to younger students while helping to promote reading. The Good News Bears are students who produce the morning news from the school studio. Student Council students learn leadership skills and present an example for exemplary behavior. The Safety Patrol is students who improve and implement safety procedures on school campus. Other clubs include Teddy Bear Tone Chimers, Girls on the Run, Florida Future Educators Association, Art Club, Terrific Kid Program, Arts Field Day, and Magnet Clubs.



Ormond Beach Elementary School
Bicycle and Pedestrian School Safety Review Study
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Aerial of Attendance and Walk Zone

Figure 1



Parents and community members also contribute to the success of Ormond Beach Elementary School. To supplement state funds, the Parent Teacher Association (PTA) helps to raise money for classrooms and special areas while business members provide incentives in the form of treats and coupons for various activities and awards. Parents are encouraged to become involved with the school through Math Family Night, Science Family Night, Parent-to-Kid Reading Program, bi-weekly newsletters, Parent Link, and Community Nights with local businesses. Ormond Beach Elementary School has also formed a partnership with the Ormond Beach Police Athletic League (PAL) which provides reading support and Science on Patrol which supports the science curriculum.

Ormond Beach Elementary School has continuous sidewalks along Ridgewood Avenue, Yonge Street, and Beach Street which extend throughout the entire walk zone. Sidewalk widths range from four feet to eight feet. Some residential roads have sidewalks as well.

The following data was provided by Principal Julie Johnson:

- **Number of Volusia County Buses in Use:** 0
- **Number of Daycare Buses:** 6
- **Student Population:** 319 students
- **Percent of Students who Walk/Bicycle:** 65%
(Note: This percentage includes students who walk across Ridgewood Avenue to reach their rides parked at Emmanuel Church of the Living God.)
- **School Commencement and Dismissal Times:** 7:55 a.m. – 2:05 p.m.

Crash Data

Pedestrian and bicycle crash data for Ormond Beach Elementary School's walk zone was provided by Volusia County and is presented in Table 2. The dates of birth presented in the table are of the two people involved in the crashes noted. None of the crashes involved an elementary school aged bicyclist. The data in Table 2 was generated based on the following guidelines:

- Data was collected during the timeframes of 7:15 a.m. - 8:15 a.m. and 1:45 p.m. - 2:30 p.m. on Mondays, Tuesdays, Thursdays, and Fridays
- Data was collected during the timeframes of 7:15 a.m. - 8:15 a.m. and 12:45 p.m. – 1:30 p.m. on Wednesdays
- Data was collected within the walk zone of the school
- Crashes occurring within the last three years

Table 2
Bicycle and Pedestrian Crash Data
Ormond Beach Elementary School Assessment Study

Intersection	Date	Time	Crash Summary	Weather	Age 1	Age 2
SR 40 (Granada Boulevard West at Washington Street North	11/7/2007	1:10 PM	Collision with Pedestrian and Moving Vehicle	Dry and Clear	43	59
US Highway 1 (Yonge Street South) at US Highway 1 (Yonge Street North)	9/30/2008	1:58 PM	Collision with Bicycle and Moving Vehicle	Dry and Clear	82	30
Ridgewood Avenue North at Dix Avenue	10/13/2008	7:20 AM	Collision with Bicycle and Moving Vehicle	Dry and Clear	60	59
US Highway 1 (Yonge Street) at Hand Avenue	4/20/2009	8:06 AM	Collision with Bicycle and Moving Vehicle	Dry and Clear	73	62

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INTERVIEW

The Principal of Ormond Beach Elementary School, Ms. Julie Johnson, the Teacher-on-Assignment, Ms. Janice Norman, and the Crossing Guard Supervisor, Ms. Cindy Pagliari, were interviewed on April 22, 2010. The interview identified areas that required further investigation even though they may not have been considered high crash areas after reviewing the County-provided crash data.

Interview with Principal Johnson, Ms. Janice Norman, and Ms. Cindy Pagliari

- Approximately 65% of students walk or bicycle to and from school. This percentage includes students that walk off campus at the crosswalk on Ridgewood Avenue to reach their rides parked at the Emmanuel Church of the Living God.
- Approximately 35% of students are dropped off or picked up on campus by a personal vehicle or ride an after-school daycare bus.
- Approximately 30 students arrive on campus early for breakfast.
- The school can be accessed from Corbin Avenue and Ridgewood Avenue (see Figure 2).
- The retaining wall in the southeast quadrant of Granada Boulevard and South Ridgewood Avenue is crumbling from a previous accident. Students climb the wall, which the Principal believes to be an unsafe situation.
- Motorists park on Corbin Avenue, just before the parent pick-up loop, to drop off or pick up students. This causes students to occasionally cross in front of vehicles waiting to enter the pick-up loop. Teachers place cones to avoid this action; however, their efforts are often ignored.
- In the mornings and afternoons, motorists park on the west side of South Ridgewood Avenue between NO PARKING signs and get out of the vehicles to cross students or the students cross Ridgewood Avenue without using the existing sidewalks.
- Many parents picking up or dropping off their children make use of the church parking lot located directly across from Ormond Beach Elementary School on Ridgewood Avenue. Students are then escorted across Ridgewood Avenue by a parent, use the crosswalk located between the church and the school (see Illustration 2), or cross traffic to access the school campus or the waiting vehicles.
- The church allows motorists to park in its parking lot while dropping off or picking up students.
- The principal is concerned about students who cross at South Ridgewood Avenue since traffic can get congested or motorists drive over the posted speed limit.
- Teachers currently rotate crossing duty on South Ridgewood Avenue. The Principal is concerned for her staff members having to stop vehicles on South Ridgewood.



Illustration 2: Parents and students using the crosswalk that is manned by a Safety Patrol student and teacher to access the church parking lot on Ridgewood Avenue after school



Ormond Beach Elementary School

Bicycle and Pedestrian Safety Study

Ormond Beach, Florida

School Geometry

Figure 2



- The Principal agrees that the school parking situation is not adequate, but is concerned about the situation of utilizing the church parking area on the west side of Ridgewood Avenue to drop off and pick up students.

Teachers and Safety Patrol students assist in crossing students on Ridgewood Avenue since the church allows parents to park in its parking lot after school dismissal. Students who attempt to cross after the teacher and Safety Patrol student have departed must cross at their own risk.

Crossing Guard Interview

Ms. Willie Mae, the only crossing guard for Ormond Beach Elementary School, crosses students at Granada Boulevard. She stated the following:

- She is concerned about being the only guard present since the traffic on Granada Boulevard is congested and cars often do not see her or yield.
- She regularly instructs students to wear bicycle helmets but most students do not follow the rules (see Illustration 3).
- The stone wall in the southeast quadrant of Granada Boulevard and Ridgewood Avenue is crumbling. She constantly has to remind students not to climb on the wall. This takes her attention away from the students she is crossing.



Illustration 3: Crossing guard location at the intersection of Granada Boulevard and Ridgewood Avenue

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FINDINGS AND RECOMMENDATIONS

This section of the report includes data collected during the on-site and off-site investigative observations of Ormond Beach Elementary School and its walk zone. Intersections of interest were investigated based on comments from Principal Johnson, Ms. Norman, the Crossing Guard Supervisor, Ms. Pagliari, and a walk zone drive through. Figure 3 shows existing traffic signals, approximate student locations, and existing conditions within Ormond Beach Elementary School's walk zone.

During the site visits, it was noted that Ormond Beach Elementary School may not have sufficient parking on-campus for parents to park during arrival and dismissal times. The City Hall/Library parking lot, however, provides adequate parking for parents who wish to escort their children to and from class but is somewhat distant from the school entrance. The City Hall/Library parking lot is located on an adjacent street bordering the school, as shown in Figure 2.

Hazardous Conditions Evaluation of Sidewalk Locations

The evaluation of sidewalk safety features were based on conditions that are deemed hazardous in the *2009 Florida Statutes*, the *Americans with Disabilities Act (ADA) of 1990 Guidelines*, the *Manual on Uniform Traffic Control Devices (MUTCD)*, the Florida Department of Transportation (FDOT), and the Florida Highway Administration (FHWA).

For a walkway that is parallel to the road, the following conditions will be considered hazardous:

- If there is not an area at least 4 feet wide adjacent to the road, having a surface upon which students may walk without being required to walk on the road surface
- The road along which students must walk is uncurbed and has a posted speed limit of 55 miles per hour

For walkways that are perpendicular to the road, the following conditions will be considered hazardous:

- If the traffic volume on the road exceeds the rate of 360 vehicles per hour, per direction (including all lanes), during the time students walk to and from school and if the crossing site is uncontrolled (an "uncontrolled crossing site" is an intersection or other designated crossing site where no crossing guard, traffic enforcement officer, or stop sign or other traffic control signal is present during the times students walk to and from school)
- If the total traffic volume on the road exceeds 4,000 vehicles per hour through an intersection or other crossing site controlled by a stop sign or other traffic control signal, unless crossing guards or other traffic enforcement officers are also present during the times students walk to and from school

The most current traffic counts, taken from the Florida Department of Transportation's 2009 Annual Average Daily Traffic Report, show that the two-way peak-hour traffic volume on Granada Boulevard, from Yonge Street to Halifax Avenue, is an average of 3,637 vehicles. Ridgewood Avenue, from Granada Boulevard to Wilmette Avenue, experiences an average two-way peak-hour traffic volume of 217 vehicles. Division Avenue, from Orchard Street to Beach Street, experiences an average two-way peak hour traffic volume of 253 vehicles.

Ridgewood Avenue and Division Avenue clearly experience traffic below hazardous conditions since the two-way count is below the one-way threshold and the posted speed limit is well below 55 mph. Granada Boulevard from Yonge Street to Halifax Avenue experiences two-way traffic over the one-way hazardous condition volume; however, the posted speed limit on Granada Boulevard is 40 mph below the hazardous conditions speed (55 mph), and sidewalks are provided. Furthermore, the road is curbed and pedestrian features are present at crossings. Based on these findings, there are no hazardous conditions within the Ormond Beach Elementary School's walk zone. The findings and recommendations relative to hazardous conditions evaluations are summarized below in Table 3.

Table 3
Sidewalk Evaluation
Ormond Beach Elementary School Assessment Study

Street Name	Two-Way Peak-Hour Traffic Volume*	Perpendicular or Parallel Street	Crossing Guard Threshold	Traffic Signal or Stop Sign Available:	Posted Speed Limit	Threshold Exceeded?
Granada Boulevard	3,637	Perpendicular	360 vph per direction	Yes	N/A	No - Volume < Threshold
Ridgewood Avenue	217	Parallel	≥ 55 mph	N/A	15 mph**	No - Traffic Signal and Stop Signs Provided
Division Avenue	253	Perpendicular	360 vph per direction	Yes	N/A	No - Volume < Threshold

* Note - Only two-way peak-hour volumes are available (AADT x K-Factor). Logical inferences are made to evaluate probable one-way volumes based on the two-way data.

**Note - The 15 mph speed limit is in force anytime children are present; otherwise, a 35 mph speed limit is in force.

vph = vehicles per hour



Ormond Beach Elementary School Bicycle and Pedestrian School Safety Review Study Ormond Beach, Florida

Existing Conditions

Figure 3



On-Site Investigation - A.M. Observations

On-site observations were made at Ormond Beach Elementary School on May 27, 2010 during school arrival hours, 7:40 a.m. to 8:15 a.m., to examine entering and exiting vehicles as well as queuing which are normal activities that the school would experience on any given day. The following general information was gathered.

- Bicycles Parked in Bicycle Rack: 2
- Number of Skateboards: 0
- Number of Helmets: 0
- School-related flashing beacons: 0

During the on-site school visit, the following observations were made, followed by recommendations for each area of concern.

Observations: Ormond Beach Elementary School bicyclists were not wearing helmets (see Illustration 4).

Recommendations: Ormond Beach Elementary School teaches bicycle safety during Physical Education and supervisory staff as well as Safety Patrol students reminds bicyclists to wear their helmets while on school campus. The City of Ormond Beach Police Officers patrolling the walk zone should help promote bicycle safety by enforcing the bicycling rules which includes giving warnings and issuing tickets to students who do not follow the rules. Incentive programs that reward students who adhere to bicycle safety rules should be implemented to encourage students to wear their helmets. Incentive programs include "Operation Chill" which will again be implemented during the 2010-2011 school year by patrolling law enforcement and the crossing guards. This incentive program rewards students with free Slurpee coupons at 7-Eleven if they are caught doing a good deed or following the rules.

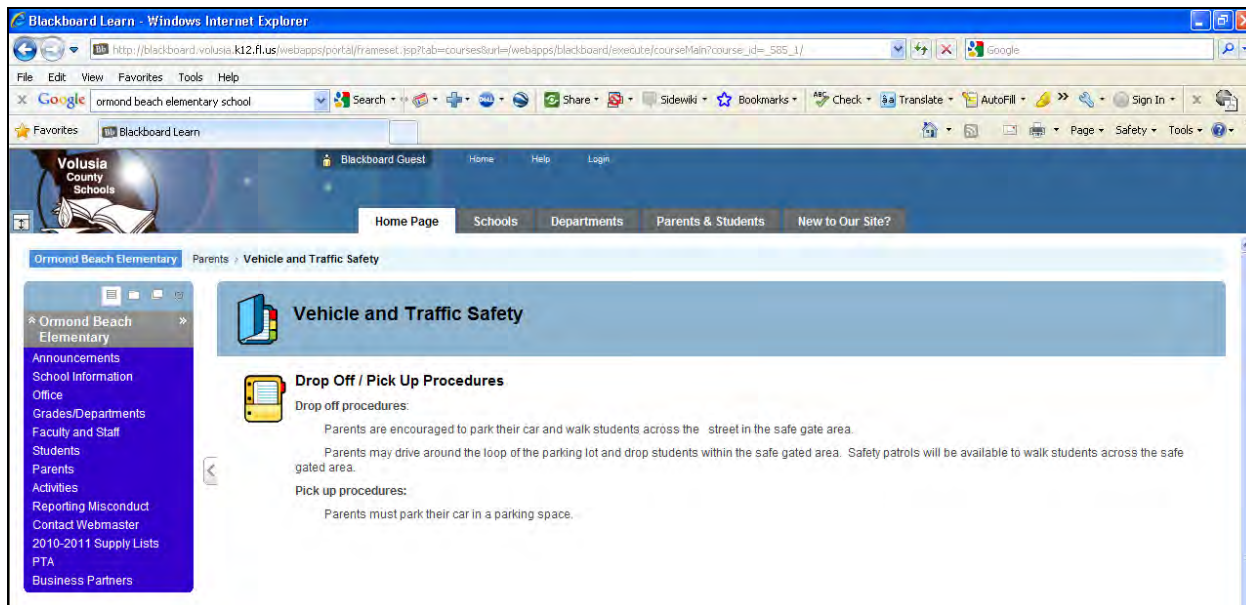
The school newsletter should inform parents and students of the proper procedures regarding children bicycling to and from school. Students and parents should be informed of the free helmets available in the front office and the penalties associated with not wearing a helmet including the \$64.50 ticket that may be issued to a student each time they are observed not wearing a helmet (see 2009 Florida Statutes, 316.2065 Bicycle Regulations and 318.18). To ensure that all bicycling students wear helmets, the law should be enforced by the crossing guards, school staff, parents, and patrolling law enforcement, to be effective.



Illustration 4: Bicyclists are not wearing helmets – looking north on Ridgewood Avenue

Observations: Students cross Corbin Avenue and Ridgewood Avenue with/without the aid of an adult even though a crosswalk is located on both of these roads.

Recommendations: The school website currently posts the following drop off and pick up procedures:



Parents and students should be directed to this site to read the drop-off procedures. The website should also include safe crossing procedures at crosswalks and promote the use of crosswalks. These safety procedures should be restated in the bi-weekly newsletters to encourage safety and promote safety awareness within the community. Parents and students who habitually cross at mid-block without the aid of a crosswalk should be warned and cited for the illegal or reckless crossing of a roadway.

On-Site Investigations - P.M. Observations

On-site observations were made at Ormond Beach Elementary School on May 27, 2010 during school dismissal hours of 1:45 p.m. to 2:30 p.m. to examine entering and exiting vehicles as well as queuing which are normal activities that the school would experience on any given day. During the afternoon school visit, the following observations were made followed by recommendations for each issue.

Observations: Ormond Beach Elementary School bicyclists were observed not wearing helmets.

Recommendations: Parents, students, staff, the crossing guard, and the Ormond Beach Police Department should take an active interest in promoting helmet usage. The Volusia County Health Department, Ormond Beach Police Department, and the City of Ormond Beach periodically give free helmets to students. If students still decide not to wear helmets then warnings followed by the issuance of tickets, \$64.50 each time a student is caught riding a bicycle without a helmet, should discourage this behavior. This regulation is in accordance with the 2009 Florida Statutes, 316.2065 and 318.18, Bicycle Regulations. The crossing guard should continue to promote bicycle safety.



Illustration 5: Parents and students crossing Ridgewood Avenue without using the crosswalk located south of the school – Ridgewood Avenue looking south

Observations: Students cross Corbin Avenue and Ridgewood Avenue with/without the aid of an adult even though a crosswalk is located on both of these roads (see Illustration 5).

Recommendations: Parents and students should be directed to the school website to read the student pick up procedures. The website should also include safe crossing procedures at crosswalks and promote the use of crosswalks. These safety procedures should be restated in the bi-weekly newsletters to encourage safety and promote safety awareness within the community. Parents and students, who habitually cross at mid-block without the aid of a crosswalk, should be warned and cited for the illegal or reckless crossing of a roadway.

Observations: The intersection of Ridgewood Avenue and Corbin Avenue north of the school campus has a faded stop line.

Recommendations: The faded STOP line should be removed and repainted with thermoplastic paint to clearly show motorists the point behind which they should stop.

Observations: Four NO PARKING panels in front of the school campus on the south side of Corbin Avenue are peeling and worn. The panel heights are also below the recommended standards set by the FDOT (see Illustration 6).

Recommendations: The four NO PARKING panels on the south side of Corbin Avenue should be replaced and installed in accordance with Standard Index No. 17302.

Observations: The mid-block crossing pavement markings are old and faded on Eileen Butts Street as shown in Illustration 7. No curb and ramp are available for pedestrians to exit and enter the crosswalk on the both sides of the crosswalk,



Illustration 6: NO PARKING sign on the south side of Corbin Avenue

Recommendations: The existing mid-block crossing crosswalk markings should be removed and thermoplastic special emphasis crosswalk markings should be installed in accordance with Standard Index No. 17346. Curb and ramp should be installed on both sides of the crosswalk to ensure that pedestrians are able to exit and enter the ramp safely. Additionally, a Pedestrian Crossing warning sign (W11-2) with diagonal downward pointing arrow (W16-7P) plaque should be installed at the crosswalk location. This crosswalk is essential in providing walkers and bicyclists a safe passage to the City Hall/Library parking lot where vehicles may be waiting to pick students up.



Illustration 7: Faded pavement markings on Eileen Butts Street that connects the sidewalk to the City Hall/Library parking lot

Observations: Students and teachers were crossing walkers and bicyclists without a reflective vest or STOP paddle across Ridgewood Avenue, west of the school campus (see Illustration 8).

Recommendations: Teachers and students who participate in the Safety Patrol program should use STOP paddles and wear reflective vests when they are assisting with student crossings. The reflective vests and STOP paddle will heighten driver awareness of pedestrians within the roadway and, ultimately, the walkers, bicyclists, teachers, and Safety Patrol students should be safer.

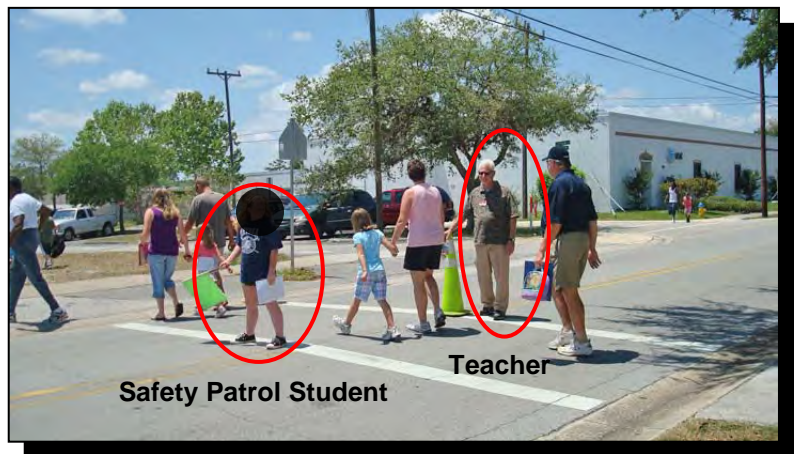


Illustration 8: Safety Patrol student and teacher crossing students on Ridgewood Avenue between the school campus and the church

Observations: The STOP lines and crosswalk markings at the intersection of Ridgewood Avenue and Tomoka Avenue are old and faded (see Illustration 9).

Recommendations: The existing STOP lines and crosswalk markings should be removed and thermoplastic STOP lines and crosswalk markings should be installed in accordance with Standard Index No. 17346.



Illustration 9: Faded pavement markings on at the intersection of Ridgewood Avenue and Tomoka Avenue

Off-Site Investigations

Observations: The coquina slab retaining wall on the south side of Granada Boulevard from Ridgewood Avenue to Lewis Street is crumbling and in need of repair in several areas. The cement holding the coquina slabs together is not cohesive. Students also climb the wall at the intersection of Granada Boulevard and Ridgewood, the crossing guard location, which has been reported to distract the crossing guard (see wall in Illustrations 10 and 11).

Recommendations: The crossing guard should inform Ormond Beach Elementary School administrative staff of students climbing the wall. As the Principal believes this to be an unsafe practice, school administration should then monitor the intersection of Granada Boulevard and Ridgewood Avenue and send notes home to the parents of students who are practicing unsafe behavior.

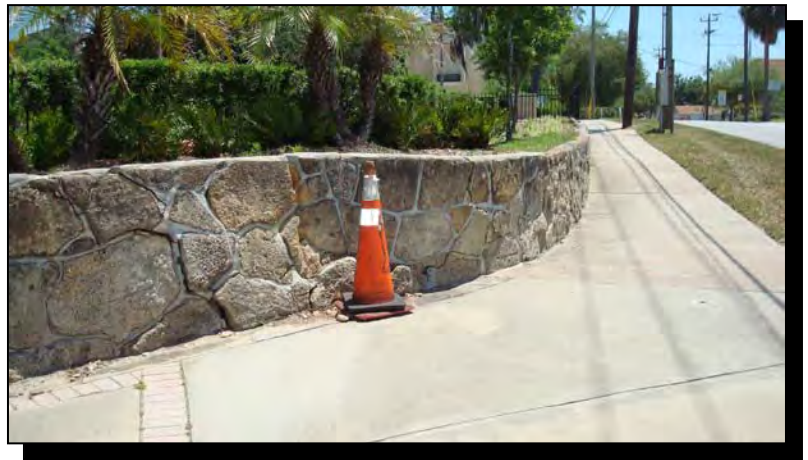


Illustration 10: Wall is crumbling due to an accident in the southeast quadrant of Granada Boulevard and Ridgewood Avenue

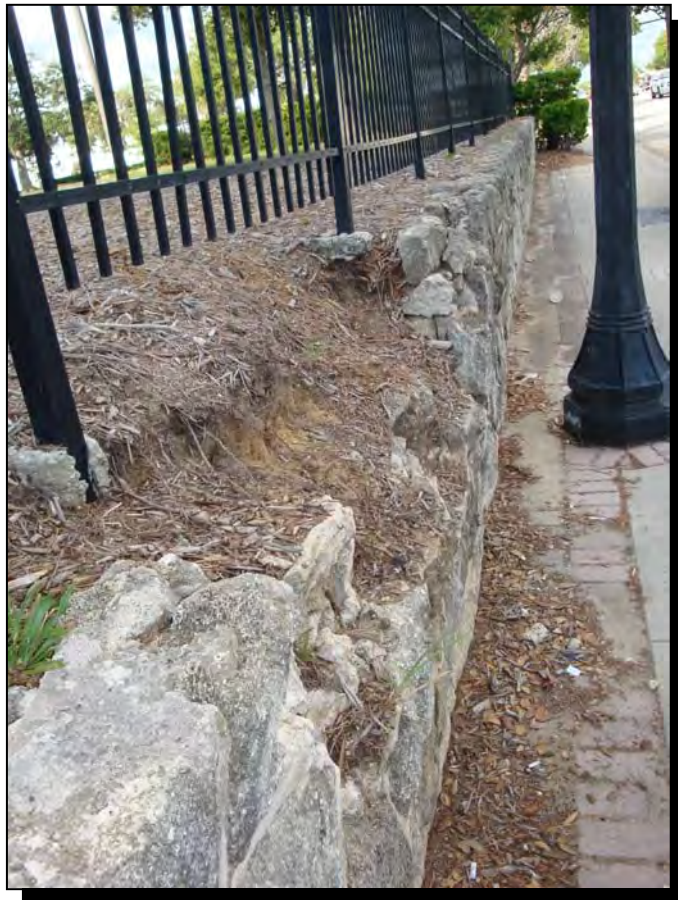


Illustration 11: Wall in need of repair at Granada Boulevard and Ridgewood Avenue

Observations: The STOP lines are old and worn along Ridgewood Avenue north of Granada Boulevard at the intersections of Kenworth Avenue, Rosewood Avenue, Greenwood Avenue, Warwick Avenue, and Cumberland Avenue.

Recommendations: The existing STOP lines should be removed and thermoplastic STOP lines should be installed.

Observations: The STOP lines and crosswalk markings are old and worn along Ridgewood Avenue north of Granada Boulevard at the intersections of Wilmette Avenue and Sanchez Avenue.

Recommendations: The existing STOP lines and crosswalk markings should be removed and thermoplastic stop lines and crosswalk markings should be installed in accordance with Standard Index No. 17346.

Observations: Four STOP lines are faded and worn where Ridgewood splits, south of Lorillard Place in the southern segment of the walk zone.

Recommendations: The existing STOP lines should be removed and thermoplastic STOP lines should be installed.

5

OTHER OFF-SITE RECOMMENDATIONS

Ormond Beach Elementary School is located in a neighborhood that allows all of its students the opportunity to walk or bicycle to school. Ridgewood Avenue extends throughout the entire walk zone and sidewalks are located on at least one side of the roadway. The available sidewalks present an opportunity to promote safe walking and bicycling practices.

Parents or community leaders should take turns walking to school with students. Ormond Beach Elementary School and its business partners should provide incentives to make walking and bicycling a preferred mode of transportation. The following are a few of the major programs that encourage walking and bicycling to school and foster safety awareness in students and parents.

- Walking School Bus – A group of students who walk to school with an adult and picks up students on the way to school at a set place and time like a school bus.
- KidsWalk-to-School – A group of students who walk to school with an adult.
- SAFE KIDS Walk this Way – A year-round pedestrian safety program conducted by the National SAFE KIDS Campaign that participates in the International Walk to School Day. They work with parents, educators, and community leaders to teach pedestrian safety to students, enforce speed limits, and other traffic regulations.
- International Walk to School Day – An event that occurs around the world in October where students, parents, teachers, and community leaders walk to school together to promote being active and making the streets more friendly for walking and bicycling.

The existing sidewalks on Ridgewood Avenue would accommodate all students and parents if they were to commit to making walking and bicycling a preferred mode of transportation or endeavored to implement a safety program.

6

COST ESTIMATE

Table 3 shows the preliminary cost summary that would be associated with the recommendations listed within this report for Ormond Beach Elementary School. FDOT's *2010 Basis of Estimates* manual was used in the development of Table 4. A detailed cost estimate is presented in Appendix A. The estimated engineering costs for the recommendations are \$10,831.08. These recommendations are based on field observations and should be verified by a contractor.

Table 4
Cost Summary
Ormond Beach Elementary School Assessment Study

Location	Agency Responsible	Observations	Recommendations	Contract Amount ³
Throughout Walk Zone	Parents, Students, Staff, Crossing Guard, and Law Enforcement	Bicycling students were not wearing helmets	If students choose not to wear helmets then law enforcement should issue warnings, followed by the issuance of tickets (2009 Florida Statutes, 316.2065 Bicycle Regulations)	N/A
North of School Campus on Corbin Avenue	City of Ormond Beach	Four NO PARKING panels in front of the school on the south side of Corbin Avenue are peeling and worn; panels do not meet the minimum height requirement set by the FDOT	The NO PARKING sign panels should be replaced and installed in accordance with Standard Index No. 17302	\$996.32
		STOP line is faded and unnoticeable	Remove existing STOP line and install thermoplastic stop line	\$72.16
East of School Campus on Eileen Butts Street	City of Ormond Beach	Mid-block crosswalk markings are old, faded, and do not meet current standards	Existing crosswalk markings should be removed and thermoplastic crosswalk markings should be installed in accordance with Standard Index No. 17346	\$592.98
		No curb ramp exists on both the east and west sides of the mid-block crossing	Curb ramps (CR 23) should be installed in accordance with Standard Index No. 304	\$2,467.32
West of School Campus on South Ridgewood Avenue	School Board	Teachers and Safety Patrol students assist walkers and bicyclists in crossing at this crosswalk were stopping traffic and were not wearing reflective vests or using STOP paddles	Teachers and students who assist with student crossings should wear reflective vests and use STOP paddles; students should never stop traffic	\$115.90
	Ormond Beach Elementary School	Students crossed Ridgewood Avenue with and without the aid of an adult or crosswalk even though a crosswalk is located on this road	Students should be taught proper crossing procedures and these procedures should be printed in the school newsletter; law enforcement should periodically monitor the walk zone to ensure proper crossing procedures are followed	N/A
	City of Ormond Beach	Crosswalk signage at mid-block crossing is not appropriate for this crosswalk	Crosswalk signage should be replaced with an In-Street Pedestrian Crossing sign (R1-6c) which is appropriate for unsignalized school crossings with the inclusion of the STATE LAW legend; In-Street Pedestrian Crossing Assembly should be installed in accordance with Standard Index No. 17302 and also should be placed in the roadway at the crosswalk location on the center line	\$269.73
		Mid-block crosswalk markings, between Ormond Beach Elementary School and Emmanuel Church of the Living God, do not meet current standards	24" crosswalk markings should be installed	\$168.54
North and South of Granada Boulevard on Ridgewood Avenue	City of Ormond Beach	SCHOOL pavement markings are old and faded	SCHOOL pavement markings should be removed and single-lane thermoplastic SCHOOL pavement markings should be installed in accordance with Standard Index No. 17344	\$197.86
Along Ridgewood Avenue, North and South of Granada Boulevard	City of Ormond Beach	Trees and bushes have grown into the right-of-way and are blocking the sidewalk	Residents should be notified through code enforcement that they should trim their trees and bushes when they grow into the right-of-way and block public paths	N/A
Intersection of Tomoka Avenue and Ridgewood Avenue	City of Ormond Beach	STOP lines at this intersection are faded and worn	Remove existing STOP lines and install thermoplastic stop lines	\$141.60
		Crosswalks on both sides of Ridgewood Avenue do not meet standards	Remove existing crosswalk markings and install thermoplastic special emphasis crosswalk markings in accordance with Standard Index No. 17346	\$867.52
Resident at 85 Ridgewood Avenue, Ormond Beach	City of Ormond Beach	Portions of a four foot high fence and gate are protruding into the sidewalk	Resident should replace or repair fence along Ridgewood Avenue (code enforcement)	N/A
Along Ridgewood Avenue North of Granada Boulevard at the intersections of Kenworth Avenue, Rosewood Avenue, Greenwood Avenue, Warwick Avenue, and Cumberland Avenue	City of Ormond Beach	STOP lines are faded and worn	Existing STOP lines should be removed and thermoplastic STOP lines should be installed	\$708.00

Along Ridgewood Avenue North of Granada Boulevard at the intersections of Wilmette Avenue and Sanchez Avenue	City of Ormond Beach	STOP lines and crosswalk pavement markings are faded and worn	Existing STOP lines should be removed and thermoplastic STOP lines should be installed	\$424.80
			Existing crosswalk pavement markings should be removed and thermoplastic crosswalk pavement markings should be installed in accordance with Standard Index No. 17346	\$3,525.15
Ridgewood Avenue South at Lorillard Place, Fleming Avenue, South Ridgewood Avenue, and Reynolds Avenue	City of Ormond Beach	Four STOP lines are faded and worn	Remove existing STOP lines and install thermoplastic STOP lines	\$283.20
TOTAL				\$10,831.08

7

EXECUTIVE SUMMARY – IMPLEMENTATION REPORT

Lassiter Transportation Group, Inc. (LTG) was retained by the Volusia Transportation Planning Organization (TPO) to prepare an Implementation Report for the Bicycle and Pedestrian School Safety Review Study for 17 Volusia County schools. The Implementation Report for the Pedestrian and Bicycle School Safety Review Study is based on observations and recommendations of the Assessment Report and includes cost data, ranking criterion for the recommended improvements, and the best practices to follow on old and new developments. The subject of this Implementation Report is Ormond Beach Elementary School.

Assessment of Existing Conditions

Conditions within the walk zone of Ormond Beach Elementary School have been presented and assessed within the Assessment report contained in the previous sections. Recommendations were also made within those sections to improve observed conditions. These recommendations are evaluated within the following sections, based on these factors:

- Safety severity
 - Distance from the school
 - Crashes
 - Traffic flow (how it affects walkers and bicyclists)
- Benefits associated with improvement
 - Walker and bicyclist traffic
 - Walking and bicycling network/connectivity
- Constructability
- Cost

Each safety issue was rated, ranked, and placed on a prioritized list. A preliminary cost estimate was completed using the FDOT's *2010 Basis of Estimates Manual*. Actual construction costs may vary based on detailed engineering. It is noted that an in-depth engineering constructability analysis of the project should be conducted to determine if the recommendation can be constructed at the suggested estimated cost since recommendations are based on field observations.

8

BEST PRACTICES

This section of the report will address the best practices to make walking and bicycling a safer mode of transportation for students. These practices are not only applicable to the walk zone but to any new or old development that supports walking and bicycling. The data gathered for this section of the report comes from the Federal Highway Administration (FHWA), Americans with Disabilities Act of 1990 (ADA), and other documents that are supported by the FDOT.

Sidewalk Design for New Roadways and Developments

Findings

Sidewalk design for new roadways and developments are usually based on anticipated pedestrian demand, the type of development, whether residential, industrial, or commercial, and the jurisdiction. Developers may not want to construct sidewalks because the adjoining properties may not have sidewalks. In some cases, development requirements did not address sidewalk construction or connectivity. These conditions have led to developments that do not include sidewalk connectivity.

Best Practices

When planning a development which is located within the walk zone of a school, safe, connected networks of sidewalks that can be easily navigated by students should be required. If it is not possible to have safe sidewalks then multi-use trails should be considered.

All sidewalks should provide for disabled pedestrians and ought to be incorporated into the planning process for all new roadways and developments. The FHWA has established the following guidelines to assist local jurisdiction with determining when and where pedestrian facilities are needed.

- Develop sidewalks as integral parts of all city streets
- If land use plans anticipate pedestrian activity then sidewalks should be constructed as part of the street development
- Sidewalks should connect nearby urban communities
- Provide sidewalks in rural and suburban areas at schools, local businesses, and industrial plants that result in pedestrian concentrations
- Provide sidewalks whenever the roadside and land development conditions are such that pedestrians regularly move along a main or high-speed highway
- Incorporate sidewalks in rural areas with higher traffic speeds and the general absence of lighting
- Construct sidewalks along any street or highway without shoulders, even if there is light pedestrian traffic

The FHWA went on to say that to initiate the sidewalk installation guidelines above and to promote accessible sidewalk facilities, municipalities should consider the following recommendations:

- Agencies should accept bids from contractors who understand and construct accessible facilities
- Require employees and contractors to demonstrate their knowledge of accessibility topics. If, at any stage of the development process (i.e., planning, design, or installation) accessibility is not addressed, hold the responsible party accountable and make improvements.

- Engineering, transportation, and public policy decision makers should partner with transit providers on projects and programs, and require that transit systems include accessible pedestrian facilities
- Consult with representatives from disability agencies and organizations during all phases of project development
- Include persons with disabilities in the first phases of programming, planning, designing, operating, and constructing pedestrian facilities
- Agencies should ensure that accessibility guidelines are followed throughout planning, project development, and construction of pedestrian facilities

Other local agencies, such as the school board within which the development falls, and the city or county planner, should make sure that the sidewalks are within the minimum set requirements, have good connectivity between residential and commercial developments, increases the allowable densities near major intersections (wider sidewalks), are near major shopping areas and transit lines, and ensure pedestrian friendly sidewalk designs. However, specific design principles must be in place before these options can be exercised. Planning for pedestrian sidewalk usage should be one of the primary goals for developers and should be an integral part of planning for walkable communities.

The FHWA's guidelines of best practices for the installation of new sidewalks indicate that new developments should consider the following sidewalk safety features to plan for walkers and bicyclists:

- Sidewalks should be constructed on both sides of the road
- Wide pathways
- Acceptable lighting
- No obstacles within walkway
- Sidewalk connectivity
- Sidewalk network
- ADA compliant
- Pedestrian facilities (e.g., shaded benches)
- Changes in grade and slope should be moderate

Sidewalk Retrofit

Findings

Cities, counties, and states have codes and regulations that determine how wide a sidewalk must be and how much shoulder should exist between the sidewalk and pavement. The cities and counties must also follow regulations, set by the ADA, to aid disabled pedestrians. These codes have changed as a result of society working towards consuming less energy and promoting safety and healthier lifestyles. In some older neighborhoods, sidewalks are not up to standards since ADA guidelines were not developed and implemented until the 1990s. These older neighborhoods must then be retrofitted to be compliant with ADA standards.

Issues with retrofitting sidewalks may include right-of-way costs, conflicting drainage features or swales in the right-of-way, and steep grades. Some sidewalks may have all the aforementioned issues but insufficient right-of-way for retrofitting.

Best Practices

It is best to create developments with school routes, pedestrian transit routes, and amenities within close walking distances. However, retrofitting sidewalks should be considered in older, noncompliant developments. Additional right-of-way may be required to implement retrofit recommendations.

Projects aimed at retrofitting older sidewalks should research data pertaining to what type of right-of-way exists, a cost analysis of the right-of-way purchase, cost of construction, the condition of existing sidewalks, and the benefits associated with the project. The right-of-way acquisitions process is detailed in *The Real Estate Acquisition Handbook* and is produced by the FDOT.

Existing Substandard Sidewalk

Findings

Older neighborhoods and developments that did not plan for pedestrians may have existing substandard sidewalks. Substandard sidewalk issues include the following (Pedestrian and Bicycle Information Center):

- Sidewalks are buckled, lifted, or cracked due to tree roots or other causes
- Sidewalks are blocked due to the placement of utility poles, sign posts, potholes, fire hydrants, bus benches, newspaper racks, parked cars, or other obstructions
- Sidewalks are blocked by bushes or low tree branches
- Sidewalks lack curb ramps at street corners, crosswalks, and driveways
- The driveway side slopes are steep and hard to cross
- Sidewalk shoulders and adjacent drop-offs are excessive

Any of these existing conditions may make walking and bicycling hazardous. When sidewalks are obstructed or do not have curb ramps, it is unsafe for walkers and bicyclists to get off the sidewalk and on to the pavement to walk around the obstruction. Driveways with steep side slopes may cause walkers to trip or bicyclists to lose balance.

Best Practices

It is important to determine what sidewalks are substandard and those sidewalks should be placed on a prioritized list to be repaired or brought up to current standards. Maintaining existing sidewalks is paramount to providing a safe walking and bicycling environment.

The restriction of heavy vehicles on the sidewalk, installing root barriers if trees are planted too close to a sidewalk, and removing obstacles will keep sidewalks safe for students who are walking or bicycling to school. Depending on the average width of tree root spread, there should be rules that determine what species, and how far, trees must be planted from the sidewalk to prevent cracks and buckling. Trees and bushes should be kept trimmed to avoid blocking the sidewalk and to maximize the mobility of pedestrians. For obstacles that cannot be moved, regulations should be developed that prevent future installations affecting the sidewalk.

Driveways that have steep slopes should be re-graded to conform to ADA approved practices. This will allow for an easy transition between the sidewalk and the driveway for all pedestrians and bicyclists.

Curb ramps should be installed at all crossings, wherever applicable, such as at an intersection or at a mid-block crossing. Sidewalks should end at a detectable warning strip or whenever the sidewalk changes, such as at a mid-block crossing, and should conform to standards approved by the ADA. Standards set by the ADA include the width, length, slope, and texture of curb ramps and the width and length of landings, if they are needed.

Sidewalk Maintenance

Findings

A sidewalk that clearly has maintenance issues may inhibit pedestrian and bicyclist usage. Existing sidewalks may be hazardous to pedestrians and bicyclists if the following issues exist (FHWA):

- Step separation - a vertical displacement of 13 mm (0.5 in) or greater that could cause pedestrians to trip or prevent the wheels of a wheelchair or stroller from rolling smoothly
- Badly cracked concrete - holes and rough spots ranging from hairline cracks to indentations wider than 13 mm (0.5 in)
- Spalled areas - fragments of concrete or other building material detached from larger structures
- Settled areas that trap water - sidewalk segments with depressions, reverse cross slopes, or other indentations that make the sidewalk path lower than the curb; these depressions trap silt and water on the sidewalk and reduce the slip resistant nature of the surface.
- Tree root damage - roots from trees growing in adjacent landscaping that cause the walkway surface to buckle and crack
- Vegetation overgrowth - ground cover, trees, or shrubs on properties or setbacks adjacent to the path that have not been pruned can encroach onto the path and create obstacles
- Obstacles - objects located on the sidewalk, in setbacks, or on properties adjacent to the sidewalk that obstruct the passage space or the visibility of sidewalk users; obstacles commonly include trash receptacles, utility poles, newspaper vending machines, and mailboxes
- Blocked or inadequately protected drainage inlets and inadequate flow planning
- Temporary construction interruptions
- Inadequate patching after utility installation

Sidewalks are typically in the public right-of-ways and are the sole responsibility of the city or county, depending on who has jurisdiction over that roadway. In some cases, sidewalks are provided along privately maintained roads and common spaces and are the responsibility of a Homeowners Association (HOA) or other property management entity.

Best Practices

- A division of the city or county should be solely dedicated to sidewalk maintenance or, if in the case of privately maintained sidewalks, should be addressed through code enforcement procedures.
- Sidewalk maintenance issues should be addressed immediately and should be placed on a prioritized list of sidewalk projects to be completed.
- Maintenance issues should be solved by using strategies standard to road maintenance. This will minimize the risk of walkers and bicyclists on their way to and from school; and all maintenance issues should be handled consistently throughout the jurisdiction.

Improving Existing Roadway Conditions

Findings

Existing roadway conditions may not offer enough safety for walkers and bicyclists. Motorists may speed within school walk zones and not pay attention to their surroundings. Motorists pulling out of driveways may look for oncoming vehicles but may not look for walkers and bicyclists crossing the driveway.

Best Practices

Roadway conditions can be improved to maintain safety and accessibility for walkers and students who may want to ride their bicycles to school. The following are best practices that should improve existing roadway conditions for walkers and students who choose to ride their bicycles to school.

- Signage and pavement markings should be highly visible and current
- Traffic calming devices should be considered to reduce speeds
- Speed studies should be conducted to lower speed limits year-round
- ADA standards should be adhered to
- Consider one-way streets if traffic is too congested during the arrival and dismissal times
- Strict police enforcement should be imposed to deter illegal and unsafe parking practices as well as moving violations within the school zone

Pavement Markings

Findings

Pavement markings are essential to the transportation system to communicate and enhance the messages of roadway operational conditions by augmenting other traffic control devices. School pavement markings and crosswalk markings are especially important since they alert the motorist of walkers and bicyclists entering the pavement at crosswalks and intersections. Pavement markings can easily fade or become obliterated over time. It was observed that SCHOOL markings which warn motorists that they will soon enter into a school zone are often faded, cracked, or chipped (Illustration 12).



Illustration 12 Faded crosswalk markings

Best Practices

The following best practices are recommended to improve the safety, life, and effectiveness of pavement markings.

- SCHOOL pavement markings and crosswalk markings should be clear and visible in order to warn motorists that they are entering a school zone and/or children are crossing.
- The FDOT's current standard (Index No. 17346) uses a special emphasis crosswalk that lengthens the life of the crosswalk marking.
- Thermoplastic paint should be used for all pavement and school markings to enhance the visibility of walkers and bicyclists. Thermoplastic paint should be used since it is durable, retro-reflective, and slip resistant.
- The crosswalk should align with the sidewalk ramps.
- Crosswalks should be installed where walkers and bicyclists are in the pavement for the shortest distance and time possible.
- Pavement markings should be accompanied by the proper signage.
- Pedestrian median refuges should be installed for long crosswalks with interim medians.

- Walkers and bicyclists should be dissuaded from crossing at intersections or mid-block crossings where heavy traffic exists unless accompanied by crossing guards.

Traffic Signal Control

Findings

Traffic signalization has an important role in promoting safety for students who walk or bicycle to school. Drivers at busy intersections can easily overlook students trying to cross a street; consequently, signals allow students the necessary time to safely cross busy intersections.

School flashing beacons also play an important role in safety. Flashing beacons alert drivers that they are entering a school zone and indicate that the displayed speed limit is in effect. It was observed that school flashing beacons can be operated manually or can be pre-set to turn off/on during pre-programmed timeframes. Manually run school flashing beacons are usually operated by school crossing guards, who are primarily assigned to cross elementary school students.

Best Practices

- Pedestrian signal heads should be considered at all intersections that utilize traffic control signals for motor vehicles within the school walk zones.
- Pedestrian signal buttons should be placed such that it is obvious to elementary and middle school students which buttons to press to access the desired sidewalk.
- Pedestrian signal heads should employ the countdown display which exhibits the symbols of the WALKING MAN beside the numerical countdown. This will help students to decide if they have enough time to cross or if they should wait for the next pedestrian signal phase.
- Students should be educated on the proper ways to cross an intersection when using a pedestrian signal head.
- For students who must cross more than two lanes of traffic, the assignment of crossing guards or overhead pedestrian bridges should be considered.
- U-turns and right-on-reds should be prohibited at intersections where students utilize pedestrian crossings.
- School attendance zones that have crossings at heavily congested intersections should have their walk zones re-evaluated so that students can either walk to another school or transportation could be provided.

Enforcement and Education

Findings

Walkers and bicyclists do not always follow proper crossing procedures. Students may dart through traffic to access the school in the mornings or access a vehicle parked across the road from the school in the afternoons. Students may also cross streets at mid-block without the aid of a crosswalk or an adult. When crosswalks do exist, students do not always follow proper crossing procedures.

Regulations are not always followed by adults dropping off/picking up students. Motorists were observed to park in NO PARKING areas and make prohibited vehicular movements, including u-turns. Some motorists were observed to be speeding within the reduced-speed zone.

Students who choose to ride their bicycles to school do not always wear helmets.

Best Practices

- Students and parents should be educated on proper crossing procedures. Parents, crossing guards, and School Resource Officers (SRO) should be the main resources for safety.
- Parents should receive flyers or recorded messages on a school-wide basis to inform them of the proper drop-off/pick-up procedures. Strict enforcement of these procedures should eventually deter parents from practicing unsafe drop-off/pick-up actions.
- Prohibited vehicular movements should be strictly handled and higher fines could be considered, where allowable by law, during the arrival and dismissal times of school.
- Helmets should always be worn by bicycling students. Parents, school staff, crossing guards, and school resource officers should encourage helmet usage. Non-compliant helmet users should be dealt with consistently and strictly.
- Encourage walking and bicycling by providing free helmets, stickers, reflective gear, or create an incentive program.
- Schools should provide a safe and secure bicycle storage facility for students who choose to ride their bicycles to school.
- Parents should be informed about the different walking and bicycling programs available and the school and its volunteers should assist in planning and implementing those programs.
- Students who are regular walkers and bicyclists should be paired with other walkers and bicyclists who live in the same area.
- Crossing guards should be involved in the re-zoning of walk zones since they have a better understanding of the distribution of the walker and bicyclist population.

School Board Considerations

Findings

School districts generally employ the two-mile walk route to determine the walk zone. This is not always the best option to promote safety. Students may have to cross congested intersections, too many intersections, and/or busy driveways.

Sidewalks are not always located on both sides of the road. This may encourage unsafe crossings where no crosswalks exist. Walk zones can also include sidewalks that end at an unsignalized intersection with no safe alternative to gain access to the sidewalk on the opposite side of the roadway.

It was noted that schools prefer to have one controlled point of entry that is monitored by school staff. In these cases, students who walk or ride their bicycles to school may have to cross busy driveways including drop-off/pick-up loops, bus loops, and even parent and teacher parking lots, to enter/exit the controlled point of entry.

Best Practices

- As defined in F.S. 1006.23, the School District staff collaborates with the Sheriff's crossing guards, City and County Public Works and FDOT to evaluate a school's walk zone and its hazardous walking conditions as defined.
- In effort to avoid the inter-mingling of elementary, middle, and high school traffic, school arrival and dismissal, Volusia County School District has a three-tiered bell schedule. Further, each school separates bus traffic from parent pick-up drop-off traffic.
- It is necessary to review all new development plans within the school walk zone to ensure that developers are providing sidewalks on either side of the road and maintaining sidewalk connectivity and networking to the school. Volusia County School District is a member of city and county development review teams

and reviews new site plans and subdivisions to ensure adequate area is designated for school bus stops and sidewalks. City and County land development regulations require sidewalks.

- All new schools should be planned with good sidewalk connectivity/network to all neighborhoods and developments within its walk zone.
- As required by F.S. 1006.23, Volusia County School District provides bus service to students who do not have access to safe routes to school.
- There are certain programs which promote walking and bicycling to school. Volusia County School District currently participates in such programs (e.g. Walking School Bus, SAFE KIDS Walk This Way, and International Walk to School Day). Bicycle and pedestrian safety is part of the existing elementary physical education curriculum.
- A NO BACKPACK policy should be considered to encourage walking and bicycling to school and consideration to the following is recommended:
 - All textbooks should be accessible on-line
 - A set of textbooks should be available at the local library
 - Provide students with a set of textbooks to keep at home
- Each school should enforce bicycle safety, helmet usage should be closely monitored for compliance, and PTA meetings to ensure parent support and compliance with these policies should be promoted.
- All teachers assisting during arrival/dismissal should wear safety vests when they are crossing students or interacting with vehicular traffic.

9

MASTER IMPROVEMENT PLAN

Refer to Figure 3 in the Assessment section for the Master Improvement Plan. It highlights the locations of existing conditions as well as proposed improvements. The following sections will provide more details on sidewalk-related recommendations shown in that graphic.

10

CONSTRUCTABILITY MATRIX

For the purposes of the constructability matrix and the prioritized list to follow, only sidewalk-related improvements are considered. The matrix in Table 5 shows the estimated cost of sidewalk projects that are recommended for improvement. FDOT's *2010 Basis of Estimates* manual was used to develop the constructability matrix. The estimated engineering costs for these recommendations are \$7,891.24. The costs shown in the constructability matrix includes construction and labor fees. Grading costs are not included. As mentioned before, these improvements are based on field observations and are cursory in nature. Engineering design plans should be developed prior to construction of the improvements.

Table 5
Constructability Matrix
Ormond Beach Elementary School Implementation Report

Priority No.	Project Name	Recommendations	Potential Constraints	Pay Item Number ¹	Pay Item Description ¹	Plan Quantity	Unit Measure	Unit Price	Estimated Cost
1	Crosswalk Refurbishment	Refurbishment of existing crosswalk markings in accordance with Standard Index No. 17346	None	711-17	THERMOPLASTIC, REMOVE	120.00	SF	\$1.36	\$592.98
	Curb ramp installation	Curb ramps (CR 23) installation in accordance with Standard Index No. 304	Right-of-way should be verified prior to construction	110-4	REMOVAL OF EXISTING CONCRETED PAVEMENT	11.12	SY	\$16.90	\$2,467.32
Total									\$3,060.30
2	Crosswalk signage replacement	Crosswalk signage replacement with an In-Street Pedestrian Crossing sign (R1-6c)	None	700-20-60	SINGLE SIGN POST, REMOVE	2.00	EA	\$18.13	\$269.73
	24" crosswalk markings installation	24" crosswalk markings installation	None	711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	53.00	LF	\$3.18	\$168.54
3	Crosswalk Refurbishment	Refurbishment of existing crosswalk markings in accordance with Standard Index No. 17346	None	711-17	THERMOPLASTIC, REMOVE	118.00	SF	\$1.36	\$867.52
4	Crosswalk Refurbishment	Refurbishment of existing crosswalk markings in accordance with Standard Index No. 17347	None	711-17	THERMOPLASTIC, REMOVE	489.00	SF	\$1.36	\$3,525.15
TOTAL									\$7,891.24

Cost taken from the FDOT's *Basis of Estimates*

Area 6 (Volusia County) and 6 Month Moving Statewide Averages were used, where applicable

Abbreviations:

LF - Foot

SY -

Square

Yard

EA -

Each

AS -

Assembly

SF -

Square

Foot

11

RECOMMENDED PRIORITY PROJECTS

The recommended projects, prioritized in Table 5, were ranked and rated with regards to safety, benefits associated with the improvement, constructability, and cost. This section of the report provides additional information about each project in ranking order.

Background: The Volusia TPO is continuing in its capacity to improve the safety of the school walk zone for walkers and bicyclists who live within the school walk zone. The safety issues addressed within this report will be reviewed by the TPO for potential funding to implement the recommended changes and, thereby, improve the safety of the school walk zone, where possible.

Project No. 1: Curb Ramp Installation

Submitting Agency: City of Ormond Beach
Project Location: East of School Campus on Eileen Butts Street
School Served: Ormond Beach Elementary School
Project Description: Crosswalk and Curb Ramp Installation
LAP Coordinator: Volusia County
Maintaining Agency: City of Ormond Beach

Safety Issue: The mid-block crossing pavement markings are old and faded on Eileen Butts Street and also do not meet current standards. No curb and ramp are available for pedestrians to exit and enter the crosswalk on the both sides of the crosswalk. This crosswalk is essential in providing walkers and bicyclists a safe passage to the City Hall/Library parking lot where vehicles may be waiting to pick students up

Project Description: This project will include the installation of curb ramps as well as the replacement of an existing crosswalk marking.

Estimated Cost: The estimated cost for this project is \$3,060.30.

Project No. 2: Replacement of Crosswalk Sign and Crosswalk Markings

Submitting Agency: City of Ormond Beach
Project Location: West of School Campus on South Ridgewood Avenue
School Served: Ormond Beach Elementary School
Project Description: Replacement of Crosswalk Sign and Crosswalk Markings
LAP Coordinator: Volusia County
Maintaining Agency: City of Ormond Beach

Safety Issue: Appropriate crosswalk markings and signage are necessary in order to promote correct usage of the crosswalk locations.

Project Description: This project will include the removal and application of the crosswalk markings. It will also include the replacement of an outdated crosswalk sign with one that is more appropriate for the location.

Estimated Cost: The estimated cost for this project is \$438.27.

Project No. 3: Replacement of Crosswalk Markings

Submitting Agency: City of Ormond Beach
Project Location: Intersection of Tomoka Avenue and Ridgewood Avenue
School Served: Ormond Beach Elementary School
Project Description: Replacement of Crosswalk Markings
LAP Coordinator: Volusia County
Maintaining Agency: City of Ormond Beach

Safety Issue: Appropriate crosswalk markings and signage are necessary in order to promote correct usage of the crosswalk locations.

Project Description: This project will include the removal and application of the crosswalk markings.

Estimated Cost: The estimated cost for this project is \$867.52.

Project No. 4: Refurbishment of Crosswalk Markings

Submitting Agency: City of Ormond Beach
Project Location: Ridgewood Avenue at the intersections of Wilmette Avenue and Sanchez Avenue
School Served: Ormond Beach Elementary School
Project Description: Refurbishment of Crosswalk Markings
LAP Coordinator: Volusia County
Maintaining Agency: City of Ormond Beach

Safety Issue: Pavement markings are old and faded and should be well maintained in order to promote correct usage of the crosswalk locations.

Project Description: This project will include the refurbishment of the crosswalk markings.

Estimated Cost: The estimated cost for this project is \$3,525.15.

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APPENDICES

APPENDICES

APPENDIX A:

Detailed Cost Estimates

Detailed Cost Estimate - Ormond Beach Elementary School

Location	Agency Responsible	Observations	Recommendations	Pay Item Number ¹	Pay Item Description ¹	Plan Qty	Unit Measure ¹	Unit Price ²	Contract Amount ³
Throughout Walk Zone	Parents, Students, Staff, Crossing Guard, and Law Enforcement	Bicycling students were not wearing helmets	The SRO should take an active role in ensuring all students are wearing helmets; if students choose not to wear helmets then warnings should be given, followed by the issuance of tickets (2009 Florida Statutes, 316.2065 Bicycle Regulations)						N/A
North of School Campus on Corbin Avenue	City of Ormond Beach	Four NO PARKING panels in front of the school on the south side of Corbin Avenue are peeling and worn; panels do not meet the minimum height requirement set by the FDOT	The NO PARKING sign panels should be replaced and installed in accordance with Standard Index No. 17302	700-48-58	SIGN PANELS, REPLACE, 15 OR LESS	4.00	EA	\$249.08	\$996.32
		Stop line is faded and unnoticeable	Remove existing stop line and install thermoplastic stop line	711-17	THERMOPLASTIC, REMOVE	25.00	SF	\$1.36	\$34.00
				711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	12.00	LF	\$3.18	\$38.16
East of School Campus on Eileen Butts Street	City of Ormond Beach	Mid-block crosswalk markings are old, faded, and do not meet current standards	Existing crosswalk markings should be removed and thermoplastic crosswalk markings should be installed in accordance with Standard Index No. 17346	711-17	THERMOPLASTIC, REMOVE	120.00	SF	\$1.36	\$163.20
				711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	95.00	LF	\$3.18	\$302.10
				7-11-123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	76.00	LF	\$1.68	\$127.68
		No curb ramp exists on both sides of the mid-block crossing of the mid-block crossing	Curb ramps (CR 23) should be installed in accordance with Standard Index No. 304 on both sides of the mid-block crossing	110-4	REMOVAL OF EXISTING CONCRETED PAVEMENT	22.24	SY	\$16.90	\$375.86
				520-1-10	CONCRETE CURB & GUTTER, TYPE F	40.00	LF	\$13.35	\$534.00
				522-1	SIDEWALK CONC, 4" THICK	22.24	SY	\$70.03	\$1,557.47
West of School Campus on South Ridgewood Avenue	School Board	Teachers and Safety Patrol students assist walkers and bicyclists in crossing at this crosswalk were stopping traffic and were not wearing reflective vests or using STOP paddles	Teachers who stop traffic to allow walkers and bicyclists should wear reflective vests and use STOP paddles; students should never stop traffic		REFLECTIVE VEST	2.00	EA	\$9.28	\$18.56
					18" REFLECTIVE STOP PADDLE	2.00	EA	\$48.67	\$97.34
	Ormond Beach Elementary School	Students crossed Ridgewood Avenue with and without the aid of an adult or crosswalk even though a crosswalk is located on this road	Students should be taught proper crossing procedures and these procedures should be printed in the school newsletter; law enforcement should periodically monitor the walk zone to ensure proper crossing procedures are followed						N/A
	City of Ormond Beach	Crosswalk signage at mid-block crossing is not appropriate for this crosswalk	Crosswalk signage should be replaced with an In-Street Pedestrian Crossing sign (R1-6c) which is appropriate for unsignalized school crossings with the inclusion of the STATE LAW legend; In-Street Pedestrian Crossing Assembly should be installed in accordance with Standard Index No. 17302 and also should be placed in the roadway at the crosswalk location on the center line	700-20-60	SINGLE SIGN POST, REMOVE	2.00	EA	\$18.13	\$36.26
				700-20-11	SINGLE SIGN POST, F & I, LESS THAN 12 SF	1.00	EA	\$233.47	\$233.47
		Mid-block crosswalk markings, between Ormond Beach Elementary School and Emmanuel Church of the Living God, do not meet current standards	24" crosswalk markings should be installed	711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	53.00	LF	\$3.18	\$168.54
	City of Ormond Beach	SCHOOL pavement markings are old and faded	SCHOOL pavement markings should be removed and single-lane thermoplastic SCHOOL pavement markings should be installed in accordance with Standard Index No. 17344	711-17	THERMOPLASTIC, REMOVE	66.00	SF	\$1.36	\$89.76
North and South of Granada Boulevard on Ridgewood Avenue				711-11-160	THERMOPLASTIC, STD, WHITE, MESSAGE	1.00	EA	\$108.10	\$108.10
Along Ridgewood Avenue, North and South of Granada Boulevard	City of Ormond Beach	Trees and bushes have grown into the right-of-way and are blocking the sidewalk	Residents should be notified through code enforcement that they should trim their trees and bushes when they grow into the right-of-way and block public paths						N/A

Detailed Cost Estimate - Ormond Beach Elementary School

Location	Agency Responsible	Observations	Recommendations	Pay Item Number ¹	Pay Item Description ¹	Plan Qty	Unit Measure ¹	Unit Price ²	Contract Amount ³
Intersection of Tomoka Avenue and Ridgewood Avenue	City of Ormond Beach	Stop lines at this intersection are faded and worn	Remove existing stop lines and install thermoplastic stop lines	711-17	THERMOPLASTIC, REMOVE	48.00	SF	\$1.36	\$65.28
				711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	24.00	LF	\$3.18	\$76.32
		Crosswalks on both sides of Ridgewood Avenue do not meet standards	Remove existing crosswalk markings and install thermoplastic special emphasis crosswalk markings in accordance with Standard Index No. 17346	711-17	THERMOPLASTIC, REMOVE	118.00	SF	\$1.36	\$160.48
				711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	160.00	LF	\$3.18	\$508.80
				711-123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	118.00	LF	\$1.68	\$198.24
Resident at 85 Ridgewood Avenue, Ormond Beach	City of Ormond Beach	Portions of a four foot high fence and gate are protruding into the sidewalk	Resident should replace or repair fence along Ridgewood Avenue (code enforcement)						N/A
Along Ridgewood Avenue North of Granada Boulevard at the intersections of Kenworth Avenue, Rosewood Avenue, Greenwood Avenue, Warwick Avenue, and Cumberland Avenue	City of Ormond Beach	Stop lines are faded and worn	Existing stop lines should be removed and thermoplastic stop lines should be installed	711-17	THERMOPLASTIC, REMOVE	240.00	SF	\$1.36	\$326.40
				711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	120.00	LF	\$3.18	\$381.60
Along Ridgewood Avenue North of Granada Boulevard at the intersections of Wilmette Avenue and Sanchez Avenue	City of Ormond Beach	Stop lines and crosswalk pavement markings are faded and worn	Existing stop lines should be removed and thermoplastic stop lines should be installed	711-17	THERMOPLASTIC, REMOVE	144.00	SF	\$1.36	\$195.84
				711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	72.00	LF	\$3.18	\$228.96
			Existing crosswalk pavement markings should be removed and thermoplastic crosswalk pavement markings should be installed in accordance with Standard Index No. 17346	711-17	THERMOPLASTIC, REMOVE	489.00	SF	\$1.36	\$665.04
				711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	742.50	LF	\$3.18	\$2,361.15
				711-11-123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	297.00	LF	\$1.68	\$498.96
Ridgewood Avenue South at Lorillard Place, Fleming Avenue, South Ridgewood Avenue, and Reynolds Avenue	City of Ormond Beach	Four stop lines are faded and worn	Remove existing stop lines and install thermoplastic stop lines	711-17	THERMOPLASTIC, REMOVE	96.00	SF	\$1.36	\$130.56
				711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	48.00	LF	\$3.18	\$152.64
Southeast Quadrant of Granada Boulevard between Ridgewood Avenue and Lewis Street	City of Ormond Beach	Retaining wall and cement holding the coquina slabs together are not cohesive due to a recent vehicular accident	Retaining wall should be repaired so as not to pose a danger to adjacent pedestrians						N/A
TOTAL									\$10,831.08

¹ Taken from FDOT's 2010 Basis of Estimates Manual

² Taken from FDOT's Pay Item Cost History, specifically from Area 6 (Volusia County) or 6 Month Statewide Averages

³ Unit Price x Plan Qty

APPENDIX B:

Data Collection – On-Site

On-Site Observations: VCMPO Bike/Pedestrian Safety Study

Name of School: ORMOND BEACH ELEMENTARY SCHOOL

Job #: 3706.03

Principal: Ms. Julie Johnson

Date of Site Visit: _____

Location 100 Corbin Avenue
Ormond Beach, FL 32174

☐ Observe Entry and Exit Pedestrians and Bicyclists

☐ Observe Traffic Patterns and the Impact to Bicycle Riders and Pedestrians

Photos of Study Area (Note Any Adverse Conditions)

☒ Entrance of School On Corbin Avenue and Ridgewood Avenue

☒ Entry Locations students can enter school ^{on} ~~in~~

☒ Exit Locations those roads → no fencing

☒ Obstacles _____

☐ Use of Bicycles
Number of Bicycles _____

☐ Check for Helmet Compliance

Helmets: _____

Without Helmets: _____

☒ Sidewalk Conditions (Take Pictures where Applicable) Good → ~~some areas need to be repaved~~

☒ Transit Stops/Routes

☒ Traffic Flashing Signals none

☒ School Related Signage along all 4 roads bordering school

☒ School Related Flashing Signals none

☒ Traffic Signals ② Granada & Ridgewood

☒ Pedestrian Signals ② Stop Signal ↑

☒ Drainage Ditches/Bridges/Retention Ponds

☒ Conservation and Park Lands north^{west} of school

☒ Trails none

☒ Check for Opportunities to Make Improvements and Photograph

Description of Obstacles: • trees need to be trimmed

• edges of ~~grass~~ & sidewalk should be edged & blown

• Residence @ 85 ~~th~~ Ridgwood Ave need to fix
fence

☒ Curb Ramp at All Crosswalk to Sidewalk

Existent X

Non-existent _____

☐ Observance of Illegal Drop-offs

☐ Observance of Illegal Right of Way Parking

Yes _____

No _____

Notes:

Principal Comment:

APPENDIX C:

Data Collection – Off-Site

Off-Site Observations: VCMPD Bike/Pedestrian Safety Study

School: Ormond Beach Elementary School

Page: 1 of 4

Observer: _____

Dian

Observation Date: 7/27/2010

Principal: _____

Ms. Julie Johnson

Crossing Guard/Supervisor: _____

Cindy Pagliari

Location	Clear Path (No Obstacles)	> 4 ft Between Sidewalk & Pavement	No Drainage Issues: Ditches, Bridges, Runns.	Correct Drop-Off/Pick-Up Procedures Followed	Existing Shoulder	No Sidewalk Obstacles	No Sidewalk Deficiencies	Sidewalk Connects to Crosswalk with Ramp	Crosswalk & Sidewalk Line Up	Designated Bike Lane	Proper Crosswalk Signage	Maintained Crosswalk Striping	School Related Flashing Signals	School Related Signage	Traffic Signal	Pedestrian Signals	Pedestrian Signage	No Illegal Parking	Comments
Curb Type: _____ None Type E Type F Valley Gutter	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	- Stop line non-existent @ Corbin & Ridgewood - School put marking faded in Ridgewood between Corbin & Granada - Faded stop line & crosswalk markings by church
Curb Type: _____ None Type E Type F Valley Gutter	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	Faded crossing medblock
Curb Type: _____ None Type E Type F Valley Gutter	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	- Faded school markings - Faded stop lines (2) - Faded crosswalk lines (2)

Pictures: school, school entrance and exit, intersection of study, obstacles, maintenance issues, possible improvements etc.

Off-Site Observations: VCMPD Bike/Pedestrian Safety Study

School:

Ormond Beach Elementary School

Page:

2 of 4

Observer:

Dian

Observation Date:

7/27/2010

Principal:

Ms. Julie Johnson

Crossing Guard/Supervisor:

Cindy Pagliari

Location	Clear Path (No Obstacles)	> 4 ft Between Sidewalk & Pavement	No Drainage Issues: Ditches, Bridges, Rtnn.	Correct Drop-Off/Pick-Up Procedures Followed	Existing Shoulder	No Sidewalk Deficiencies	No Sidewalk Obstacles	Sidewalk Connects to Crosswalk with Ramp	Crosswalk & Sidewalk Line Up	Designated Bike Lane	Proper Crosswalk Signage	Maintained Crosswalk Striping	School Related Flashing Signals	School Related Signage	Traffic Signal	Pedestrian Signals	Pedestrian Signage	No Illegal Parking	Comments
Curb Type: Valley Gutter Type F Type E None Ridgwood	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	No flashing beacon
Curb Type: Valley Gutter Type F Type E None Resident @ 85 Ridgwood	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	Fix gate fence → barbed, sticking out #103 r104 on Ridgwood towards Granada
Curb Type: Valley Gutter Type F Type E None Along Tomkins St	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	- sidewalk edges need to be marked better - No flashing beacons

Pictures: school, school entrance and exit, intersection of study, obstacles, maintenance issues, possible improvements etc.

Off-Site Observations: VCMPO Bike/Pedestrian Safety Study

School: Ormond Beach Elementary School Page: 3 of 4

Observer: Dian Observation Date: 7/27/2010

Principal: Ms. Julie Johnson Crossing Guard/Supervisor: Cindy Pagliari

Location	Clear Path (No Obstacles)	> 4 ft Between Sidewalk & Pavement	No Drainage Issues: Ditches, Bridges, Runin.	Correct Drop-Off/Pick-Up Procedures Followed	Existing Shoulder	No Sidewalk Deficiencies	No Sidewalk Obstacles	Sidewalk Connects to Crosswalk with Ramp	Crosswalk & Sidewalk Line Up	Designated Bike Lane	Proper Crosswalk Signage	Maintained Crosswalk Striping	School Related Flashing Signals	School Related Signage	Traffic Signal	Pedestrian Signals	Pedestrian Signage	No Illegal Parking	Comments
Curb Type: None Granada? Ridgewood	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	- 75' of sidewalk should be installed in NW quadrant - However NE quadrant has sidewalk → so low priority
Curb Type: None Ridgewood at Lincoln, Wilmette Sucher	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	- stop lines are faded & worn - crosswalks are faded & worn
Curb Type: None Ridgewood at Kew-Forest Greenwood, Wilmette Cumberland? where Ridgewood splits - south of Coriell Pl.	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	- stop lines faded & worn

Pictures: school, school entrance and exit, intersection of study, obstacles, maintenance issues, possible improvements etc.

Off-Site Observations: VCMPO Bike/Pedestrian Safety Study

School: Ormond Beach Elementary SchoolPage: 4 of 4Observer: DianObservation Date: 7/27/2010Principal: Ms. Julie JohnsonCrossing Guard/Supervisor: Cindy Pagliari

Location	Clear Path (No Obstacles)	> 4 ft Between Sidewalk & Pavement	No Drainage Issues: Ditches, Bridges, Rims	Correct Drop-Off/Pick-Up Procedures Followed	Existing Shoulder	No Sidewalk Deficiencies	No Sidewalk Obstacles	Sidewalk Connects to Crosswalk with Ramp	Crosswalk & Sidewalk Line Up	Designated Bike Lane	Proper Crosswalk Signage	Maintained Crosswalk Striping	School Related Flashing Signals	School Related Signage	Traffic Signal	Pedestrian Signals	Pedestrian Signage	No Illegal Parking	Comments
Curb Type: <u>None</u> Type E <u>None</u> Type F <u>Valley Gutter</u> <u>Green</u> <u>Boys</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	Faded crosswalk markings (2) mid block Warning No Trespassing sign faded & worn (3) to (4) block - South side of Granada wall is falling apart in many areas
Curb Type: <u>None</u> Type E <u>None</u> Type F <u>Valley Gutter</u> <u>Along Granada</u> <u>between Ridgewood & Lewis</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	
Curb Type: <u>None</u> Type E <u>None</u> Type F <u>Valley Gutter</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	<u>(Y)</u>	

Pictures: school, school entrance and exit, intersection of study, obstacles, maintenance issues, possible improvements etc.

APPENDIX D:
2009 Florida Statutes Excerpts

The 2009 Florida Statutes

[Title XLVIII](#)

K-20 EDUCATION CODE

[Chapter 1006](#)

SUPPORT FOR LEARNING

[View Entire Chapter](#)

(1) DEFINITION.--As used in this section, "student" means any public elementary school student whose grade level does not exceed grade 6.

(2) TRANSPORTATION; CORRECTION OF HAZARDS.--

(a) It is intended that district school boards and other governmental entities work cooperatively to identify conditions that are hazardous along student walking routes to school and that district school boards provide transportation to students who would be subjected to such conditions. It is further intended that state or local governmental entities having jurisdiction correct such hazardous conditions within a reasonable period of time.

(b) Upon a determination pursuant to this section that a condition is hazardous to students, the district school board shall request a determination from the state or local governmental entity having jurisdiction regarding whether the hazard will be corrected and, if so, regarding a projected completion date. State funds shall be allocated for the transportation of students subjected to such hazards, provided that such funding shall cease upon correction of the hazard or upon the projected completion date, whichever occurs first.

(3) IDENTIFICATION OF HAZARDOUS CONDITIONS.--When a request for review is made to the district school superintendent or the district school superintendent's designee concerning a condition perceived to be hazardous to students in that district who live within the 2-mile limit and who walk to school, such condition shall be inspected by a representative of the school district and a representative of the state or local governmental entity that has jurisdiction over the perceived hazardous location. The district school superintendent or his or her designee and the state or local governmental entity or its representative shall then make a final determination that is mutually agreed upon regarding whether the hazardous condition meets the state criteria pursuant to this section. The district school superintendent or his or her designee shall report this final determination to the department.

(4) STATE CRITERIA FOR DETERMINING HAZARDOUS WALKING CONDITIONS.--

(a) *Walkways parallel to the road.*--

1. It shall be considered a hazardous walking condition with respect to any road along which students must walk in order to walk to and from school if there is not an area at least 4 feet wide adjacent to the road, having a surface upon which students may walk without being required to walk on the road surface. In addition, whenever the road along which students must walk is uncurbed and has a posted speed limit of 55 miles per hour, the area as described above for students to walk upon shall be set off the road by no less than 3 feet from the edge of the road.

2. The provisions of subparagraph 1. do not apply when the road along which students must walk:

a. Is in a residential area which has little or no transient traffic;

- b. Is a road on which the volume of traffic is less than 180 vehicles per hour, per direction, during the time students walk to and from school; or
- c. Is located in a residential area and has a posted speed limit of 30 miles per hour or less.

(b) *Walkways perpendicular to the road.*--It shall be considered a hazardous walking condition with respect to any road across which students must walk in order to walk to and from school:

1. If the traffic volume on the road exceeds the rate of 360 vehicles per hour, per direction (including all lanes), during the time students walk to and from school and if the crossing site is uncontrolled. For purposes of this subsection, an "uncontrolled crossing site" is an intersection or other designated crossing site where no crossing guard, traffic enforcement officer, or stop sign or other traffic control signal is present during the times students walk to and from school.
2. If the total traffic volume on the road exceeds 4,000 vehicles per hour through an intersection or other crossing site controlled by a stop sign or other traffic control signal, unless crossing guards or other traffic enforcement officers are also present during the times students walk to and from school.

Traffic volume shall be determined by the most current traffic engineering study conducted by a state or local governmental agency.

History.--s. 297, ch. 2002-387.

Title XXIII

Chapter 316

[View Entire Chapter](#)

MOTOR VEHICLES STATE UNIFORM TRAFFIC CONTROL

316.75 School crossing guards.--The Department of Transportation shall adopt uniform guidelines for the training of school crossing guards. Each local governmental entity administering a school crossing guard program shall provide a training program for school crossing guards according to the uniform guidelines. Successful completion of the training program shall be required of each school guard except:

- (1) A person who received equivalent training during employment as a law enforcement officer.
- (2) A person who receives less than \$5,000 in annual compensation in a county with a population of less than 75,000.
- (3) A student who serves in a school patrol.

School crossing guard training programs may be made available to nonpublic schools upon contract.

History.--s. 2, ch. 92-194; s. 42, ch. 97-190.

Note.--Former s. 234.302.

Title XXIII**Chapter 316****[View Entire Chapter](#)****MOTOR VEHICLES STATE UNIFORM TRAFFIC CONTROL****316.2065 Bicycle regulations.--**

(1) Every person propelling a vehicle by human power has all of the rights and all of the duties applicable to the driver of any other vehicle under this chapter, except as to special regulations in this chapter, and except as to provisions of this chapter which by their nature can have no application.

(2) A person operating a bicycle may not ride other than upon or astride a permanent and regular seat attached thereto.

(3)(a) A bicycle may not be used to carry more persons at one time than the number for which it is designed or equipped, except that an adult rider may carry a child securely attached to his or her person in a backpack or sling.

(b) Except as provided in paragraph (a), a bicycle rider must carry any passenger who is a child under 4 years of age, or who weighs 40 pounds or less, in a seat or carrier that is designed to carry a child of that age or size and that secures and protects the child from the moving parts of the bicycle.

(c) A bicycle rider may not allow a passenger to remain in a child seat or carrier on a bicycle when the rider is not in immediate control of the bicycle.

(d) A bicycle rider or passenger who is under 16 years of age must wear a bicycle helmet that is properly fitted and is fastened securely upon the passenger's head by a strap, and that meets the standards of the American National Standards Institute (ANSI Z 90.4 Bicycle Helmet Standards), the standards of the Snell Memorial Foundation (1984 Standard for Protective Headgear for Use in Bicycling), or any other nationally recognized standards for bicycle helmets adopted by the department. As used in this subsection, the term "passenger" includes a child who is riding in a trailer or semitrailer attached to a bicycle.

(e) Law enforcement officers and school crossing guards may issue a bicycle safety brochure and a verbal warning to a bicycle rider or passenger who violates this subsection. A bicycle rider or passenger who violates this subsection may be issued a citation by a law enforcement officer and assessed a fine for a pedestrian violation, as provided in s. 318.18. The court shall dismiss the charge against a bicycle rider or passenger for a first violation of paragraph (d) upon proof of purchase of a bicycle helmet that complies with this subsection.

(4) No person riding upon any bicycle, coaster, roller skates, sled, or toy vehicle may attach the same or himself or herself to any vehicle upon a roadway. This subsection does not prohibit attaching a bicycle trailer or bicycle semitrailer to a bicycle if that trailer or semitrailer is commercially available and has been designed for such attachment.

(5)(a) Any person operating a bicycle upon a roadway at less than the normal speed of traffic at the time and place and under the conditions then existing shall ride as close as practicable to the right-hand curb or edge of the roadway except under any of the following situations:

1. When overtaking and passing another bicycle or vehicle proceeding in the same direction.
2. When preparing for a left turn at an intersection or into a private road or driveway.

3. When reasonably necessary to avoid any condition, including, but not limited to, a fixed or moving object, parked or moving vehicle, bicycle, pedestrian, animal, surface hazard, or substandard-width lane, that makes it unsafe to continue along the right-hand curb or edge. For the purposes of this subsection, a "substandard-width lane" is a lane that is too narrow for a bicycle and another vehicle to travel safely side by side within the lane.

(b) Any person operating a bicycle upon a one-way highway with two or more marked traffic lanes may ride as near the left-hand curb or edge of such roadway as practicable.

(6) Persons riding bicycles upon a roadway may not ride more than two abreast except on paths or parts of roadways set aside for the exclusive use of bicycles. Persons riding two abreast may not impede traffic when traveling at less than the normal speed of traffic at the time and place and under the conditions then existing and shall ride within a single lane.

(7) Any person operating a bicycle shall keep at least one hand upon the handlebars.

(8) Every bicycle in use between sunset and sunrise shall be equipped with a lamp on the front exhibiting a white light visible from a distance of at least 500 feet to the front and a lamp and reflector on the rear each exhibiting a red light visible from a distance of 600 feet to the rear. A bicycle or its rider may be equipped with lights or reflectors in addition to those required by this section.

(9) No parent of any minor child and no guardian of any minor ward may authorize or knowingly permit any such minor child or ward to violate any of the provisions of this section.

(10) A person propelling a vehicle by human power upon and along a sidewalk, or across a roadway upon and along a crosswalk, has all the rights and duties applicable to a pedestrian under the same circumstances.

(11) A person propelling a bicycle upon and along a sidewalk, or across a roadway upon and along a crosswalk, shall yield the right-of-way to any pedestrian and shall give an audible signal before overtaking and passing such pedestrian.

(12) No person upon roller skates, or riding in or by means of any coaster, toy vehicle, or similar device, may go upon any roadway except while crossing a street on a crosswalk; and, when so crossing, such person shall be granted all rights and shall be subject to all of the duties applicable to pedestrians.

(13) This section shall not apply upon any street while set aside as a play street authorized herein or as designated by state, county, or municipal authority.

(14) Every bicycle shall be equipped with a brake or brakes which will enable its rider to stop the bicycle within 25 feet from a speed of 10 miles per hour on dry, level, clean pavement.

(15) A person engaged in the business of selling bicycles at retail shall not sell any bicycle unless the bicycle has an identifying number permanently stamped or cast on its frame.

(16)(a) A person may not knowingly rent or lease any bicycle to be ridden by a child who is under the age of 16 years unless:

1. The child possesses a bicycle helmet; or

2. The lessor provides a bicycle helmet for the child to wear.

(b) A violation of this subsection is a nonmoving violation, punishable as provided in s. 318.18.

(17) The court may waive, reduce, or suspend payment of any fine imposed under subsection (3) or subsection (16) and may impose any other conditions on the waiver, reduction, or suspension. If the court finds that a person does not have sufficient funds to pay the fine, the court may require the performance of a specified number of hours of community service or attendance at a safety seminar.

(18) Notwithstanding s. 318.21, all proceeds collected pursuant to s. 318.18 for violations under paragraphs (3)(e) and (16)(b) shall be deposited into the State Transportation Trust Fund.

(19) The failure of a person to wear a bicycle helmet or the failure of a parent or guardian to prevent a child from riding a bicycle without a bicycle helmet may not be considered evidence of negligence or contributory negligence.

(20) Except as otherwise provided in this section, a violation of this section is a noncriminal traffic infraction, punishable as a pedestrian violation as provided in chapter 318. A law enforcement officer may issue traffic citations for a violation of subsection (3) or subsection (16) only if the violation occurs on a bicycle path or road, as defined in s. 334.03. However, they may not issue citations to persons on private property, except any part thereof which is open to the use of the public for purposes of vehicular traffic.

History.--s. 1, ch. 71-135; s. 1, ch. 76-31; s. 2, ch. 76-286; s. 1, ch. 78-353; s. 8, ch. 83-68; s. 5, ch. 85-309; s. 1, ch. 86-23; s. 7, ch. 87-161; s. 21, ch. 94-306; s. 899, ch. 95-148; s. 1, ch. 96-185; s. 2, ch. 97-300; s. 161, ch. 99-248.

Note.--Former s. 316.111.

APPENDIX E:
Americans with Disabilities
Accessibility Guidelines Excerpts

4.7 Curb Ramps.

4.7.1 Location. Curb ramps complying with 4.7 shall be provided wherever an accessible route crosses a curb.

4.7.2 Slope. Slopes of curb ramps shall comply with [4.8.2](#). The slope shall be measured as shown in [Fig. 11](#). Transitions from ramps to walks, gutters, or streets shall be flush and free of abrupt changes. Maximum slopes of adjoining gutters, road surface immediately adjacent to the curb ramp, or accessible route shall not exceed 1:20.

4.7.3 Width. The minimum width of a curb ramp shall be 36 in (915 mm), exclusive of flared sides.

4.7.4 Surface. Surfaces of curb ramps shall comply with [4.5](#).

4.7.5 Sides of Curb Ramps. If a curb ramp is located where pedestrians must walk across the ramp, or where it is not protected by handrails or guardrails, it shall have flared sides; the maximum slope of the flare shall be 1:10 (see [Fig. 12\(a\)](#)). Curb ramps with returned curbs may be used where pedestrians would not normally walk across the ramp (see [Fig. 12\(b\)](#)).

4.7.6 Built-up Curb Ramps. Built-up curb ramps shall be located so that they do not project into vehicular traffic lanes (see [Fig. 13](#)).

4.7.7 Detectable Warnings. A curb ramp shall have a detectable warning complying with [4.29.2](#). The detectable warning shall extend the full width and depth of the curb ramp.

4.7.8 Obstructions. Curb ramps shall be located or protected to prevent their obstruction by parked vehicles.

4.7.9 Location at Marked Crossings. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides (see [Fig. 15](#)).

4.7.10 Diagonal Curb Ramps. If diagonal (or corner type) curb ramps have returned curbs or other well-defined edges, such edges shall be parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have 48 in (1220 mm) minimum clear space as shown in [Fig. 15\(c\)](#) and [\(d\)](#). If diagonal curb ramps are provided at marked crossings, the 48 in (1220 mm) clear space shall be within the markings (see [Fig. 15\(c\)](#) and [\(d\)](#)). If diagonal curb ramps have flared sides, they shall also have at least a 24 in (610 mm) long segment of straight curb located on each side of the curb ramp and within the marked crossing (see [Fig. 15\(c\)](#)).

4.7.11 Islands. Any raised islands in crossings shall be cut through level with the street or have curb ramps at both sides and a level area at least 48 in (1220 mm) long between the curb ramps in the part of the island intersected by the crossings (see [Fig. 15\(a\)](#) and [\(b\)](#)).

4.8 Ramps.

4.8.1* General. Any part of an accessible route with a slope greater than 1:20 shall be considered a ramp and shall comply with 4.8. [Appendix Note](#)

4.8.2* Slope and Rise. The least possible slope shall be used for any ramp. The maximum slope of a ramp in new construction shall be 1:12. The maximum rise for any run shall be 30 in (760 mm) (see [Fig. 16](#)). Curb ramps and ramps to be constructed on existing sites or in existing buildings or facilities may have slopes and rises as allowed in [4.1.6\(3\)\(a\)](#) if space limitations prohibit the use of a 1:12 slope or less. [Appendix Note](#)

4.8.3 Clear Width. The minimum clear width of a ramp shall be 36 in (915 mm).

4.8.4* Landings. Ramps shall have level landings at bottom and top of each ramp and each ramp run. Landings shall have the following features:

(1) The landing shall be at least as wide as the ramp run leading to it.

(2) The landing length shall be a minimum of 60 in (1525 mm) clear.

(3) If ramps change direction at landings, the minimum landing size shall be 60 in by 60 in (1525 mm by 1525 mm).

(4) If a doorway is located at a landing, then the area in front of the doorway shall comply with [4.13.6](#). [Appendix Note](#)

4.8.5* Handrails. If a ramp run has a rise greater than 6 in (150 mm) or a horizontal projection greater than 72 in (1830 mm), then it shall have handrails on both sides. Handrails are not required on curb ramps or adjacent to seating in assembly areas. Handrails shall comply with [4.26](#) and shall have the following features:

(1) Handrails shall be provided along both sides of ramp segments. The inside handrail on switchback or dogleg ramps shall always be continuous.

(2) If handrails are not continuous, they shall extend at least 12 in (305 mm) beyond the top and bottom of the ramp segment and shall be parallel with the floor or ground surface (see [Fig. 17](#)).

(3) The clear space between the handrail and the wall shall be 1 - 1/2 in (38 mm).

(4) Gripping surfaces shall be continuous.

(5) Top of handrail gripping surfaces shall be mounted between 34 in and 38 in (865 mm and 965 mm) above ramp surfaces.

(6) Ends of handrails shall be either rounded or returned smoothly to floor, wall, or post.

(7) Handrails shall not rotate within their fittings. [Appendix Note](#)

4.8.6 Cross Slope and Surfaces. The cross slope of ramp surfaces shall be no greater than 1:50. Ramp surfaces shall comply with [4.5](#).

APPENDIX F:
City of Ormond Beach
Land Development Code Excerpts

ARTICLE II. OPERATION*

*Cross references: Traffic regulations generally, Ch. 20.

Sec. 6-26. Bicycle regulations.

Every person propelling a vehicle by human power has all of the rights and all of the duties applicable to the driver of any other vehicle under Chapter 316, Florida Statutes, except as to special regulations in said chapter and except as to provisions of said chapter which by their nature can have no applications.

(Ord. No. 88-3, § 1, 2-2-88)

State law references: Similar provisions, F.S. § 316.2065(1).

Sec. 6-27. Speed and general safety.

No bicycle shall be operated at a greater speed than is reasonable and prudent under the conditions and having regard to the actual and potential hazards then existing. In every event, speed shall be controlled as may be necessary to avoid colliding with any person, vehicle or other conveyance or object on or entering the highway in compliance with legal requirements and the duty of all persons to use due care.

(Ord. No. 88-3, § 1, 2-2-88)

Sec. 6-28. Racing; contests prohibited.

No person operating a bicycle upon a public street shall participate in any race, speed or endurance contest with any other vehicle.

(Ord. No. 88-3, § 1, 2-2-88)

Sec. 6-29. Fancy riding.

(a) A person operating a bicycle may not ride other than upon or astride a permanent and regular seat attached thereto.

(b) Any person operating a bicycle shall keep at least one hand upon the handlebars.

(Ord. No. 88-3, § 1, 2-2-88)

Sec. 6-30. Operating while intoxicated or incapacitated.

No person shall operate a bicycle:

(1) While under the influence of alcoholic beverages, any chemical substance set forth in Section 877.111, Florida Statutes, or any substance controlled under Chapter 893, Florida Statutes, when affected to the extent that the normal faculties of the person are impaired; or

(2) When the person has a blood alcohol level or breath alcohol level of 0.08 or higher; or

(3) While physically or mentally unfit to safely operate the same.

(Ord. No. 88-3, § 1, 2-2-88; Ord. No. 97-4, § 1, 2-18-97)

Sec. 6-31. Duty to keep to right.

(a) Any person operating a bicycle upon a roadway at less than the normal speed of traffic at the time and place and under the conditions then existing shall ride as close as practicable to the right-hand curb or edge of the roadway, except under any of the following situations.

(1) When overtaking and passing another bicycle or vehicle proceeding in the same direction;

(2) When preparing for a left turn at an intersection or into a private road or driveway;

(3) When reasonably necessary to avoid any condition including, but not limited to, a fixed or moving object, parked or moving vehicle, bicycle, pedestrian, animal, surface hazard, or substandard-width lane, that make it unsafe to continue along the right-hand curb or edge. For purposes of this section, a "substandard-width lane" is a lane that is too narrow for a bicycle and another vehicle to travel safely side by side within the lane.

(b) Any person operating a bicycle upon a one-way highway with two (2) or more marked traffic lanes may ride as near the left-hand curb or edge of such roadway as practicable.

(Ord. No. 88-3, § 1, 2-2-88)

State law references: Similar provisions, F.S. § 316.2065 (5).

Sec. 6-32. Riding abreast.

Persons riding bicycles upon a roadway may not ride more than two (2) abreast, except on paths or parts of roadways set aside for the exclusive use of bicycles. Persons riding two (2) abreast shall not impede traffic when traveling at less than the normal speed of traffic at the time and place and under the conditions then existing and shall ride within a single lane.

(Ord. No. 88-3, § 1, 2-2-88)

State law references: Riding more than two abreast, F.S. § 316.2065 (6).

Sec. 6-33. Clinging to other vehicles.

No person riding upon any bicycle, coaster, roller skates, sled, or toy vehicle shall attach the same or himself to any vehicle upon a roadway. This section does not prohibit attaching a bicycle trailer or bicycle semitrailer to a bicycle, if that trailer or semitrailer is commercially available and has been designed for such attachment.

(Ord. No. 88-3, § 1, 2-2-88; Ord. No. 97-4, § 2, 2-18-97)

State law references: Similar provisions, F.S. § 316.2065(4).

Sec. 6-34. Carrying passengers; helmets required.

(a) A bicycle may not be used to carry more persons at one time than the number for which it is designed or equipped, except that an adult rider may carry a child securely attached or his or her person in a backpack or sling.

(b) Except as provided in subsection (a), a bicycle rider must carry any passenger who is a child under four (4) years of age, or who weighs forty (40) pounds or less, in a seat or carrier that is designed to carry a child of that age or size and that secures and protects the child from the moving parts of the bicycle.

(c) A bicycle rider may not allow a passenger to remain in a child seat or carrier on a bicycle when the rider is not in immediate control of the bicycle.

(d) A bicycle rider or passenger who is under sixteen (16) years of age must wear a bicycle helmet that is properly fitted and is fastened securely upon the passenger's head by a strap, and that meets the standards of the American National Standards Institute (ANSI Z 90.4 Bicycle Helmet Standards), the standards of the Snell Memorial Foundation (1984 Standard for Protective Headgear for Use in Bicycling), or any other nationally recognized standards for bicycle helmets adopted by the department. As used in this subsection, the term "passenger" includes a child who is riding in a trailer or semitrailer attached to a bicycle.

(Ord. No. 88-3, § 1, 2-2-88; Ord. No. 97-4, § 3, 2-18-97)

State law references: Similar provisions F.S. § 316.2065 (3).

Sec. 6-35. Option to use path or sidewalk where provided.

Whenever a useable path for bicycles or sidewalks have been provided adjacent to a street, bicycle riders may use such path or sidewalk.

(Ord. No. 88-3, § 1, 2-2-88)

State law references: Use of bicycle path, F.S. § 316.2065 (7).

Sec. 6-36. Rules governing riding on sidewalks.

(a) A person propelling a vehicle by human power upon and along a sidewalk, or across a roadway upon and along a crosswalk, has all the rights and duties applicable to a pedestrian under the same circumstances.

(b) A person propelling a bicycle upon and along a sidewalk, or across a roadway upon and along a crosswalk, shall yield the right-of-way to any pedestrian and shall give an audible signal before overtaking and passing such pedestrian.

(Ord. No. 88-3, § 1, 2-2-88)

Sec. 6-37. Duty to yield when entering sidewalk or street.

The operator of a bicycle emerging from an alley, driveway, garage or private sidewalk shall stop the bicycle immediately prior to driving onto or across a public street.

(Ord. No. 88-3, § 1, 2-2-88)

State law references: Similar provisions, F.S. § 316.125, as made applicable by F.S. § 316.2065 (1).

Sec. 6-38. Signals required.

No operator of a bicycle shall slow down, stop or turn until such movement can be made with reasonable safety and then only after first indicating such intention by appropriate hand signal in the manner hereinafter provided.

(Ord. No. 88-3, § 1, 2-2-88)

State law references: Similar provisions, F.S. § 316.155 et seq., as made applicable by F.S. § 316.2065 (1).

Sec. 6-39. Method of giving hand and arm signals.

All signals herein required to be given by hand and arm shall be given in the following manner, and such signals shall indicate as follows:

- (1) Left turn: Left hand and arm extended horizontally.
- (2) Right turn: Left hand and arm extended upward, or right hand and arm extended horizontally.
- (3) Stop or decrease speed: Left hand and arm extended downward.

(Ord. No. 88-3, § 1, 2-2-88)

Sec. 6-40. Obedience to traffic-control devices at railroad-highway grade crossings.

(a) Any person walking or operating a bicycle or other vehicle and approaching a railroad-highway grade crossing under any of the circumstances stated in this section shall stop within fifty (50) feet but not less than fifteen (15) feet from the nearest rail of such railroad and shall not proceed until he can do so safely. The foregoing requirements apply when:

- (1) A clearly visible electric or mechanical signal device gives warning of the immediate approach of a railroad train;
- (2) A crossing gate is lowered or human flagman gives or continues to give a signal of the approach or passage of a railroad train;
- (3) An approaching railroad train emits an audible signal or the railroad train, by reason of its speed or nearness to the crossing, is an immediate hazard; or
- (4) An approaching railroad train is plainly visible and is in hazardous proximity to the railroad-highway grade crossing, regardless of the type of traffic-control devices installed at the crossing.

(b) No person shall operate any bicycle or other vehicle through, around or under any crossing gate or barrier at a railroad-highway grade crossing while the gate or barrier is closed or is being opened or closed.

(Ord. No. 88-3, § 1, 2-2-88)

Sec. 6-41. Wearing of headsets.

(a) No person shall operate a bicycle or other vehicle while wearing a headset, headphone, or other listening device, other than a hearing aid or instrument for the improvement of defective human hearing.

(b) This section does not apply to:

- (1) Any law enforcement officer equipped with any communication device necessary in performing his assigned duties, or to any emergency vehicle operator equipped with an ear protection device;
- (2) Any person operating a bicycle who is using a headset that is installed in a helmet and worn so as to prevent the speakers from making direct contact with the user's ears so that the user can hear surrounding sounds; or
- (3) Any person using a headset in conjunction with a cellular telephone that only provides sound through one (1) ear and allows surrounding sounds to be heard with other ear.

(Ord. No. 88-3, § 1, 2-2-88; Ord. No. 97-4, § 4, 2-18-97)

Sec. 6-42. Operation on public and private property prohibited; penalties.

(a) It shall be unlawful for any person to operate any bicycle on any public or private real property in the city [if] the owner or operator of which real property has conspicuously erected one (1) or more signs of at least one (1) foot by one and one-half (1 1/2) feet in size with letters at least three (3) inches in height advising that the operation of bicycles is not permitted. Such sign may include the reference to the operation of other vehicles as referenced in Article VI, Chapter 14, of this Code. In addition to any real property on which such a sign is erected, no person shall operate a bicycle on the grounds of the Ormond Beach City Hall/Library Complex other than in the parking lot thereof.

(b)(1) Any person, firm or corporation violating any provision of this section shall be subject to a fine of not less than fifteen dollars (\$15.00) nor more than five hundred dollars (\$500.00) for each offense. If the court finds that a minor committed any violation of any of the provisions of this section, the court may also impose one (1) or more of the following sanctions:

- a. The court may reprimand or counsel the minor and the minor's parents or guardian;
- b. The court may order the minor to remit to the general fund of the city a sum not exceeding the maximum fine applicable to an adult for a like offense;
- c. The court may order the minor to participate in public service or a community work project within the city for a minimum number of hours. A minor who participates in such a work program shall be considered an employee of the city for the purposes of Chapter 440, Florida Statutes.
- d. The court may impose a curfew or other restriction on the liberty of the minor for a period not to exceed six (6) months.

(2) If a minor is charged with violating this section, the arresting officer shall notify the parent, guardian, or legal custodian of the minor as soon as possible.

(Ord. No. 89-40, § 2, 7-11-89; Ord. No. 95-67, § 1, 3-21-95)

Sec. 6-43. Rentals to persons under sixteen years of age.

A person may not knowingly rent or lease any bicycle to be ridden by a child who is under the age of sixteen (16) years unless:

- (1) The child possesses a bicycle helmet; or
- (2) The lessor provides a bicycle helmet for the child to wear.

(Ord. No. 97-4, § 5, 2-18-97)

Chapter 17 STREETS AND SIDEWALKS*

***Cross references:** Department of public works, § 2-141 et seq.; code enforcement board, § 2-211; code enforcement, § 2-251 et seq.; posting advertising in public places and ways, § 3-3; placing banners across public ways and property, § 3-4; livestock prohibited on sidewalks, § 5-8; riding bicycles on sidewalks, § 6-36; rights of city when waterway abuts streets, § 7-2; private use of public property abutting waterway, § 7-3; protection of sidewalks during construction, § 8-6; auctions prohibited on public property, § 12-78; subdivision improvements, including streets and sidewalks, § 18-17 et seq.; removal of trees interfering with city property, § 21-2.

Sec. 17-1. Obstructing generally.

It shall be unlawful for any person to obstruct any street or sidewalk in the city.

(Code 1958, § 23-2.1)

Sec. 17-2. Displaying goods prohibited.

It shall be unlawful for any person to display or place upon any public street or sidewalk in the city any goods, wares or merchandise.

(Code 1958, § 23-1)

Sec. 17-3. Preventing convenient and safe use of sidewalk or roadway.

It shall be unlawful for any owner or occupant of any lot or part thereof to erect, build, construct, deposit or place, or to procure or cause to be erected, built, constructed, or deposited or placed upon or in any street, or sidewalk, or roadway, or any public right-of-way or any place where the public has a right of passage, any house, cellar, stable, shed, fence enclosure, wall, foundation, rocks, or any other structure; permit any such obstruction to remain upon the sidewalk, or roadway or public right-of-way in front of such lot, or part thereof; or permit any sidewalk, or roadway or public right-of-way in front of such lot or part thereof to remain in such condition so as to prevent the convenient and safe use thereof by the public.

(Code 1958, § 23-2.2; Ord. No. 2002-13, § 1, 5-7-02)

Sec. 17-3.1. Maintenance of landscaping.

Any and all property owner(s) and/or occupant(s) of land abutting any public right-of-way shall be responsible for maintaining any and all landscaping existing on the site of said land and in the abutting right-of-way, and to maintain the landscaping in such a manner that will prevent any obstruction to pedestrian, bicyclist or vehicular visibility.

(Ord. No. 2003-28, § 2, 5-20-03)

Sec. 17-3.2. Damage to sidewalks.

In the event any sidewalk is damaged by construction or vehicular movements or any other activities of an abutting property owner and/or occupant, the property owner and/or occupant who is responsible for

causing damage to the sidewalk shall be responsible for repairing the damaged sidewalk in accordance with all applicable City standards within thirty (30) days of incident causing such damage, or such other reasonable time determined by the neighborhood improvement officer.

(Ord. No. 2003-28, § 2, 5-20-03)

Sec. 17-4. Sprinkling onto street or sidewalk.

It shall be unlawful for any person to have in his custody, control or possession any sprinkler or other apparatus throwing water onto the pavement of any street or onto any sidewalk in the city.

(Code 1958, § 23-2.3)

Sec. 17-5. Depositing injurious substances.

No person shall throw or deposit on or into the streets any nails, wire, scrap metal, glass, crockery or other substance injurious to the feet of persons or animals or to tires of vehicles.

(Code 1958, § 23-2)

Sec. 17-6. Vehicle spilling load.

No person shall operate or permit the operation of a vehicle upon which ashes, fuel, cinders, sand, gravel, paper, trash, rubbish or other materials are so loaded as to permit such materials to be scattered on the public streets.

(Code 1958, § 23-2)

State law references: Similar provisions, F.S. § 316.520.

Sec. 17-7. Construction, bases for curbside mailboxes.

It shall be unlawful for any person to construct a curbside mailbox of any material other than material used for exterior residential construction. No base shall exceed two (2) feet in width and length or be any higher than the height authorized by the United States Postal Service.

(Code 1958, § 23-15)

Sec. 17-8. Vacation or change of name of streets.

(a) The city commission, in vacating any street or part of street or changing the name of any street, may include in one (1) ordinance the change of name or vacation or narrowing of more than one (1) street, avenue or alley, but before vacating any street or part thereof or narrowing any street, the city commission shall first pass a resolution declaring its intention to do so.

(b) Notice by certified mail shall be served upon all persons whose property abuts upon the portion of the street affected by the proposed vacation or narrowing and by publication once in a newspaper of general circulation in the city. Said notice shall state the time and place at which the city commission will conduct a public hearing on the proposal, and the city commission may thereafter, by ordinance, declare such vacation or narrowing of street, avenue or alley of which notice was previously given as hereinbefore provided for, and such order of the city commission vacating or narrowing a street which has been dedicated to public use shall, to the extent to which it is vacated or narrowed, operate as a revocation of the acceptance thereof by the city commission, but the right-of-way and easement therein of any lot owner shall not be impaired thereby.

APPENDIX G:
Letter to Principal and
Principal Questionnaire



Via Email (jgjohnso@volusia.k12.fl.us)

Ref: 3706.03

April 6, 2010

Principal Ms. Julie Johnson
Ormond Beach Elementary School
100 Corbin Ave.
Ormond Beach, FL 32174

Re: Volusia County Metropolitan Planning Organization (VCMPO) Bike and Pedestrian Safety Review

Dear Mrs. Johnson:

The VCMPO has been awarded a Florida Department of Transportation (FDOT) safety grant to study bicycle and pedestrian safety as it relates to elementary schools, such as Ormond Beach Elementary, in the VCMPO planning area. Lassiter Transportation Group, Inc. has been retained to conduct these studies on the VCMPO's behalf.

We would like input from you to identify any bicycle and pedestrian safety-related issues or concerns that the school may be experiencing. Enclosed with this letter is a questionnaire form detailing the information that we are requesting. We would like to arrange a meeting with you, at your convenience, to discuss these items and will contact you in the near future to this end.

If you should have any questions or comments regarding this letter, please feel free to contact me at (386) 257-2571.

Sincerely,

LASSITER TRANSPORTATION GROUP, INC.



R. Sans Lassiter, PE
President

- c: Stephan C. Harris, Bicycle & Pedestrian Coordinator, VCMPO
- Saralee Morrissey, AICP, Director of Site Acquisitions & Intergovernmental Coordinator, Volusia County Schools
- Jon Cheney, PE, Volusia County Traffic Engineering
- Lt. Bobby Lambert, Volusia County Sheriff's Office
- Cindy Pagliari, Ormond Beach Elementary Crossing Guard Supervisor, Volusia County Sheriff's Office
- Richard Goss, AICP, Planning Director, City of Ormond Beach



VOLUSIA COUNTY
METROPOLITAN PLANNING ORGANIZATION

**PRINCIPAL
QUESTIONNAIRE**

TO: Ormond Beach Elementary School
Ms. Julie Johnson, Principal
100 Corbin Ave.
Ormond Beach, FL 32174

FROM: Stephan Harris
Volusia County Metropolitan Planning Organization (VCMPO)
2570 W. International Speedway Blvd, Suite 120
Daytona Beach, FL 32114-8145

**RE: MEETING DATE (TBD)
SCHOOL WALK ZONE SAFETY ANALYSIS**

The Volusia County Metropolitan Planning Organization (MPO) is conducting assessments aimed at improving the safety conditions for students who bicycle or walk to and from school. Ormond Beach Elementary School has been chosen as one of the schools to be studied during this study phase. The following questionnaire will aid us in this effort. Your participation is key to the success of this analysis and is greatly appreciated.

You will be meeting with our traffic engineering consultants who will be conducting this study, Lassiter Transportation Group. Each staff member responsible for conducting the on-site analysis has gone through the appropriate back-ground check. Should you have any questions, please do not hesitate to contact them directly. Mr. Sans Lassiter or Ms. Crystal Mercedes PH: (386) 257-2571 or by E-mail: rlassiter@lassitertransportation.com or cmercedes@lassitertransportation.com.

1. Number of students currently enrolled: _____

Comments: _____

2. Number of students (or approximate percentage) who walk/bicycle to/from school: _____

Comments: _____

3. Are you aware of any facility (sidewalk, crosswalk, etc.) maintenance issues? If yes, please explain.

4. Are you aware of any parents who stop and/or park along the walk zone route to drop-off/pick-up their students to avoid the regular school pick-up lines? If yes, does this cause a safety issue with the students who walk/bicycle?



5. Are you aware of any safety hazards or issues along the school's walk zone?

6. Please list all known crash incidents within the walk zone. Did any of the crashes cause an issue for walkers/bikers? If yes, please explain.

7. What is your biggest concern relative to the conditions faced by the students who walk/bicycle to/from school?

8. What changes/improvements would you like to see relative to the conditions faced by the students who walk/bicycle to/from school?

COMMENTS:

APPENDIX H:
Letter to Crossing Guard Supervisor
and Crossing Guard Supervisor
Questionnaire



Via Email (cpagliari@vcso.us)

Ref: 3706.03

April 6, 2010

Ms. Cindy Pagliari, Crossing Guard Supervisor
Volusia County Sheriff's Department
123 W. Indiana Avenue
DeLand, FL 32721

Re: Volusia County Metropolitan Planning Organization (VCMPO) Bike and Pedestrian Safety Review

Dear Ms. Pagliari:

The VCMPO has been awarded a Florida Department of Transportation (FDOT) safety grant to study bicycle and pedestrian safety as it relates to elementary schools in the VCMPO planning area. Lassiter Transportation Group, Inc. has been retained to conduct these studies on the VCMPO's behalf.

We understand that you are the crossing Guard Supervisor for Ormond Beach Elementary School, which is the next school we will be studying. We are seeking your input to identify any bicycle and pedestrian safety-related issues or concerns that this school may be experiencing. Enclosed with this letter is a questionnaire form detailing the information that we are requesting you fill out and return to us by mail/email as soon as possible. We would also like to arrange a time to speak with you by phone to discuss these items and will contact you soon to this end.

If you should have any questions or comments regarding this letter, please feel free to contact me at (386) 257-2571.

Sincerely,

LASSITER TRANSPORTATION GROUP, INC.



R. Sans Lassiter, PE
President

- c: Lt. Bobby Lambert, Volusia County Sheriff's Office
Principal Ms. Julie Johnson, Ormond Beach Elementary School
Stephan C. Harris, Bicycle & Pedestrian Coordinator, VCMPO
Saralee Morrissey, AICP, Director of Site Acquisitions & Intergovernmental Coordinator, Volusia County Schools
Jon Cheney, PE, Volusia County Traffic Engineering
Richard Goss, AICP, Planning Director, City of Ormond Beach



VOLUSIA COUNTY
METROPOLITAN PLANNING ORGANIZATION

**CROSSING GUARD SUPERVISOR
QUESTIONNAIRE**

TO: Volusia County Sheriff's Department
Ms. Cindy Pagliari, Crossing Guard Supervisor
123 W. Indiana Avenue
DeLand, FL 32721

FROM: Stephan Harris
Volusia County Metropolitan Planning Organization (VCMPO)
2570 W. International Speedway Blvd, Suite 120
Daytona Beach, FL 32114-8145

**RE: ORMOND BEACH ELEMENTARY SCHOOL -
SCHOOL WALK ZONE SAFETY ANALYSIS**

The Volusia County Metropolitan Planning Organization (MPO) is conducting assessments aimed at improving the safety conditions for students who bicycle or walk to and from school. Ormond Beach Elementary School has been chosen as one of the schools to be studied during this study phase. The following questionnaire will aid us in this effort. Your participation is key to the success of this analysis and is greatly appreciated.

You will be meeting with our traffic engineering consultants who will be conducting this study, Lassiter Transportation Group. Each staff member responsible for conducting the on-site analysis has gone through the appropriate back-ground check. Should you have any questions, please do not hesitate to contact them directly. Mr. Sans Lassiter or Ms. Crystal Mercedes PH: (386) 257-2571 or by E-mail: rlassiter@lassitertransportation.com or cmercedes@lassitertransportation.com.

Please direct all responses specifically to the school being analyzed.

1. Number of crossing locations: _____ 2. Number of crossing guards: _____

Please list all crossing locations and crossing guards (name, contact information) below:

LOCATION

CROSSING GUARD



2. Are you aware of any safety issues/concerns concerning the walk zone for this school? If yes, please explain.

3. What is your biggest concern regarding the students who walk/bicycle to/from this school?

4. What changes/improvements would you like to see relative to the conditions faced by the students who walk/bicycle to/from school?

5. In your opinion, do you feel that more students would walk/bicycle to school if the walking/biking facilities were improved? If yes, please explain (make note of intersections, specific crosswalks, etc.)

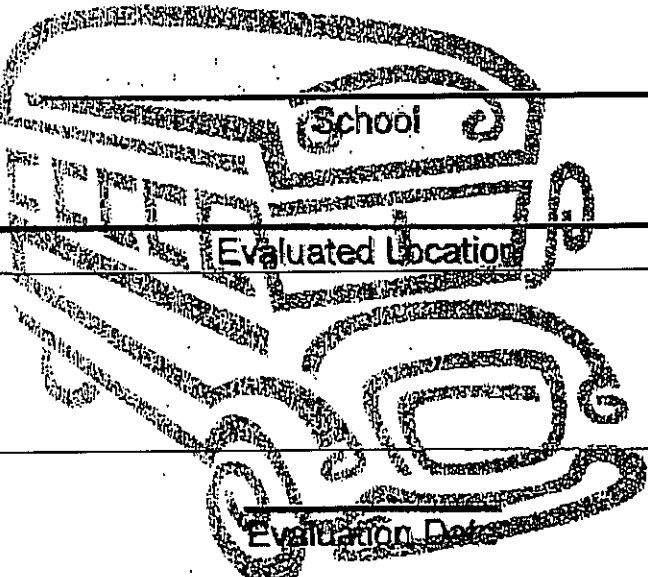
COMMENTS:

APPENDIX I:
Hazardous-Courtesy (09-10)

Code Number: _____
(Only issued if deemed hazardous)

Student Transportation Services

**State Criteria
for
Determining State Variance Workbook**



Description:

Re-Evaluation Date (pending on the ESE422 form)

Committee Members

Member	Agency	Phone No.	Email Address

School Board designated committee: The School Board designated committee shall consist of representatives from: The County & City/Cities' Engineering offices; Traffic Safety Units of Local Police & Sheriffs; Director of Student Transportation or designee; School Principal or Designee; Student transportation Safety Officer; Area Manager

DOES THIS AREA QUALIFY: ☐ - APPROVED ☐ - DENIED

If approved, the following must be submitted:

☐ City/County/State Engineer must complete form ESE422

234.021 Hazardous Walk Conditions

(1) **Definition.** -- As used in this section, "student" means any public elementary school student whose grade level does not exceed grade 6.

(2) **Identification.** --

- (a) When a request for review is made to the district superintendent of schools or the district superintendent's designee concerning a condition perceived to be hazardous to students in that district who live within the 2-mile limit and who walk to school, such condition shall be inspected by a representative of the school district, a representative of the county sheriff, a representative of the local safety council, if a safety council exists in the county, and a representative of the local governmental entity where the perceived hazardous condition exists. If any of such representatives determines that a condition is hazardous to such students according to the guidelines established by subsection (3) or based upon his or her findings upon inspection, he or she shall report to the Department of Education with respect thereto. Upon a determination that a condition is hazardous to such students, the district school board shall request a determination from the state or local governmental entity having jurisdiction regarding whether the hazard will be corrected and, if so, regarding a projected completion date. State funds shall be allocated for the transportation of students subjected to such hazards, provided that such funding shall cease upon correction of the hazard or upon the projected completion date, whichever occurs first.
- (b) It is intended that district school boards and local governmental entities work cooperatively to identify conditions, which are hazardous to students who must walk to school. It is further intended that state or local governmental entities having jurisdiction correct such hazardous conditions within a reasonable period of time.

State Criteria for Determining State Variance

Walkways Parallel to the Road:

Yes

☐

No

☐

1. Is the location in a residential area with little or no traffic?

Another way of looking at this is, is the location in a residential area and on a road or street which is not used as a major artery or "cut-through"?

☐☐

2. Is the location on a road in which the traffic volume is less than 180 vehicles per direction, per hour between approximately 6:00 a.m. – 9:00 a.m. and 2:00 p.m. – 4:00 p.m.?

Note: After obtaining the official traffic count, check to be sure the count exceeds 360 (two directions) during at least one of the hours targeted. If the traffic count is for a total 24 hour period, you must divide the total by 10% in rural areas and 8% in urban areas to obtain a per hour count.

Traffic Count: _____

☐☐

3. Is the area located on a road that has a posted speed limit of 30 miles per hour or less?

Posted Speed: _____

If the answer to either 1, 2 or 3 is yes, the area does not qualify. If the answer to 1, 2 and 3 are all no, continue.

Yes

☐

No

☐

4. Is the posted speed limit less than 55 m.p.h.?

☐☐

5. Is there a four (4) foot wide flat "surface upon which a student may walk" without requiring the student to walk on the road?

Note: The surface does not have to be a sidewalk, simply a flat surface. Also, weeds and tall grass are a maintenance problem and do not constitute a hazardous walking area.

If the posted speed limit is 55 m.p.h. or greater:

Yes

☐

No

☐

6. Is there a four (4) foot wide flat surface (see question no. 5 above) separated from the road by an additional three (3) feet?

If the answer to 5 or 6 (depending on the speed limit) is yes, the area does not qualify.

Student Transportation Services

State Criteria for Determining State Variance

Walkways Parallel to the Road:

1. Any walkway having a surface of which students walk and is not at least four (4) feet wide and is adjacent to roadway will be considered hazardous walking conditions. In addition, whenever the roadway is uncurbed and has a posted speed limit of 55 m.p.h., the walkway shall be set off no less than three (3) feet from the edge of the road.
2. The provisions of subparagraph one do not apply when the road along which students must walk:
 - a. *Is in a residential area which has little or no transient traffic;*
 - b. *Is a road which the volume of traffic is less than 180 vehicles per hour, per direction, during the time students walk to and from school; or*
 - c. *Is located in a residential area and has a posted speed limit of 30 m.p.h. or less.*

DOES THIS AREA QUALIFY:

☐ - APPROVED

☐ - DENIED

Approved/Denied – Explain: _____

State Criteria for Determining State Variance

Walkways Perpendicular to the Road:

(When students must cross the road)

Yes

☐

No

☐

1. Does the traffic volume exceed 360 vehicles per direction, per hour (but less than 4,000 total per hour).

See question 2 on Parallel Walkways for note pertaining to traffic count.

If answer is no, area does not qualify. If answer is yes, continue.

In High Volume Urban Areas

Yes

☐

No

☐

2. Is there anyone of the following:

☐

Crossing Guard

☐

Traffic Enforcement Officer

☐

Stop Sign

☐

Other Traffic Control Signal

If answer is yes, area does not qualify. If answer is no, area does qualify.

Yes

☐

No

☐

3. Does the traffic volume exceed 4,000 total vehicles per hour during times students walk to school?

If answer is yes, continue.

Yes

☐

No

☐

4. Is there a crossing guard or other traffic enforcement officer?

If answer to 4 is no, area qualified. If answer to 4 is yes, area does not qualify.

Student Transportation Services

State Criteria for Determining State Variance

Walkways Perpendicular to the Road:

A walkway will be considered hazardous for students if the following conditions exist:

1. Traffic volume on such road exceeds the rate of 360 vehicles per hour, per direction (*including all lanes*), during the time students walk to and from school and crossing site is uncontrolled. For purposes of this subsection an "uncontrolled crossing site" is defined as an intersection or other designated crossing site where no crossing guard, traffic enforcement officer, or stop sign or other traffic control signal is present during the times students walk to and from school.
2. Total traffic volume on such road exceeds 4,000 vehicles per hour through an intersection or other crossing site controlled by a stop sign or other traffic control signal, without crossing guards or other traffic enforcement officers present during the time of students' use.

Note: Traffic volume shall be determined by the most current traffic engineering study conducted by a state or local governmental agency.

DOES THIS AREA QUALIFY:

☐ - APPROVED

☐ - DENIED

Approved/Denied – Explain: _____

District Name: Volusia County
District Number: 64

Volusia County Schools

State Variance Report for Hazards Not Corrected

School: _____

PLEASE PRINT or TYPE

Code Number	Cost to Correct Hazard	Interagency Priority Code (see below)	Reasons Hazardous Condition not corrected

Interagency Priority Code

1. Project to be corrected in one year or less
2. Project to be corrected in two years or less
3. Project to be corrected in three years or less
4. Project to be corrected in four years or less
5. Project to be corrected in five years or less
6. Project not practical or feasible to correct

Print Name

Title

Agency

Phone No.

Return this form by email to gpakin@volusia.k12.fl.us or mail to:

Volusia County Schools

Student Transportation Services

Attn: Transportation Variance Chairperson

P.O. Box 2118

DeLand, Florida 32720-2118

VCS

STATE #	AREA	Condition Code	Location of Hazard	Hazardous/Convenience	Reason	Responsible Governmental Entity	Date Determined Hazardous MO/DAY/YR	Next Review Date	Projected Completion Date	Number of Students Determined	Per Hour Traffic Count
070014	1	A	E & W of Airport Road bet Ocean Pines Drive & 800 block of Airport Road (Pine Trail)	H	No 4ft flat walk space	A	03/02/07	4/17/2010	N/A	18	449
070015	1	A	Westside of Tymber Creek fr 218 Tymber Creek S to Tymber Creek N to Jason St (Pathways)	H	No 4ft flat walk space	A	03/02/07	4/17/2010	N/A	28	664
070019	1	C	E & W of RR bet Hand & Calle Grande (Holly Hill Elem)	H	No 4ft flat walk space	A	03/02/07	4/17/2010	N/A	10	725
070021	1	C	Eastside Tymber Creek fr Airport to Durren Ln(Pathways)	H	No 4ft flat walk space	A	03/02/07	4/17/2010	N/A	37	467
100001	1	B	Eastside of LPGA fr INTL Tennis to Champion Dr (Champion Elem)	H	Multi Ln Roadway	A	08/24/09	4/17/2010	N/A	6	650
	1		E & W of RR bet Hand & Calle Grande (Holly Hill Middle)	C	No Ped Feature @ R Rxing			4/17/2010		35	
	1		Williamson Blvd N from Mason to Indigo Dr S (Palm Terrace)	C	Multi Ln Roadway			4/17/2010		37	
	1		East of Nova Rd from Fernery Trl to U S 1 (Tomoka Elem)	C	Multi Ln Roadway			4/17/2010		35	
STATE #	AREA	Condition Code	Location of Hazard	Hazardous/Convenience	Reason	Responsible Governmental Entity	Date Determined Hazardous MO/DAY/YR	Next Review Date	Projected Completion Date	Number of Students Determined	Per Hour Traffic Count
070004	2	C	US1 crossing at Dunlawton Avenue S to Niver St (Port Orange)	H	Multi Ln Roadway	C	03/02/07	4/17/2010	N/A	10	730
070008	2	C	Westside Nova Rd. bet Madeline Ave & Dunlawton crossing at Herbert St. (Sugar Mill)	H	No Ped Feature @ R Rxing	E	03/02/07	4/17/2010	N/A	87	858
080001	2	C	Southside Dunlawton between Jackson St & Lemon St (Sugar Mill)	H	Multi Ln Roadway	C	06/13/07	4/17/2010	N/A	32	1,298
080002	2	C	Ridgewood Av East and West from Reed Canal to Dunlawton Ave (Sugar Mill)	H	No Ped Feature @ R Rxing	C	06/13/07	4/17/2010	N/A	37	1,502
	2		Taylor Rd between I-95 and Fern Park Dr. to include Summertrees Subdivision (Spruce Creek High)	C	No Ped Feature @ exit/entrance ramp to I-95			4/17/2010			
	2		East of RR from Beville to ISB/W of Nova Rd between Beville and Bellevue (T T Small)	C	High Crime			4/17/2010			
	2		Westside of Nova Rd between Reed Canal and Beville (South Daytona Elem)	C	Multi Ln Roadway			4/17/2010			
	2		Westside of Clyde Morris between Big Tree and Shangri La then East and west of Clyde Morris to Shangri La N (Atlantic High)	C	Multi Ln Roadway & No 4ft walkspace			4/17/2010			

STATE #	AREA	Condition Code	Location of Hazard	Hazardous/Convenience	Reason	Responsible Governmental Entity	Date Determined Hazardous MO/DAY/YR	Next Review Date	Projected Completion Date	Number of Students Determined	Per Hour Traffic Count
	3		Southside of 801 S Old County Rd - Indian River Blvd from Willow Oak to US1 (Edgewater Elem)	C	Multi Ln Roadway			4/17/2010			
STATE #	AREA	Condition Code	Location of Hazard	Hazardous/Convenience	Reason	Responsible Governmental Entity	Date Determined Hazardous MO/DAY/YR	Next Review Date	Projected Completion Date	Number of Students Determined	Per Hour Traffic Count
070003	4	C	Minnesota Ave E of Blue Lk Bridge to Kepler Rd on Kepler Rd fr SR44 to Talmadge(Blue Lake)	H	No 4ft flat walk space	A	03/01/07	4/17/2010	N/A	0	255
070005	4	C	US92 @ Stone N - US17 - Old Dayt. - Dietrick-US92-US17/92-Plymouth-Stone-US92(George Marks)	H	No Ped feature at 17-92 or 92 @ Garfield, No 4ft flat walk space	C	03/01/07	4/17/2010	N/A	44	1,877
070012	4	C	E & W of CR3 between North Road & Menton Road (Pierson)	H	No 4ft flat walk space	A	03/01/07	4/17/2010	N/A	57	144
070016	4	C	N & S of Graves Ave E fr Florabunda Cir to I-4 Overpass (Orange City)	H	Multi Ln Roadway over 55mph	A	03/01/07	4/17/2010	N/A	47	975
090001	4	B	On Hwy 44 W, Northside between 15A & Grand Av (Woodward Elem)	H	Multi Ln Roadway	A	09/21/08	4/17/2010	N/A	15	650
	4		West of 17-92 between Beresford and Voorhis (DeLand Middle)	C	Multi Ln Roadway			4/17/2010			
	4		Center St between Palmetto Av and Hagstrom Rd (Pierson Elem)	C	Multi Ln Roadway over 55mph			4/17/2010			
STATE #	AREA	Condition Code	Location of Hazard	Hazardous/Convenience	Reason	Responsible Governmental Entity	Date Determined Hazardous MO/DAY/YR	Next Review Date	Projected Completion Date	Number of Students Determined	Per Hour Traffic Count
070006	5	C	E & W SR 415 fr Eastside Ln to Longwood Dr (Osteen)	H	No 4ft flat walk space	C	03/01/07	4/17/2010	N/A	39	1,342
070010	5	A	N & S Dirksen/DeBary West of Mansion Blvd to E of Maple Ave & Salvadore Rd (Enterprise)	H	No 4ft flat walk space	A	03/01/07	4/17/2010	N/A	20	1,556
070013	5	C	E & W of Doyle Road bet Saxon Blvd & Twisted Oak(Forest Lake)	H	No 4ft flat walk space	A	03/01/07	4/17/2010	N/A	9	542
100002	5	B	East & Westside of Providence fr Lakeshore to Anderson (Enterprise Elem)	H	No 4ft flat walk space	A	08/03/09	4/17/2010	N/A	70	193
100003	5	A	N & S of Fort Smith fr Deed to Clovis (Sunrise Elem)	H	No 4ft flat walk space	A	08/10/09	4/17/2010	N/A	32	650
	5		Dirksen Dr -DeBary Av between Riverside Condos and Maple Av (Deltona Middle)	C	Multi Ln Roadway			4/17/2010			
STATE #	AREA	Condition Code	Location of Hazard	Hazardous/Convenience	Reason	Responsible Governmental Entity	Date Determined Hazardous MO/DAY/YR	Next Review Date	Projected Completion Date	Number of Students Determined	Per Hour Traffic Count
	6		Riverbluff and Highbanks Rd W to Sanctuary Av (DeBary Elem)	C	No Ped Feature @ R Rxing			4/17/2010			
	6		South and West sides of Volusia Av and Rhode Island (Manatee Cove)	C	Multi Ln Roadway			4/17/2010			
	6		Saxon Blvd west of Normandy (Spirit Elem)	C	Multi Ln Roadway			4/17/2010			

APPENDIX J:

Contact List

Data Collection Checklist/Contact List
VCMPD Bike/Pedestrian Safety Study

Name of School: Ormond Beach Elementary School

Principal: Ms. Julie Johnson

X-Guard Supervisor: Cindy Pagliari

Job #: 3706.03

Date: 7/27/2010

	Volusia County Traffic Engineer	City of Port Orange	Public Works (Volusia County Engineer)	Swanwater Elementary	Volusia County Schools	Questionnaire	Observation	GIS	VCMPD	BRAC	Property Appraiser	Sheriff's Office	Contact
General:													
Crash Data Ordered	X												Jon Cheney @ jcheney@co.volusia.fl.us (386) 257-6000, ext. 5968
Crash Data Received													Jon Cheney @ jcheney@co.volusia.fl.us (386) 257-6000, ext. 5968
Attendance Zones For study School				X									Tina Martinez, GIS Specialist @ temartin@volusia.k12.fl.us 386-947-8786 EXT 50720
City Boundaries											X		MorganG@co.volusia.fl.us @ 386-254-4601
Notice of Intent to Principal			X										Ms. Julie Johnson @ 386258-4666 @ jgjohnso@volusia.k12.fl.us
Notice of Intent to Supervisor of Crossing Guards (Sheriff's Office)												X	Lt. Bobby Lambert @ blambert@vcso.us Volusia County Sheriff's Office @ 386-736-5961
Number of Students Living in Walk Zone				X									Tina Martinez, GIS Specialist @ temartin@volusia.k12.fl.us 386-947-8786 EXT 50720
Specific:													
Signals/Crosswalks or Related Traffic Improvements	X	X											Jon Cheney @ jcheney@co.volusia.fl.us (386) 257-6000, ext. 5968
Sidewalk, Trail or Bike Lane (Elementary)	X	X	X										Arden Fontaine @ 386-736-5965 x5621 @ afontaine@co.volusia.fl.us or Steve Johnson @ 676-3309
Sidewalk, Trail or Bike Lane (Middle School)													Steve Johnson @ 676-3309
Attendance Zone Changes													Ms. Julie Johnson @ 386258-4666 @ jgjohnso@volusia.k12.fl.us
Walk Zones (Elementary)				X									Saralee Morrissey @ smorris@volusia.k12.fl.us 386-255-6475 Ext. 50772
Walk Zones (Middle School)				X									Ann Conolly, Manager (Support Services Center) 386-734-7190, Ext. 20410 E-mail: aconolly@volusia.k12.fl.us/ Saralee Morrissey @ smorris@volusia.k12.fl.us 386-255-6475 Ext. 50772
Attendance Zone for Study School				X									Ms. Julie Johnson @ 386258-4666 @ jgjohnso@volusia.k12.fl.us
Census for Walkers					X								Ms. Julie Johnson @ 386258-4666 @ jgjohnso@volusia.k12.fl.us
Census for Bikers					X								Ms. Julie Johnson @ 386258-4666 @ jgjohnso@volusia.k12.fl.us
Census for Bus Riders					X								386-736-6753, ext. 20812 gskinn@volusia.k12.fl.us Green Alkin, Director
Walking/Biking Routes			X	X									Saralee Morrissey @ smorris@volusia.k12.fl.us 386-255-6475 Ext. 50772
Crossing Locations			X	X									Cindy Pagliari, School Crossing Guard Supervisor 386-323-0151 cpagliari@vcso.us
Safe Routes Tally			X	X									Ms. Julie Johnson @ 386258-4666 @ jgjohnso@volusia.k12.fl.us
Proposed Trails	X							X	X				Jon Cheney @ jcheney@co.volusia.fl.us (386) 257-6000, ext. 5968 and Ric Goss, Planning Director, City of Ormond Beach @ 386-676-3343
Conservation and Park Lands							X						Tina Martinez, GIS Specialist @ temartin@volusia.k12.fl.us 386-947-8786 EXT 50720
Municipal Boundaries							X						Tina Martinez, GIS Specialist @ temartin@volusia.k12.fl.us 386-947-8786 EXT 50720
Drainage Ditches						X							Dian Singh @ LTG
Bridges						X							Dian Singh @ LTG
Retention Ponds						X							Dian Singh @ LTG
Safety Procedures			X										Ms. Julie Johnson @ 386258-4666 @ jgjohnso@volusia.k12.fl.us
Funded/Future Improvements and Proposed Project Including:													
Roadways	X	X	X										Jon Cheney @ jcheney@co.volusia.fl.us (386) 257-6000, ext. 5968 and Ric Goss, Planning Director, City of Ormond Beach @ 386-676-3343
Developments (subdivisions, schools, shopping centers)	X	X											Jon Cheney @ jcheney@co.volusia.fl.us (386) 257-6000, ext. 5968
Attendance Zone Changes			X										Ms. Julie Johnson @ 386258-4666 @ jgjohnso@volusia.k12.fl.us
Proposed School Construction/Improvement Projects		X		X									Saralee Morrissey @ smorris@volusia.k12.fl.us 386-255-6475 Ext. 50772
Conservation and Park Lands	X												Jon Cheney @ jcheney@co.volusia.fl.us (386) 257-6000, ext. 5968
Drainage Ditches						X							Dian Singh @ LTG
Bridges						X							Dian Singh @ LTG
Retention Ponds						X							Dian Singh @ LTG
Expansion Plans Such as Drainage Canals, Airport Expansion, Pedestrian Bridges, Public Land Expsn.	X	X	X										Jon Cheney @ jcheney@co.volusia.fl.us (386) 257-6000, ext. 5968