MEMORANDUM

Date: June 26, 2013

TO: Dave Bullock, Town Manager

FROM: Juan Florensa, Public Works Director

SUBJECT: Florida Department of Transportation (FDOT) Pedestrian Study

The Florida Department of Transportation (FDOT) will be attending the July 1, 2013 Town Commission Regular Meeting to present the findings of a draft report that evaluates the conditions of Gulf of Mexico Drive (GMD) along the entire limits of the Town.

The attached report is divided into the following main sections:

- Data Collection
- Qualitative Assessment of Existing Conditions
- Pedestrian Crossing Analysis
- Pedestrian Lighting Analysis
- Recommendations

FDOT representatives will be able to address questions from the Town Commission. Additionally, FDOT staff will be able to answer questions on behalf of the District Secretary relative to general transportation and traffic issues in the region.

Some of the main recommendations of the report include:

- Consider installing sidewalks where they are missing or discontinuous along GMD
- Consider installation of selected mid-block pedestrian crossings along GMD
- Consider improving lighting levels along GMD
- Improving bus stop geometrics and consistency in bus stop informational placards attached to bus stop sign poles

Several additional recommendations are contained in the report.

Please let me know if you need more information.

PEDESTRIAN/BICYCLE SAFETY STUDY

S.R. 789 (GULF OF MEXICO DRIVE) FROM NEW PASS BRIDGE TO LONGBOAT PASS BRIDGE

MANATEE AND SARASOTA COUNTY
SECTION NO.: 17030401, 17030000, AND 13080000
MILEPOST: 0.363-0.648, 3.870-8.957, AND 0.000-4.545

DRAFT

FM No. 40922413290
Contract No. C-9430

June 2013

PREPARED FOR
Florida Department of Transportation, District 1
Project Manager: Michael Kautz
801 N. Broadway Street
Bartow, Florida 33830

PREPARED BY
HNTB Corporation
Project Manager: Sergio Quevedo, P.E., PTOE

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INTRODUCTION

The Florida Department of Transportation (FDOT) – District One Safety Office has retained HNTB Corporation as part of a District-Wide Traffic Safety Project to perform a Pedestrian/Bicycle Safety Study for the segment of S.R. 789 (Gulf of Mexico Drive) from New Pass Bridge to Longboat Pass Bridge in Manatee and Sarasota Counties, Florida. This study was conducted as a result of a request from the Town of Longboat Key.

EXISTING CONDITIONS

In general, the segment of S.R. 789 from New Pass Bridge to Longboat Pass Bridge has a two-lane undivided typical section with auxiliary lanes for the larger developments and side streets. There are also intermittent areas with a three-lane typical section including a two-way left turn lane. The typical section is rural with no curb and gutter and paved shoulders that are designated for bicycles. A continuous multi-use path is provided on the east side of S.R. 789 and sporadic sidewalk segments are provided on the west side of S.R. 789.

Figure 1 shows the segment location in relation to the adjacent roadway system. This segment of S.R. 789 is approximately 9.9 miles long. The posted speed limit along S.R. 789 within the study limits is 45 mph, except for the southern end of the segment from north of Longboat Key Club Drive to New Pass Bridge. Land uses along this segment consist of large multi-family residential condominiums, single family residential developments, and small commercial developments. S.R. 789 is classified as an urban collector roadway within serving as a north-south route from St. Armands Circle in Sarasota County to S.R. 64 in Holmes Beach, Manatee County. Sarasota County Area Transit and Manatee County Area Transit service this segment of S.R. 789 with Route 18 – Longboat Key Trolley, which operates daily from 5:30 AM to 8:00 PM.

Two signalized intersections are present along this segment of S.R. 789. These include the following intersections.

- Longboat Key Club Road
- Bay Isles Parkway

Each of these signalized intersections has pedestrian features, including crosswalks, pedestrian activated detectors, and pedestrian signals. In addition, there is an underground pedestrian walkway under S.R. 789 allowing pedestrians and bicyclists to access both sides of S.R. 789 without delay or conflict. There is sporadic lighting present along this segment of S.R. 789 with luminaires mounted on joint use poles on the east side of S.R. 789. Appendix A includes a condition diagram of the study area.

FIGURE 2 - STUDY LOCATION MAP

DATA COLLECTION

This section of the report presents the data that was obtained for this study. For the purposes of this study, it was determined that the following information would be required:

- Pedestrian and bicycle crash summaries from January 2008 through December 2012 provided by FDOT District One Safety Office.
- Field observations of the segment operations during an average weekday.
- Pedestrian and bicycle count data crossing S.R. 789 during peak periods of pedestrian and bicycle activity.
- Vehicle count data from count stations located within the study limits.
- Lighting levels along S.R. 789.
- Pavement characteristic data, including the most recent crack and ride values.
- Recently completed or future planned projects within the study limits.

Crash Data

Pedestrian and bicycle crash data was provided by the FDOT District One Safety Office for the period extending between January 2008 and December 2012. Crash summaries for the period are presented in Table 2; crash location maps are included in Appendix B. Areas of concern are discussed in the Crash Analysis section of this report.

Traffic Volume and LOS Data

Traffic volume data on S.R. 789 was obtained from the Florida Department of Transportation 2012 Annual Average Daily Traffic and LOS Report. This information contains recent count data from the Department's count stations throughout the state along with the LOS for the roadway segment. S.R. 789 from Longboat Key Club Road to Harborside Drive is reported to have an AADT of 11,800 and an LOS C. S.R. 789 from Harborside Drive to the Manatee County Line has an AADT of 8,600 and an LOS B. S.R. 789 from the Sarasota County Line to Binnacle Pointe Drive is reported to have an AADT of 7,500 and an LOS B.

Pedestrian/Bicycle Count Data

Pedestrian counts were performed along the entire corridor on weekdays between March 20, 2013 and April 1, 2013 from 9:00 AM to 1:00 PM and from 2:00 PM to 6:00 PM. All pedestrian and bicycle traffic crossing S.R. 789 were tallied during this time frame. The results show that the majority of pedestrian activity occurred in the vicinity of the following locations:

- Bay Isles Parkway
- Beach access just north of The Diplomat condominiums
- Bayport Beach and Tennis Club entrance

- Just north of Club Longboat
- Just south of the Centre Shops
- Just north of Spanish Drive.

Pedestrian Count Data is included in Appendix D of this report and summarizes the total number of pedestrians and bicycles crossing S.R. 789 along the corridor.

Pavement Condition Surveys

The Department has an extensive program to measure the pavement conditions along each state road. The program consists of a yearly review of each roadway that measures the cracking of the roadway surface and the ride-ability of the roadway. A rating between 0 and 10 is assigned for each of these characteristics, and when a roadway falls below 6 in any category, then the roadway is added to the Department's/District's resurfacing needs list. The segments on the needs list are prioritized annually and added to the Department's work program, usually with scheduling occurring in the 3rd or 4th year of the five-year work program.

The Crack/Ride values along S.R. 789 were reported as follows.

TABLE 1 – PAVEMENT CONDITION SURVEY RESULTS

SECTION	BMP	EMP	CRACKING RATING	RIDE RATING
17030401	0.372	0.648	10.0	8.3
17030000	3.870	5.953	10.0	8.5
17030000	5.953	8.957	10.0	8.3
13080000	0.000	4.545	10.0	8.0

These reviews were conducted in the year 2013, and the results indicate that the roadway surface was considered to be in good condition.

The Department's Materials and Research Laboratory conducts skid tests on each state roadway on a regular basis to measure the pavement's surface resistance. Each year, between 25-35 percent of the state roadways are tested, so that each roadway is tested a minimum of once every four years.

Skid Test results are reported as a Skid Number (SN), and if the SN is less than 31, then the roadway's wet weather crashes are reviewed and any necessary remedial actions, such as a skid or resurfacing project, are identified.

The most recent skid tests for S.R. 789 within the study limits were conducted for Section 17030000, Milepost 3.870 to 5.953 on 7/13/2011 for the northbound and southbound lanes. The SN was found to be 44 for northbound lanes and 46 for southbound lanes. Skid tests were also conducted for Section 13080000, Milepost 0.000 to 4.545 on 2/14/2012 for the northbound lanes. The SN was found to be 44 for the northbound lanes. The results indicate that the skid resistance is within the satisfactory range.

Recently Completed/Future Projects

An investigation of the FDOT Work Program indicated that resurfacing was completed in 2011 along S.R. 789 from Longboat Key Club to the Manatee County Line (FPID 422407 and 422395). Resurfacing was completed in 2009 along S.R. 789 from the Sarasota County Line to Longboat Pass Bridge (FPID 195808). A project to add various right turn lanes along S.R. 789 within the project area was completed in 2010. A project is also planned and is currently under design to better define the sidewalk on the east side of S.R. 789 in front of Gulfshore.

CRASH ANALYSIS

Pedestrian and bicycle crash data was obtained from the Florida Department of Transportation for the period extending between January 2008 and December 2012. The collision data is summarized in Table 2.

According to the collision data, there have been 13 pedestrian and/or bicycle collisions reported along the corridor during this time period. Two of the crashes involved pedestrians and eleven of the crashes involved bicycles. Of these crashes, twelve (92%) resulted in personal injury and one (8%) resulted in a fatality. The fatality occurred at the entrance to the Islander Club.

The majority of crashes occurred at or in the vicinity of unsignalized intersections and driveways with none occurring at the signalized intersections. In terms of midblock pedestrian and bicycle crashes, 8 occurred between New Pass Bridge and Bay Isles Road, and 5 occurred between the Fire Station Emergency Signal and Longboat Pass Bridge. Two (15%) of the crashes occurred at night.

TABLE 2 – CRASH SUMMARY

S.R. 789 FROM NEW PASS BRIDGE TO LONGBOAT PASS BRIDGE
JANUARY 2008 – DECEMBER 2012

COLLISION TYPE	2008	2009	2010	2011	2012	TOTAL
Pedestrian	0	0	0	1	1	**2**
Bicycle	1	2	3	3	2	**11**
Total	**1**	**2**	**3**	**4**	**3**	**13**

Fatal Crashes	0	0	0	0	1	**1**
Injury Crashes	1	2	3	4	2	**12**
Property Damage Only	0	0	0	0	0	**0**

QUALITATIVE ASSESSMENT

The segment of S.R. 789 from New Pass Bridge to Longboat Pass Bridge was observed by a qualified engineer during a typical weekday to assess existing conditions. The results of these observations are highlighted below:

General

- There are marked bike lanes on both sides of the roadway.
- Recreational bicyclists were observed using the sidewalk while professional bicyclists used the bike lanes.
- All pedestrian detectors along this corridor are accessible unless otherwise noted.

Between New Pass Bridge and Schooner Lane

- Sidewalk ranges from 5 to 8 feet wide with a utility strip.
- There is no sidewalk on the bridge or on the west side of S.R. 789 between Longboat Key Club Drive and Schooner Lane. Goat paths were observed.
- The bus stops along this segment have a 5-foot by 8-foot boarding and alighting area at the back of curb, with the exception of the bus stop north of the BP gas station. The bus stops do not have detectable warning surfaces for the area leading onto the paved shoulder.

Bus Stop Boarding and Alighting Area

- There is no keyhole for the bike lane in the southbound right turn lane at Longboat Key Club Road.
- There is an acceleration taper for the eastbound right turn movement at Longboat Key Club Road.
- There are no crosswalks or pedestrian features across the north or west legs of the signalized intersection at Longboat Key Club Road. There are pedestrian signals and a standard crosswalk with curb ramps across the south leg of the intersection.
- There is no curb at the bus stop south of Longboat Key Club Road.
- The bus stop at the Bay Harbor driveway does not have an information poster.
- The side streets have curb ramps, detectable warning surfaces, and standard crosswalks to cross them.

- The northbound right turn lane into the Tangerine Bay Club does not have the proper pavement markings for a designated right turn lane or a keyhole for the bike lane.
- The area in front of the BP gas station has one long crosswalk that is outside of the right-of-way and wide driveways. The driveways could be better defined and a median island and sidewalk installed.

BP Gas Station Driveway

Between Schooner Lane and The Players Club

- Sidewalk ranges from 5 to 8 feet wide with a utility strip on both sides of the roadway.
- There is no sidewalk on the west side of S.R. 789 between Schooner Lane and Longboat Key Club Drive.
- The sidewalk is damaged near The Players Club entrance.
- The bus stops along this segment have a 5-foot by 8-foot boarding and alighting area at the back of curb with the exception of the following locations: Schooner Lane, Yawl Lane, Gunwale Lane, Spinnaker Lane, 1000 Gulf of Mexico Drive, Country Club Shores IV, Country Club Shores V, Islandside, and The Players Club.
- The bus stops at Gunwale Lane, Spinnaker Lane, and the Promenade condominiums entrance do not have an information poster.
- The bus stop on the east side of S.R. 789 in front of the Promenade Condominiums does not have a detectable warning surface for the area leading onto the paved shoulder, and the one on the east side does not have a rural transition leading onto the paved shoulder.
- There is no keyhole for the bike lane in the southbound right turn lane at the Promenade Condominiums/Waters Club entrance.

Bus Stop without Detectable Warning Surface

Between The Players Club and Bay Isles Parkway

- Sidewalk ranges from 5 to 8 feet wide with a utility strip.
- There is sidewalk to cross the road at 1620 Gulf of Mexico Drive with no detectable warning surfaces.
- The bus stops along this segment have a 5-foot by 8-foot boarding and alighting area at the back of curb with the exception of the following locations: 2111 Gulf of Mexico Drive, in front of the vacant building on the west side, south of Vizcaya, at Sea Gate, and at the Islander Club.
- The bus stop at 1620 Gulf of Mexico Drive does not have detectable warning surfaces for the area leading onto the paved shoulder or an informational poster.

Bus Stop without Rural Transition to Shoulder

- The bus stop at Bay Isles Parkway does not have a rural transition leading onto the paved shoulder or an informational poster.
- The bus stops at Sea Place, south of Sea Place, and at Bay Isles Beach Club do not have a rural transition.
- The crosswalk across Bay Isles Parkway does not have striping or a stop bar. There are tapers along both sides of Bay Isles Parkway along S.R. 789.
- There is a tunnel under S.R. 789 at Sea Place that has slopes that do not meet ADA criteria.
- There is no handrail at the mitered end section south of Sea Place on the west side.
- The signalized intersection at Bay Isles Parkway has standard crosswalks and pedestrian signals to cross all legs of the intersection. However, there is no detector in the southeast corner to cross to the west.
- There is a 'Tractor Crossing' sign at the Islander Club.

Between Bay Isles Parkway and Bayport Beach Club

- Sidewalk is 8 feet wide with a utility strip on the east side of S.R. 789. There is no sidewalk on the west side of S.R. 789.
- The bus stops along this segment have a 5-foot by 8-foot boarding and alighting area at the back of curb with the exception of the following locations: north of Buttonwood Cove, Portobello Condominium, 2945 Gulf of Mexico Drive, and 2813 Gulf of Mexico Drive.

- The bus stop at Four Winds does not have an informational poster.
- The bus stops on the east side at Buttonwood Cove and Beach Harbor Club do not have a rural transition of sidewalk leading to the paved shoulder for accessibility.
- The bus stop at Sea Horse Condominiums has a bench impeding the accessible path that should be relocated.
- There are broken sidewalk segments on both sides of the bus stop at Four Winds.
- The northbound right turn lane at Bay Isles Road does not have the proper pavement markings for a designated right turn lane or a keyhole for the bike lane.
- The area where sidewalk would be installed on the west side of S.R. 789 has ditches, a steep driveway, mailboxes, landscaping, and mangroves close by that would need to be adjusted for sidewalk installation.
- The sidewalk is broken on the east side just north of Portobello Condominiums.
- There is standing water in the driveway to Island Court Condominiums.

Standing Water in Sidewalk/Driveway

- There is a tripping hazard in the sidewalk north of The Dock on the Bay.
- There is beach parking on the east side of S.R. 789 with beach access on the west side.
- There is no keyhole for the bike lane in the northbound right turn lane at the Bayport Beach Club.

Between Bayport Beach Club and Sutton Place

- Sidewalk is 8 feet wide with a utility strip on the east side of S.R. 789. There is no sidewalk on the west side of S.R. 789.
- The bus stops along this segment have a 5-foot by 8-foot boarding and alighting area at the back of curb with the exception of the following locations: Pelican Harbor, Bayport Beach Club Turtle Crawl Inn, and Verizon.
- There is an acceleration taper for the westbound right turn movement at Bayport Beach Club.
- The bus stops south of Royal Road, at Bayfront Park Recreational Center do not have a rural transition of sidewalk leading to the paved shoulder for accessibility.
- The northbound right turn lane into St Mary Star of the Sea does not have the proper pavement markings for a designated right turn lane or a keyhole for the bike lane.

Between Sutton Place and Fire Station Emergency Signal

- Sidewalk is 8 feet wide with a utility strip on the east side of S.R. 789. There is no sidewalk on the west side of S.R. 789.
- The bus stops along this segment do not have a 5-foot by 8-foot boarding and alighting area at the back of curb.
- There is no keyhole for the bike lane in the northbound right turn lane at Exeter Drive.
- There are grates in the walking path at Exeter Drive that are not ADA compliant.
- There is a drop-off near the Hilton that needs handrail.
- There is broken sidewalk near The Westchester.
- The right turn lanes into Club Longboat, Positano on the Bay, The Westchester, Sand Cay, 4621 Gulf of Mexico Drive, 4485 Gulf of Mexico Drive, La Playa, Longboat Harbour Towers, and Longboat Beach House do not have the proper pavement markings for a designated right turn lane or a keyhole for the bike lane.
- There is beach access on the west side of S.R. 789 in the 4000 block. This should be tied into any new proposed sidewalk along S.R. 789 in this area.

Grate in Walking Path

Bus Stop Without Boarding and Alighting Area

Between Fire Station Emergency Signal and Cedar Street

- Sidewalk is 8 feet wide with a utility strip on the east side of S.R. 789. There is no sidewalk on the west side of S.R. 789.
- The bus stops along this segment do not have a 5-foot by 8-foot boarding and alighting area at the back of curb.
- The right turn lanes into Cedars West and The Shore do not have the proper pavement markings

for a designated right turn lane or a keyhole for the bike lane.

- There is no keyhole for the bike lane in the northbound right turn lane at Binnacle Point Drive in to Emerald Harbor.
- Part of the detectable warning surface is missing on the ramp at Lyons Lane.
- The sidewalk is damaged on the east side of S.R. 789 near 6660 Gulf of Mexico Drive.

Bus Stop Without Boarding and Alighting Area

Between Cedar Street and Longboat Pass Bridge

- Sidewalk is 6 feet wide with a utility strip on both sides of S.R. 789 from Cedar Street to Broadway Street. There is no sidewalk on either side of S.R. 789 from Broadway Street to North Shore Road. Sidewalk is 6 feet wide with no utility strip on the west side of S.R. 789 from North Shore Road to the Longboat Pass Bridge. There is no sidewalk on the east side of S.R. 789 from North Shore Road to the Longboat Pass Bridge.
- The bus stops along this segment do not have a 5-foot by 8-foot boarding and alighting area at the back of curb.
- There is a pedestrian warning sign at the end of the Longboat Pass Bridge.
- There is open drainage within this segment where there is no sidewalk. If sidewalk is installed in these areas, a handrail may need to be provided due to the slope. There is guardrail on the west side of the roadway.
- There is beach access at Broadway Street and at North Shore Road.

Pedestrian Warning Sign

PEDESTRIAN CROSSING ANALYSIS

The existing conditions along S.R. 789 from New Pass Bridge to Longboat Pass Bridge were compared with the criteria for installation of midblock crosswalks as contained in Section 3.8 of the Florida Department of Transportation's (FDOT's) ***Traffic Engineering Manual*** (TEM). The criteria used include the following.

- Proximity to significant pedestrian generators
- Pedestrian demand
- Pedestrian crash history
- Pedestrian crossing location characteristics

Five areas along this segment of S.R. 789 were studied in more detail to determine if the criteria for installation of mid-block crosswalks are met. These include the following locations:

- Beach access just north of The Diplomat condominiums at Monroe Street
- Bayport Beach and Tennis Club entrance at Bayport Way
- Just north of Club Longboat
- Just south of the Centre Shops
- Just north of Spanish Drive.

Beach Access just north of The Diplomat Condominiums at Monroe Street

- Proximity to significant pedestrian generators

  This segment of S.R. 789 has several established pedestrian generators and attractors. These include two bus stop locations, several condominiums and a beach access on the west side of S.R. 789, and the Longboat Bay Club, Swim City and residences on the east side of S.R. 789.

- Pedestrian demand

  The maximum demand along this segment in a one-hour period was 26 pedestrians or bicycles crossing S.R. 789. This is above the criteria of 20 pedestrians during one hour. The maximum within a four-hour period was 49 pedestrians or bicycles. This is below the criteria of 60 pedestrians during four hours.

- Pedestrian crash history

  No pedestrian or bicycle crashes were documented in this area over the five year study period.

- Pedestrian crossing location characteristics

  Pedestrian crosswalk locations must be outside of the influence area of adjacent

signalized intersections and shall not be installed within auxiliary lanes. The distance between alternative crossing locations shall be 300 feet. Potential crosswalk locations that meet these criteria include the area just north of Monroe Street. In addition, crosswalks installed within this segment of S.R. 789 would require pedestrian signals or a pedestrian hybrid beacon due to the 45 mph posted speed.

Due to the high pedestrian demand, a pedestrian crosswalk is recommended in this area of S.R. 789 just north of Monroe Street.

Bayport Beach and Tennis Club Entrance at Bayport Way

- Proximity to significant pedestrian generators

  This segment of S.R. 789 has several established pedestrian generators and attractors. These include two bus stop locations, beach accesses on the west side of S.R. 789, and the Bayport Beach and Tennis Club on the east side of S.R. 789.

- Pedestrian demand

  The maximum demand along this segment in a one-hour period was 21 pedestrians or bicycles crossing S.R. 789. This is above the criteria of 20 pedestrians during one hour. The maximum within a four-hour period was 45 pedestrians or bicycles. This is below the criteria of 60 pedestrians during four hours.

- Pedestrian crash history

  No pedestrian or bicycle crashes were documented in this area over the five year study period.

- Pedestrian crossing location characteristics

  Pedestrian crosswalk locations must be outside of the influence area of adjacent signalized intersections and shall not be installed within auxiliary lanes. The distance between alternative crossing locations shall be 300 feet. Potential crosswalk locations that meet these criteria include the areas 275 feet south of Bayport Way and 250 feet north of Bayport Way. In addition, crosswalks installed within this segment of S.R. 789 would require pedestrian signals or a pedestrian hybrid beacon due to the 45 mph posted speed.

Due to the high pedestrian demand, a pedestrian crosswalk is recommended in this area of S.R. 789 at least 275 feet south or 250 feet north of Bayport Way.

Just north of Club Longboat

- Proximity to significant pedestrian generators

  This segment of S.R. 789 has several established pedestrian generators and attractors. These include Club Longboat, White Sands, Seascape Condominium, and Sea Grape Inn on the west side of S.R. 789, and residences on the east side of S.R. 789.

- Pedestrian demand

  The maximum demand along this segment in a one-hour period was 30 pedestrians or bicycles crossing S.R. 789. This is above the criteria of 20 pedestrians during one hour. The maximum within a four-hour period was 59 pedestrians or bicycles. This is below the criteria of 60 pedestrians during four hours.

- Pedestrian crash history

  No pedestrian or bicycle crashes were documented in this area over the five year study period.

- Pedestrian crossing location characteristics

  Pedestrian crosswalk locations must be outside of the influence area of adjacent signalized intersections and shall not be installed within auxiliary lanes. The distance between alternative crossing locations shall be 300 feet. Potential crosswalk locations that meet these criteria include the area between Club Longboat and the Sea Grape Inn. In addition, crosswalks installed within this segment of S.R. 789 would require pedestrian signals or a pedestrian hybrid beacon due to the 45 mph posted speed.

Due to the high pedestrian demand, a pedestrian crosswalk is recommended in this area of S.R. 789 between Club Longboat and the Sea Grape Inn.

Just south of the Centre Shops

- Proximity to significant pedestrian generators

  This segment of S.R. 789 has several established pedestrian generators and attractors. These include Banyan Bay, Beach Castle Resort, Little Gull Cottages, and residences on the west side of S.R. 789, and Banyan Bay, Beach Castle Resort, Longboat Landing, and Little Gull Cottages on the east side of S.R. 789.

- Pedestrian demand

  The maximum demand along this segment in a one-hour period was 66 pedestrians or bicycles crossing S.R. 789. This is above the criteria of 20 pedestrians during one hour.

The maximum within a four-hour period was 211 pedestrians or bicycles. This is above the criteria of 60 pedestrians during four hours.

- Pedestrian crash history

  No pedestrian or bicycle crashes were documented in this area over the five year study period.

- Pedestrian crossing location characteristics

  Pedestrian crosswalk locations must be outside of the influence area of adjacent signalized intersections and shall not be installed within auxiliary lanes. The distance between alternative crossing locations shall be 300 feet. Potential crosswalk locations that meet these criteria include the area between Banyan Bay and the Centre Shops. In addition, crosswalks installed within this segment of S.R. 789 would require pedestrian signals or a pedestrian hybrid beacon due to the 45 mph posted speed.

Due to the high pedestrian demand, a pedestrian crosswalk is recommended in this area of S.R. 789 between Banyan Bay and the Centre Shops.

Just north of Spanish Drive

- Proximity to significant pedestrian generators

  This segment of S.R. 789 has several established pedestrian generators and attractors. These include two bus stops, The Shore on the west side of S.R. 789, and Spanish Main Yacht Club on the east side of S.R. 789.

- Pedestrian demand

  The maximum demand along this segment in a one-hour period was 18 pedestrians or bicycles crossing S.R. 789. This is below the criteria of 20 pedestrians during one hour. The maximum within a four-hour period was 62 pedestrians or bicycles. This is above the criteria of 60 pedestrians during four hours.

- Pedestrian crash history

  No pedestrian or bicycle crashes were documented in this area over the five year study period.

- Pedestrian crossing location characteristics

  Pedestrian crosswalk locations must be outside of the influence area of adjacent signalized intersections and shall not be installed within auxiliary lanes. The distance between alternative crossing locations shall be 300 feet. Potential crosswalk locations

that meet these criteria include the area between Spanish Drive and Binnacle Point Drive. In addition, crosswalks installed within this segment of S.R. 789 would require pedestrian signals or a pedestrian hybrid beacon due to the 45 mph posted speed. This location would potentially be used by a visually impaired citizen, so audible detectors should also be installed if the crosswalk were to be placed in the vicinity of Spanish Drive.

Due to the high pedestrian demand, a pedestrian crosswalk is recommended in this area of S.R. 789 between Spanish Drive and Binnacle Point Drive.

PEDESTRIAN LIGHTING ANALYSIS

The existing conditions along S.R. 789 from New Pass Bridge to Longboat Pass Bridge were compared with the minimum illumination levels set forth in the Florida Department of Transportation (FDOT) Plans Preparation Manual, Volume 1 - Design Criteria and Process (January 1, 2013) in Table 7.3.1 Conventional Lighting – Roadways. The evaluation includes the following.

- Lighting Levels
- Luminaire Placement

Lighting levels along the entire study segment were measured at several points within the roadway and sidewalk in the field using a light meter. Five areas along this segment of S.R. 789 were studied in more detail to determine if the recommended lighting levels are met. These include the following locations:

- Beach access just north of The Diplomat condominiums at Monroe Street
- Bayport Beach and Tennis Club entrance at Bayport Way
- Just north of Club Longboat
- Just south of the Centre Shops
- Just north of Spanish Drive.

Beach Access just north of The Diplomat Condominiums at Monroe Street

- Lighting Levels

  Lighting levels within this area of S.R. 789 were measured to range from 0.01 to 0.02 foot candles. This is below the minimum criterion of 1.0 foot candles.

- Luminaire Placement

  Locations of existing luminaires within this area of S.R. 789 were analyzed for proximity to a proposed crosswalk. There are no existing luminaires within this area; therefore, luminaires should be added if a crosswalk is installed.

Bayport Beach and Tennis Club Entrance at Bayport Way

- Lighting Levels

  Lighting levels within this area of S.R. 789 were measured at 0.01 foot candles. This is below the minimum criterion of 1.0 foot candles.

- Luminaire Placement

  Locations of existing luminaires within this area of S.R. 789 were analyzed for proximity to a proposed crosswalk. There is one existing luminaires within this area, approximately 560 feet south of Bayport Way. If a crosswalk is installed in this area, placement near this existing luminaire should be considered as well as installation of additional lighting.

Just north of Club Longboat

- Lighting Levels

  This segment of S.R. 789 has several established pedestrian Lighting levels within this area of S.R. 789 were measured at 0.01 foot candles. This is below the minimum criterion of 1.0 foot candles.

- Luminaire Placement

  Locations of existing luminaires within this area of S.R. 789 were analyzed for proximity to a proposed crosswalk. There are no existing luminaires within this area; therefore, luminaires should be added if a crosswalk is installed.

Just south of the Centre Shops

- Lighting Levels

  Lighting levels within this area of S.R. 789 were measured at 0.01 foot candles. This is below the minimum criterion of 1.0 foot candles.

- Luminaire Placement

  Locations of existing luminaires within this area of S.R. 789 were analyzed for proximity to a proposed crosswalk. There are no existing luminaires within this area; therefore, luminaires should be added if a crosswalk is installed.

Just north of Spanish Drive

- Lighting Levels

  Lighting levels within this area of S.R. 789 were measured at 0.01 foot candles. This is below the minimum criterion of 1.0 foot candles.

- Luminaire Placement

  Locations of existing luminaires within this area of S.R. 789 were analyzed for proximity to a proposed crosswalk. There are no existing luminaires within this area; therefore, luminaires should be added if a crosswalk is installed.

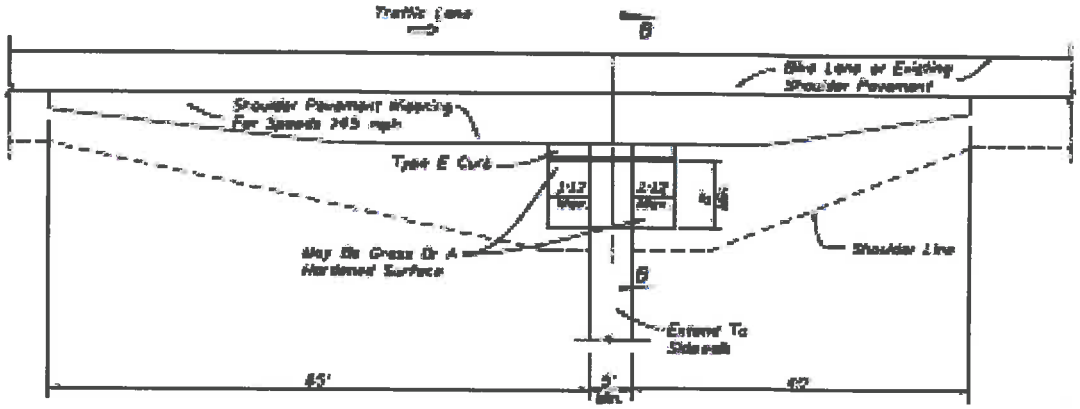
The Federal Highway Administration (FHWA) has published recommended lighting levels for midblock crosswalks in the publication FHWA-HR-08-053: Informational Report on Lighting Design for Midblock Crosswalks, April 2008. The research for this publication found that a vertical illuminance level of 20 lx in the crosswalk, measured at a height of 5 feet from the road surface, provided adequate detection distances for a pedestrian within the crosswalk. This is typically achieved by placing luminaires approximately 20 feet upstream of the crosswalk for both approaches.

The installation of luminaires at a distance of approximately 20 feet upstream of the crosswalk for both approaches is recommended for all proposed crosswalk locations.

RECOMMENDATIONS

Based on the results of the data collection, crash analysis, qualitative assessment, pedestrian crossing analysis, and engineering judgment, the following recommendations were developed:

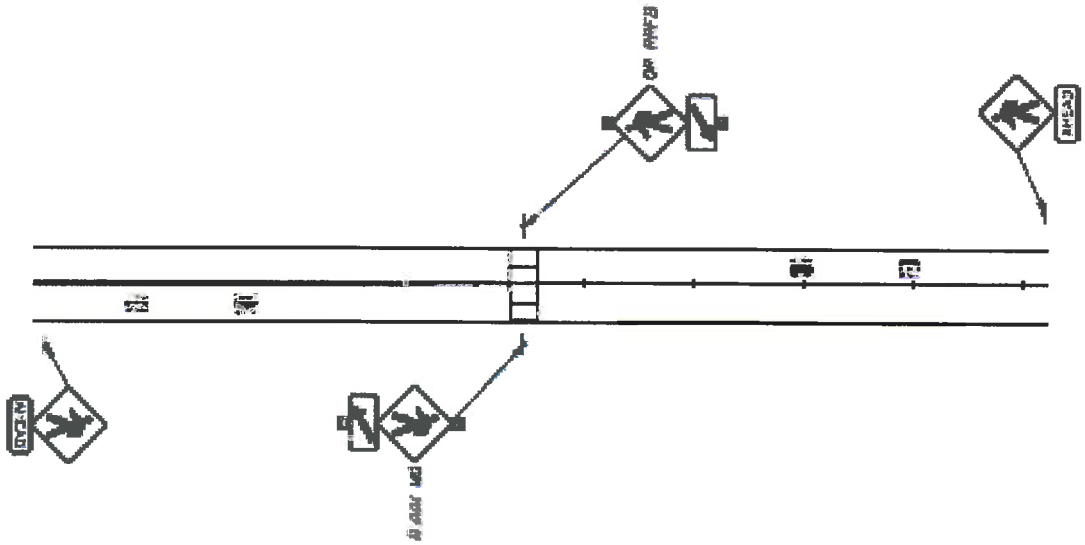
- Consider installing wider sidewalk where missing or discontinuous along the corridor. This would include 5-foot sidewalk with a utility strip or 6-foot sidewalk when placed at the back of curb.
- Consider reconstructing the damaged sidewalk segments, segments causing tripping hazards and with standing water along the corridor.
- Consider adding handrail for the sidewalk at locations near drop offs. These locations are detailed in the Qualitative Assessment section of this report.
- Consider installing or reinstalling detectable warning surfaces at the curb ramps that do not have them.
- Consider reconstructing the curb ramps and sidewalk segments with slopes that do not meet ADA slope criteria. These locations are detailed in the Qualitative Assessment section of this report.
- Consider installing a 5-foot by 8-foot concrete boarding and alighting area at the back of curb for all bus stop locations as shown in the detail below. It is also preferred to construct a concrete pad at the back of sidewalk (if right-of-way allows) for placement of the bus benches.



PLAN VIEW
With Sidewalk

- Consider installing a rural transition at all applicable bus stop locations, and informational posters at the bus stop locations that do not have them.
- Consider reconstructing the driveways in front of the BP gas station to consolidate access and add sidewalk.
- Consider relocating grates located within the sidewalk. These locations are detailed in the Qualitative Assessment section of this report.

- Consider removing the acceleration and deceleration tapers at the side streets along the segment.
- Consider removing the 'Tractor Crossing' sign.
- Consider restriping the right turn lanes along the segment with proper pavement markings and keyholes for the bicycle lanes.
- Consider installing five new midblock crosswalks with all associated curb ramps, lighting, and pedestrian signs as shown in the detail below at the locations listed in the Pedestrian Crossing Analysis section of this report.



- Consider installing crosswalks and pedestrian features across the north and west legs of the signalized intersection at Longboat Key Club Road.
- Consider installing a pedestrian detector in the southeast corner to cross to the west at the signalized intersection at Bay Isles Parkway.

APPENDIX A

CONDITION DIAGRAM

APPENDIX B

COLLISION DATA

COLLISION SUMMARY

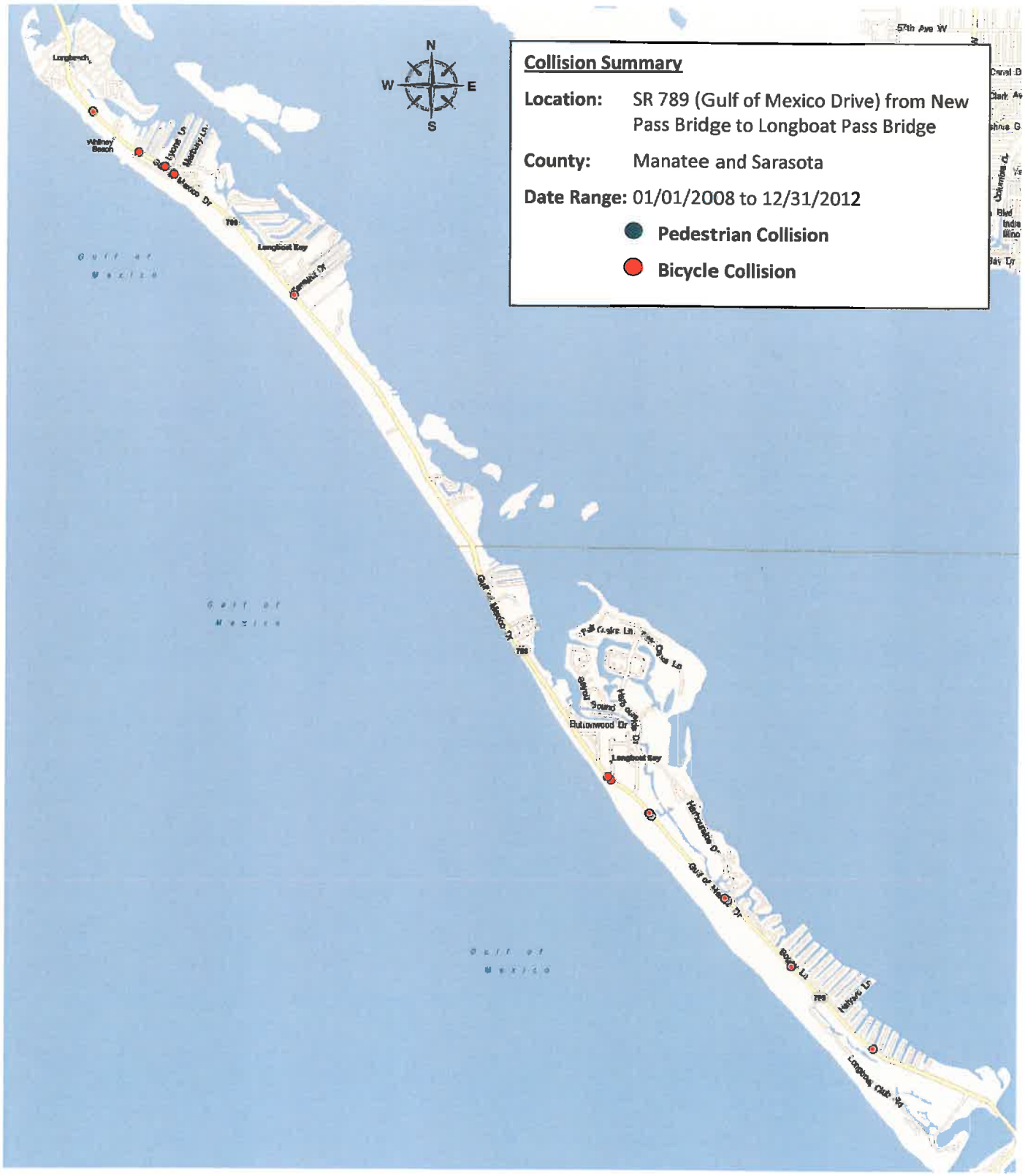
Section: 17030401/17030000/13080000
Location: New Pass Bridge to Longboat Pass Bridge
Study Period: 1/1/2008 TO 12/31/2012

State Route: S.R. 789 (Gulf of Mexico Drive)
M.P.: 0.363-0.648, 3.870-8.957, 0.000-4.545
County: Manatee and Sarasota

Engineer: HNTB

No.	Date	Day	Time	Type	Fatal	Injury	Prop. Damage	Day/ Night	Wet/ Dry	Contributing Cause
1	8/4/2008	Mon.	8:50	Collision w/ Bike		x		Day	Dry	FTYRW
2	4/28/2009	Tue.	8:04	Collision w/ Bike		x		Day	Dry	No Improper Driving
3	11/27/2009	Fri.	7:45	Collision w/ Bike		x		Day	Dry	FTYRW
4	1/14/2010	Thu.	16:15	Collision w/ Bike		x		Day	Dry	FTYRW
5	3/27/2010	Sat.	12:10	Collision w/ Bike		x		Day	Dry	Improper Turn
6	8/21/2010	Sat.	8:40	Collision w/ Bike		x		Day	Dry	Careless Driving
7	1/3/2011	Mon.	10:21	Collision w/ Ped		x		Day	Dry	FTYRW
8	3/6/2011	Sun.	8:35	Collision w/ Bike		x		Day	Dry	FTYRW
9	10/26/2011	Wed.	7:20	Collision w/ Bike		x		Night	Dry	FTYRW
10	12/5/2011	Mon.	10:19	Collision w/ Bike		x		Day	Dry	FTYRW
11	1/27/2012	Fri.	18:32	Collision w/ Ped	x			Night	Dry	No Improper Driving
12	3/1/2012	Thu.	11:14	Collision w/ Bike		x		Day	Dry	FTYRW
13	3/13/2012	Tue.	18:50	Collision w/ Bike		x		Day	Dry	Improper Turn

Total No.	Fatal	Injury	Property Damage	Angle	Left Turn	Right Turn	Rear End	Side Swipe
13	1	12	0	0	0	0	0	0
%	8	92	0	0	0	0	0	0
One Vehicle	Ped/ Bike	Day	Night	Wet	Dry	Excessive Speed	Failure to Yield R/W	DUI
0	13	11	2	0	13	0	8	0
0	100	85	15	0	100	0	62	0


Collision Summary
Location: SR 789 (Gulf of Mexico Drive) from New Pass Bridge to Longboat Pass Bridge
County: Manatee and Sarasota
Date Range: 01/01/2008 to 12/31/2012
Pedestrian Collision
Bicycle Collision
N
S
E
W
Longboat Key
Gulf of Mexico
Gulf of Mexico
Gulf of Mexico
Gulf of Mexico
Longboat Key
Longboat Club Rd
57th Ave W

APPENDIX C

LIGHTING DATA

Location:	SR 789 (Gulf of Mexico Dr) from New Pass Bridge to Longboat Pass Bridge
Section:	17030401, 17030000 & 13080000
Milepost:	0.363 - 0.648 & 3.870- 8.957 & 0.000 - 4.545
Date:	11/19/12 & 11/20/12

All measurements in foot-candles

Location	***Milepost***		***Northbound***			***Southbound***	
			Sidewalk	***Thru Lane 1***	***Median***	***Thru Lane 1***	***Sidewalk***
End of Bridge 170158							
Start of Lighting	0.363			0.36	0.35	0.19	
	0.458		1.27	1.47	1.17	0.81	0.01
	0.552		0.04	0.25	0.35	0.36	0.20
Longboat Key Club Rd	0.646	0.648	-	0.65	1.36	3.93	1.98
	3.867	3.870					
	3.962		-	0.01	0.01	0.01	0.02
	4.056		-	0.01	0.01	0.01	0.02
	4.151		-	0.09	0.26	1.15	0.16
Channel Ln		4.185					
	4.246		-	0.01	0.01	0.01	0.02
Sloop Ln		4.255					
Ketch In		4.321					
	4.341		-	0.01	0.01	0.01	0.01
Schooner Ln		4.389					
	4.435		-	0.01	-	0.01	0.01
Yawl Ln		4.458					
Cutter Ln		4.529					
	4.530		-	0.32	-	0.43	0.73
Out-Rigger Rd		4.606					
	4.625		-	0.01	-	0.01	0.01
Gunwale Ln		4.682					
	4.719		-	0.01	-	0.01	0.01
Hornblower In		4.764					
	4.814		-	0.01	-	0.01	0.01
Spinnaker Ln		4.838					
	4.909		-	0.06	-	0.18	0.47
Country Club Shore		4.969					
	5.003		-	0.47	0.32	0.13	0.02
Longboat Key Club Rd		5.057					
Country Club Shore		5.077					
	5.098		0.01	0.01	0.01	0.01	0.01
	5.193		0.11	0.24	0.80	1.54	2.84

Location	Milepost		Northbound			Southbound	
			Sidewalk	Thru Lane 1	Median	Thru Lane 1	Sidewalk
	5.287		0.02	0.18	0.20	0.12	0.01
Country Club Shore		5.302					
	5.382		0.01	0.01	0.01	0.01	0.01
	5.477		0.01	0.01	0.01	0.01	0.01
	5.572		0.01	0.01	0.01	0.01	0.01
	5.666		0.01	0.01	0.01	0.01	0.01
The Colony		5.744					
	5.761		0.06	0.21	0.67	1.47	0.01
	5.856		0.21	0.56	1.23	2.37	2.80
Aquarius		5.870					
	5.950		0.01	0.01	0.01	0.01	0.01
Entrance to Bay Isles		5.987					
	6.045		0.01	0.01	0.01	0.01	0.01
	6.140		0.01	0.03	0.06	0.07	0.01
Entrance to Seaplace		6.187					
Sunset Beach		6.299					
	6.234		0.01	0.01	0.01	0.01	0.01
	6.329		0.01	0.01	0.01	0.01	0.01
	6.424		0.01	0.08	0.69	1.24	0.02
Longboat Fire/Rescue		6.459					
	6.519		0.01	0.01	0.01	0.01	0.01
	6.613		0.01	0.01	0.01	0.01	0.01
Entrance to Islander Club		6.639					
	6.708		0.02	0.15	0.22	0.30	0.01
	6.803		0.07	0.09	0.12	0.12	0.02
Entrance to Seagate		6.806					
	6.897		0.03	0.05	0.03	0.02	0.01
Bay Isles Pkwy		6.924					
	6.992		-	0.01	0.01	0.01	0.01
	7.087		-	0.01	0.01	0.01	0.01
Bay Isles Rd		7.112					
	7.181		-	0.27	0.16	0.04	0.01
Neptune Ave		7.224					
	7.276		-	0.02	-	0.06	0.01
	7.371		-	0.01	-	0.01	4.24
	7.466		-	0.01	-	0.01	3.17
Buttonwood Dr	7.560	7.560	-	0.01	-	0.01	4.79
	7.655		-	0.01	-	0.01	0.02
	7.750		-	0.01	-	0.01	0.01
	7.844		-	0.01	-	0.01	0.02
	7.939		-	0.01	-	0.01	0.01

Location	Milepost		Northbound			Southbound	
			Sidewalk	Thru Lane 1	Median	Thru Lane 1	Sidewalk
	8.034		-	0.11	-	0.35	3.40
	8.128		-	0.01	-	0.01	0.02
Buttonwood Cove		8.158					
	8.223		-	0.01	-	0.01	0.01
Trailer Park Entrance		8.278					
	8.318		-	0.01	-	0.01	0.01
	8.413		-	0.01	-	0.01	0.01
	8.507		-	0.01	0.01	0.01	0.01
	8.602		-	0.01	0.01	0.01	0.06
Royal Rd		8.682					
	8.697		-	0.09	-	0.38	6.58
	8.791		-	0.01	0.01	0.01	0.01
	8.886		-	0.01	0.01	0.01	0.01
Sarasota County Line	8.975	8.957	-	-	-	-	-
Manatee County Line	0.000	0.000					
	0.034		-	0.39	-	0.55	0.24
	0.129		-	0.01	-	0.01	0.03
	0.223		-	0.01	-	0.02	0.08
Sutton Pl		0.306					
	0.318		-	0.01	-	0.01	0.02
	0.413		-	0.01	-	0.01	0.01
	0.508		-	0.01	-	0.01	0.01
Exter Dr		0.532					
	0.602		-	0.01	-	0.01	0.01
	0.697		-	0.01	-	0.01	0.01
	0.792		-	0.01	0.01	0.01	0.04
	0.886		-	0.45	1.10	1.64	1.36
	0.981		-	0.34	-	0.94	0.13
	1.076		-	0.13	0.34	0.15	0.52
	1.170		-	0.25	-	0.22	0.08
	1.265		-	0.43	-	0.83	1.03
	1.360		-	0.33	-	0.40	0.01
	1.455		-	0.01	-	0.01	0.01
	1.549		-	0.01	-	0.01	0.01
	1.644		-	0.01	-	0.01	0.01
	1.739		-	0.01	0.01	0.01	0.01
	1.833		-	0.01	0.01	0.01	0.01
Gulf Bay Rd		1.930					
	1.928		-	0.14	-	0.16	0.01
	2.023		-	0.01	0.00	0.01	0.01
St Judes Dr		2.042					

Location	Milepost		Northbound			Southbound	
			Sidewalk	Thru Lane 1	Median	Thru Lane 1	Sidewalk
Tarawitt Dr		2.098					
	2.117		-	0.06	0.09	0.10	0.08
Jungle Queen Way		2.135					
Companion Way		2.172					
	2.212		-	0.11	0.22	0.66	1.12
	2.307		-	0.01	0.01	0.01	0.01
Biannacle Pt Dt		2.401					
	2.402		-	0.01	-	0.01	0.01
	2.496		-	0.01	-	0.01	0.01
	2.591		-	0.01	-	0.01	0.01
	2.686		-	0.76	-	0.86	0.03
	2.780		-	0.06	-	0.09	0.01
Dream Island Rd		2.815					
	2.875		-	0.01	-	0.01	0.01
	2.970		-	0.01	-	0.01	0.01
	3.064		-	0.01	-	0.01	0.01
Ed Lee In		3.087					
	3.159		-	0.01	-	0.01	0.01
Gulfside Rd		3.231					
	3.254		-	0.31	-	0.67	2.51
General Harris St		3.310					
Lyons Ln		3.310					
	3.349		-	0.03	-	0.04	0.12
Bay View dr		3.402					
	3.443		-	0.20	-	0.76	0.64
DeNarvezz Dr		3.447					
Gulfside Rd		3.519					
Juan Anasco Dr		3.504					
	3.538		-	0.43	-	0.55	2.46
	3.633		-	0.01	-	0.01	0.01
	3.727		-	0.01	-	0.01	0.01
Reclinata Dr		3.749					
	3.822		-	0.01	-	0.01	0.01
	3.917			0.01	0.01	0.01	0.01
	4.011			0.01	0.01	0.01	0.14
Cedar St		4.091					
	4.106			0.01	0.01	0.01	0.01
	4.201			0.01	0.01	0.01	0.01
Broadway		4.211					
	4.296			0.01	0.01	0.01	-
	4.390			0.01	0.01	0.01	-

Location	***Milepost***		***Northbound***			***Southbound***	
			Sidewalk	***Thru Lane 1***	***Median***	***Thru Lane 1***	***Sidewalk***
	4.485			0.33	-	0.83	-
North Shore Rd		4.467					
End of Lighting	4.545	4.545	0.01	0.01	-	0.01	0.01
Beginng of Bridge 170057							
Average per Lane			**0.09**	**0.11**	**0.19**	**0.24**	**0.42**
Total Average				**0.21**			

APPENDIX D

PEDESTRIAN COUNT DATA

GULF OF MEXICO DR
9:00 AM-5:00 PM,
03/20/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM	
10-11 AM	1
11-12 AM	
12-1 PM	1

9-10 AM	1
10-11 AM	3
11-12 AM	7
12-1 PM	3

9-10 AM	7
10-11 AM	8
11-12 AM	3
12-1 PM	

9-10 AM	
10-11 AM	2
11-12 AM	
12-1 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/20/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM	
3-4 PM	1
4-5 PM	
5-6 PM	

2-3 PM	1
3-4 PM	
4-5 PM	1
5-6 PM	

2-3 PM	2
3-4 PM	
4-5 PM	1
5-6 PM	

2-3 PM	
3-4 PM	
4-5 PM	
5-6 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM–6:00 PM,
03/20/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM	
10-11 AM	
11-12 AM	
12-1 PM	

9-10 AM	1
10-11 AM	
11-12 AM	1
12-1 PM	2

9-10 AM	
10-11 AM	1
11-12 AM	2
12-1 PM	

9-10 AM	
10-11 AM	
11-12 AM	
12-1 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/20/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM	
3-4 PM	
4-5 PM	
5-6 PM	

2-3 PM	
3-4 PM	
4-5 PM	
5-6 PM	

2-3 PM	
3-4 PM	
4-5 PM	
5-6 PM	

2-3 PM	
3-4 PM	
4-5 PM	
5-6 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/20/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM	
10-11 AM	
11-12 AM	1
12-1 PM	3

9-10 AM	1	
10-11 AM	2	2
11-12 AM	1	
12-1 PM	9	

9-10 AM	
10-11 AM	1
11-12 AM	10
12-1 PM	2

9-10 AM	
10-11 AM	
11-12 AM	2
12-1 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/21/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM	
3-4 PM	
4-5 PM	1
5-6 PM	

2-3 PM	1	5	2	
3-4 PM	1	4	2	
4-5 PM	1	1	2	
5-6 PM				

2-3 PM				1
3-4 PM	1	1		
4-5 PM		3	3	
5-6 PM	1	4		

2-3 PM
3-4 PM
4-5 PM
5-6 PM

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/22/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM	
10-11 AM	
11-12 AM	
12-1 PM	

9-10 AM	1
10-11 AM	1 1
11-12 AM	1 2
12-1 PM	2

9-10 AM	1 1
10-11 AM	1
11-12 AM	
12-1 PM	

9-10 AM	
10-11 AM	1
11-12 AM	
12-1 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
00/00/00

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM
3-4 PM
4-5 PM
5-6 PM

2-3 PM
3-4 PM
4-5 PM
5-6 PM

2-3 PM
3-4 PM
4-5 PM
5-6 PM

2-3 PM
3-4 PM
4-5 PM
5-6 PM

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/21/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM	
10-11 AM	2
11-12 PM	1
12-1 PM	

9-10 AM	1 1
10-11 AM	2 1
11-12 PM	
12-1 PM	1

9-10 AM	2
10-11 AM	2 1
11-12 PM	1
12-1 PM	

9-10 AM	
10-11 AM	
11-12 PM	
12-1 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
00/00/00

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM	1
3-4 PM	1
4-5 PM	1 1
5-6 PM	

2-3 PM	1
3-4 PM	
4-5 PM	2
5-6 PM	1

2-3 PM	1
3-4 PM	1 1
4-5 PM	3
5-6 PM	1

2-3 PM	1
3-4 PM	
4-5 PM	
5-6 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/22/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM	2	1
10-11 AM		
11-12 AM		1
12-1 PM		

9-10 AM	1	10
10-11 AM	3	20
11-12 AM		3
12-1 PM	1	6

9-10 AM	1	2
10-11 AM	1	10
11-12 AM	1	21
12-1 PM	1	3

9-10 AM		1
10-11 AM		1
11-12 AM		1
12-1 PM	4	2

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/22/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM	1	2
3-4 PM		4
4-5 PM		3
5-6 PM		

2-3 PM	1	5
3-4 PM	3	4
4-5 PM		5
5-6 PM	1	

2-3 PM		5
3-4 PM	2	5
4-5 PM	1	
5-6 PM	2	5

2-3 PM	2	2
3-4 PM		2
4-5 PM		4
5-6 PM		

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/22/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM						
10-11 AM						
11-12 AM	1	2	1			
12-1 PM						

9-10 AM	1	5	1	1	1	1
10-11 AM	3	3	3			
11-12 AM 2	1	1	2	2	1	
12-1 PM	2	1	2			

9-10 AM 1	3	2	1		
10-11 AM	2	2	1	3	2
11-12 AM 2	2	1	2	2	
12-1 PM	2				

9-10 AM	
10-11 AM	1
11-12 AM	1
12-1 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/22/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM	2					
3-4 PM	1					
4-5 PM						
5-6 PM	1					

2-3 PM	1	1	2	1	2	1
3-4 PM	1	2	1	1		
4-5 PM	3	2	2	4		
5-6 PM	1	5	3			

2-3 PM	1	8	1	3	2	
3-4 PM	1	1	1	1	5	2
4-5 PM	1	4	1	4		
5-6 PM	1	1	2			

2-3 PM	
3-4 PM	
4-5 PM	
5-6 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/25/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM	
10-11 AM	3 2
11-12 AM	
12-1 PM	

9-10 AM	3 1
10-11 AM	10 1 1
11-12 AM	3 1 2 1
12-1 PM	1 3 2

9-10 AM	3 1
10-11 AM	6 8 8 1 1
11-12 AM	1 2 4
12-1 PM	1 1 1 5

9-10 AM	1 2
10-11 AM	
11-12 AM	
12-1 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/25/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

Bicycle ↓

2-3 PM									
3-4 PM									
4-5 PM					1				
5-6 PM									

Pedestrian ↓

2-3 PM	8	9		1					2
3-4 PM	2			1	4		1	3	
4-5 PM	1			4			2		
5-6 PM							2		

Pedestrian ↑

2-3 PM	6	4	5	1				1	
3-4 PM		4		1	3	4			
4-5 PM	5	3					2		
5-6 PM	2								

Bicycle ↑

2-3 PM									
3-4 PM	2								
4-5 PM									
5-6 PM		2							

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/25/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM	
10-11 AM	
11-12 AM	
12-1 PM	

9-10 AM				5			1
10-11 AM	1						
11-12 AM		9			3	5	
12-1 PM			4				

9-10 AM		3	2	5	1		11		1	2
10-11 AM				2	1					1
11-12 AM	1				1	4	12	2		
12-1 PM	1					4				

9-10 AM	1	
10-11 AM		2
11-12 AM		
12-1 PM		

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/25/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM	
3-4 PM	
4-5 PM	
5-6 PM	

2-3 PM	/ /
3-4 PM	/ 4 4
4-5 PM	/
5-6 PM	

2-3 PM	/
3-4 PM	3
4-5 PM	/
5-6 PM	

2-3 PM	
3-4 PM	
4-5 PM	/
5-6 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/27/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM	1
10-11 AM	
11-12 AM	1
12-1 PM	

9-10 AM	2 2 1
10-11 AM	1 2 4 1 1
11-12 AM	1 3
12-1 PM	1

9-10 AM	2
10-11 AM	1 2
11-12 AM	2
12-1 PM	1 1 2 3

9-10 AM	1 3 1
10-11 AM	1 2 3
11-12 AM	2
12-1 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/27/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM	1
3-4 PM	
4-5 PM	
5-6 PM	

2-3 PM	1 1 2
3-4 PM	2 2 2
4-5 PM	1 3 1
5-6 PM	4 1

2-3 PM	1 8 1
3-4 PM	2 5 1
4-5 PM	2 1 2
5-6 PM	1 4

2-3 PM	1 1
3-4 PM	2
4-5 PM	
5-6 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/27/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM	
10-11 AM	1
11-12 AM	1
12-1 PM	

9-10 AM	3
10-11 AM	1 1 3 1 4 1 4
11-12 AM	2 2 2 1 1 1
12-1 PM	1 3

9-10 AM	1 1 1 1 2 1 2 3
10-11 AM	1 4 1 2
11-12 AM	1 1 2 4 2 1 2 1
12-1 PM	2 1 1 5 1 2

9-10 AM	1
10-11 AM	
11-12 AM	1
12-1 PM	1

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM.
03/27/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM	2
3-4 PM	
4-5 PM	
5-6 PM	

2-3 PM	2 1
3-4 PM	1 2 1
4-5 PM	1 1
5-6 PM	2

2-3 PM	1 5 2 2 2 2
3-4 PM	2 1 1
4-5 PM	3 1 1 1
5-6 PM	1

2-3 PM	
3-4 PM	2
4-5 PM	
5-6 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/28/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM	
10-11 AM	
11-12 AM	
12-1 PM	

9-10 AM	1 1 1 1 2
10-11 AM	1 1 2 6 2
11-12 AM	1 2
12-1 PM	1 1

9-10 AM	2 1 3 1 3
10-11 AM	3 1 2 2 1 4
11-12 AM	1 2 1 1 1
12-1 PM	7 4 6 7

9-10 AM	1
10-11 AM	
11-12 AM	2 3
12-1 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/28/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM												
3-4 PM					1							
4-5 PM		1										3
5-6 PM												

2-3 PM	3	3			2				2	3		2
3-4 PM	1	6						1		1		21
4-5 PM		2						3				
5-6 PM								9		1		2

2-3 PM		6				2		3	2	1		12
3-4 PM		2						2 4		2		9
4-5 PM		2								2		4
5-6 PM		1										

2-3 PM					2							2
3-4 PM										1		
4-5 PM					1							1
5-6 PM												

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/28/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

Bicycle ↓

9-10 AM	1 1
10-11 AM	1
11-12 AM	
12-1 PM	2 2

Pedestrian ↓

9-10 AM	1 2 2 1 9 1 4 1 1
10-11 AM	5 5 6 3 2 2 4 1
11-12 AM	6 1 1 1 3 2 2 2 15 5
12-1 PM	3 6 8

Pedestrian ↑

9-10 AM	1 2 1 3 2 4 1 3 1
10-11 AM	2 6 1 2 3 2 2 3 14 1
11-12 AM	5 3 9 1 9 1
12-1 PM	1 7 2 3 1 8 10 1 2

Bicycle ↑

9-10 AM	
10-11 AM	
11-12 AM	3 1 1
12-1 PM	2

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/28/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

Bicycles (southbound ↓)

Time	Crossings (left to right along road)	
2-3 PM	2	
3-4 PM		
4-5 PM		
5-6 PM	5	1

Pedestrians (southbound ↓)

Time								
2-3 PM	1	4	10	3				
3-4 PM	1	2	6	18	23	4		
4-5 PM	1	3	5	17	2	2		
5-6 PM	6	3	3	2				

Pedestrians (northbound ↑)

Time							
2-3 PM	1	2	15	30	4	1	
3-4 PM	3	3	7	4	1		
4-5 PM	1	1	3	11	6	4	1
5-6 PM	1	4	8	1	7	2	2

Bicycles (northbound ↑)

Time	Crossings (left to right along road)
2-3 PM	
3-4 PM	
4-5 PM	2
5-6 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/29/13

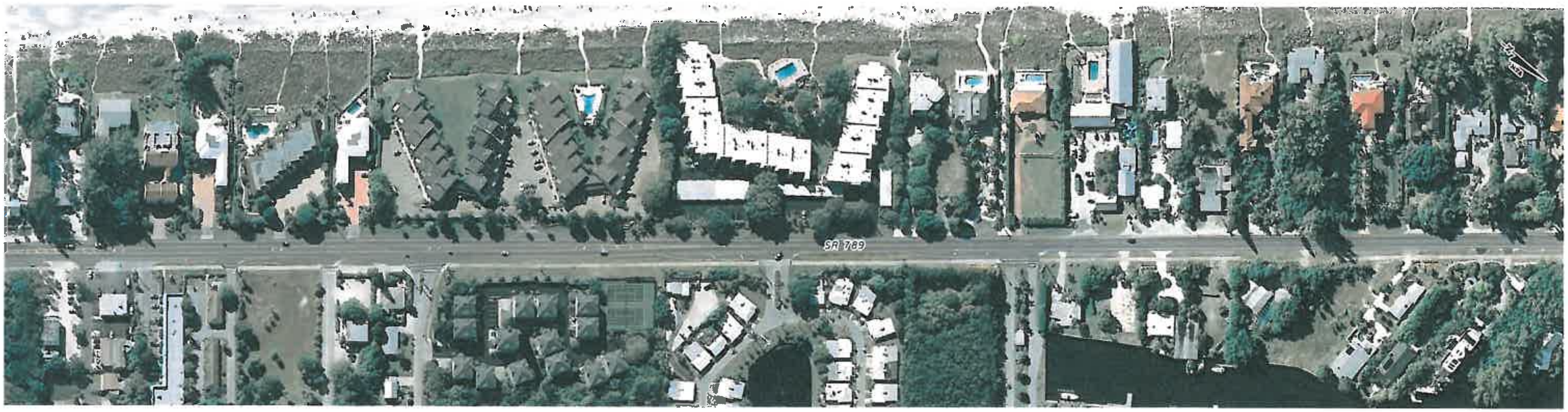
LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

Bicycles (↓)

9-10 AM	2									
10-11 AM	1	1								
11-12 AM	1	3	1							
12-1 PM	2	4								

Pedestrians (↓)

9-10 AM	3	1	1	1	1	2				
10-11 AM	3	2	10	3	3	1	2	2	2	2
11-12 AM	4	9	2	1						
12-1 PM	2	2	8	2	2	2	1			



Pedestrians (↑)

9-10 AM	2	4	3	1	1	3	2	4	
10-11 AM	1	1	3	4	4	1	1	1	
11-12 AM	6	1	3	1	8	1	3	2	1
12-1 PM	7	1	6	6	1				

Bicycles (↑)

9-10 AM	1			
10-11 AM	2	1		
11-12 AM	2	5		
12-1 PM	4	4	1	1

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
00/00/00

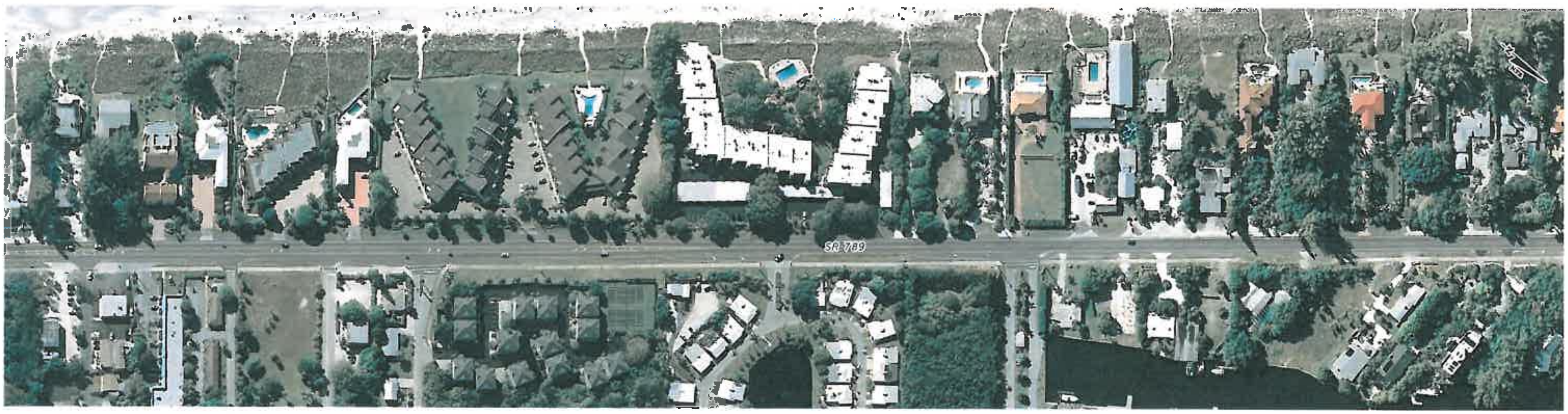
LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

Bicycles (↓)

2-3 PM	4					1				
3-4 PM	1									
4-5 PM		2	1	2	4	1				
5-6 PM										

Pedestrians (↓)

2-3 PM	5	3	12	1	6	1	2	1					
3-4 PM	1	1	2	1	2	7	5	2					
4-5 PM	4	2	8	1	4	2	2	3	4				
5-6 PM	2	12											



Pedestrians (↑)

2-3 PM	6	5	2					
3-4 PM	3	2	2	1	2	5	5	
4-5 PM	4	2	2	1	3	1		
5-6 PM	1	11						

Bicycles (↑)

2-3 PM	1	2		
3-4 PM	1	2	3	7
4-5 PM	1	1		
5-6 PM	1			

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
03/29/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM	
10-11 AM	
11-12 AM	
12-1 PM	

9-10 AM	2
10-11 AM	1
11-12 AM	
12-1 PM	

9-10 AM	2 1
10-11 AM	2 1 2
11-12 AM	2 3
12-1 PM	3

9-10 AM	
10-11 AM	1
11-12 AM	
12-1 PM	

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM
03/29/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM	
3-4 PM	
4-5 PM	1
5-6 PM	5

2-3 PM	5 2
3-4 PM	1 2 1 4
4-5 PM	1 2
5-6 PM	1 1 1

2-3 PM	2 5
3-4 PM	1 2
4-5 PM	1 1
5-6 PM	8 3

2-3 PM	
3-4 PM	
4-5 PM	
5-6 PM	2

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
04/01/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

9-10 AM	
10-11 AM	
11-12 AM	
12-1 PM	1

9-10 AM	1 2
10-11 AM	2 1
11-12 AM	1 1
12-1 PM	1 2 1 1 2 1

9-10 AM	1 2 1
10-11 AM	1 1 1 2
11-12 AM	2 1 2
12-1 PM	2 1

9-10 AM	
10-11 AM	
11-12 AM	
12-1 PM	1

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
04/01/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM	
3-4 PM	
4-5 PM	
5-6 PM	

2-3 PM	
3-4 PM	1 2
4-5 PM	
5-6 PM	

2-3 PM	
3-4 PM	
4-5 PM	
5-6 PM	

2-3 PM	
3-4 PM	
4-5 PM	
5-6 PM	1

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
04/01/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

Bicycles ↓

Time	Crossings (left to right)
9-10 AM	2
10-11 AM	2, 1
11-12 AM	2
12-1 PM	2

Pedestrians ↓

Time	Crossings (left to right)
9-10 AM	4, 2, 1, 1, 1
10-11 AM	3, 5, 2, 2, 2, 7, 2
11-12 AM	2, 4
12-1 PM	2, 12, 4

Pedestrians ↑

Time	Crossings (left to right)
9-10 AM	3, 1, 1, 1, 1, 3
10-11 AM	2, 1, 3, 1, 2, 2, 7, 1, 1
11-12 AM	6, 7, 1
12-1 PM	1, 1, 4

Bicycles ↑

Time	Crossings (left to right)
9-10 AM	1
10-11 AM	5
11-12 AM	2, 1
12-1 PM	1, 3

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

GULF OF MEXICO DR
9:00 AM-6:00 PM,
04/01/13

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

2-3 PM	
3-4 PM	2 2 1
4-5 PM	
5-6 PM	

2-3 PM	2
3-4 PM	7 1 10
4-5 PM	2 7 8
5-6 PM	5

2-3 PM	2
3-4 PM	5 1 4 2 2
4-5 PM	6 1 1 5
5-6 PM	1

2-3 PM	1
3-4 PM	2 1
4-5 PM	
5-6 PM	1 1

LOCATION OF CROSSINGS AND TOTAL OF CROSSINGS

End of Agenda Item