ESTERO INFRASTRUCTURE INVENTORY

JANUARY 2016

PREPARED FOR THE

VILLAGE OF ESTERO, FL

ACKNOWLEDGEMENTS

The preparation of this Estero Infrastructure Inventory was funded through an agreement between Florida Gulf Coast University and the Village of Estero. The contents of this document do not necessarily reflect the official views or policies of the Village of Estero and they are, in this document, presented as a draft. This inventory was a collaborative project with input and advice from residents of the Village of Estero, members of BikeWalkLee, faculty at Florida Gulf Coast University, and a great team of students. We would like to thank the following people who contributed to this effort.

Al O'Donnell, Estero Resident

April Olson, Conservancy of SW Florida

Brian Raimondo, Lee County MPO

Brice Ehmig, FGCU, Political Science

Claude Villiers, Ph.D., FGCU, College of Engineering

Dan Moser, BikeWalkLee

Darla Letourneau, BikeWalkLee

Douglas Saxton, Estero Resident

Jennifer Coates, FGCU, Civil Engineering

Jose Castano, FGCU, Civil Engineering

Joseph Hill, FGCU, Civil Engineering

Matthew Cull, FGCU, Civil Engineering

Margaret Banyan, Ph.D., FGCU, College of Arts and Sciences

Mitch Kavanagh, FGCU, Public Administration

Stacy Revay, BlueZones, Inc.

Tom Felke, PhD., FGCU, College of Health Professions and Social Work

Veronica Sterling-Jean, FGCU, Public Administration

Contents

Table of Tables

Table of Figures

Executive Summary

In late 2015, the Village of Estero engaged Florida Gulf Coast University (FGCU) to conduct an evaluation of the bicycle, pedestrian, landscaping, and pavement conditions on the public roadways. This report summarizes the data collected and assesses the current condition of biking, pedestrian, landscaping, and roadways in the Village of Estero. This information can be used as a benchmark, to support future decision making, orto identify funding priorities for sidewalks, bike lanes, landscaping, and roadways in the Village.

Data Collection

Data collection began with aerial analysisusing satellite photos. The analysis measured roadway widths, lengths and condition of sidewalks, buffer zones, bike lanes, turn lanes, roadways, medians, and landscaping. Once this was accomplished, data was collected through awalk through survey to assess the condition and quality of the pavement, sidewalk, bicycle, and landscaping. Each street was digitally recorded, walked, measured, and evaluated.

In order to accomplish these tasks a systematic approach was developed. This consisted of breaking the roadways into sections. Each section was 500 feet with half-mile intervals. To maintain consistency, each measurement road survey would be measured from north-to-south or east-to-west.The first step in the evaluation was to capture the current road conditions. This was done with the use of a vehicle mounted camera where all streets in the Village were recorded. Digitally recording allowed the Team a more comprehensive understanding of all of the roadways. It also serves as a 'time capsule' or benchmark for future use by engineers and planners. This system ensured that an unbiased approach was taken throughout the entire network. It also provides assurance that all streets were accounted for and assessed.

Analysis and Recommendations

This report provides a summary of the condition and existence of infrastructure in the Village in both table and GIS format. For the roadways, it concludes that approximately12% of roadways require immediate attention. In addition, improving the safety of the pedestrian and bicycle facilities would enhance livability throughout the community. Finally, improvements to the existing bicycle/pedestrian infrastructure could benefit the Village by creating a better network and provide connectivity to other county facilities. A formal bicycle / pedestrian plan may also be of significant benefit to identify future opportunities beyond what exists today.

Study Context and Methodology

INTRODUCTION AND OVERVIEW

In October 2015, the Village of Estero engaged Florida Gulf Coast University (FGCU) to assess the Village's existing infrastructure conditions and needs. The intent of the project was to prioritize improvements and investments for the futurecapital improvementprogram (CIP) planning and budgeting process as well as to identify future opportunities. The specific tasks included a comprehensive inventory of existing bicycle and pedestrian facilities, landscaping, and roadways; an assessment of the condition of existing facilities; and recommendations for improvements or pilot projects.

The inventory process and analysis was led by a team at FGCU. This Team consisted of faculty who have expertise in bicycle/pedestrian planning, roadway and pavement evaluation, land use planning, geographical information systems (GIS),and advanced graduate and undergraduate students.

STUDY AREA

State, county, and local corridors with the boundaries of the Village of Estero were assessed.Streets were selected using Lee County's "county-maintained" street designation in their GIScenterline attribute tables. Streets designated as "privately maintained" or "non-county maintained" were excluded. As such, those streets and roadways that lie inside the gated communities were excluded. Figure 1 shows the boundaries of the study area.[1]

[1] Maps also appear in the Appendix in a larger format.

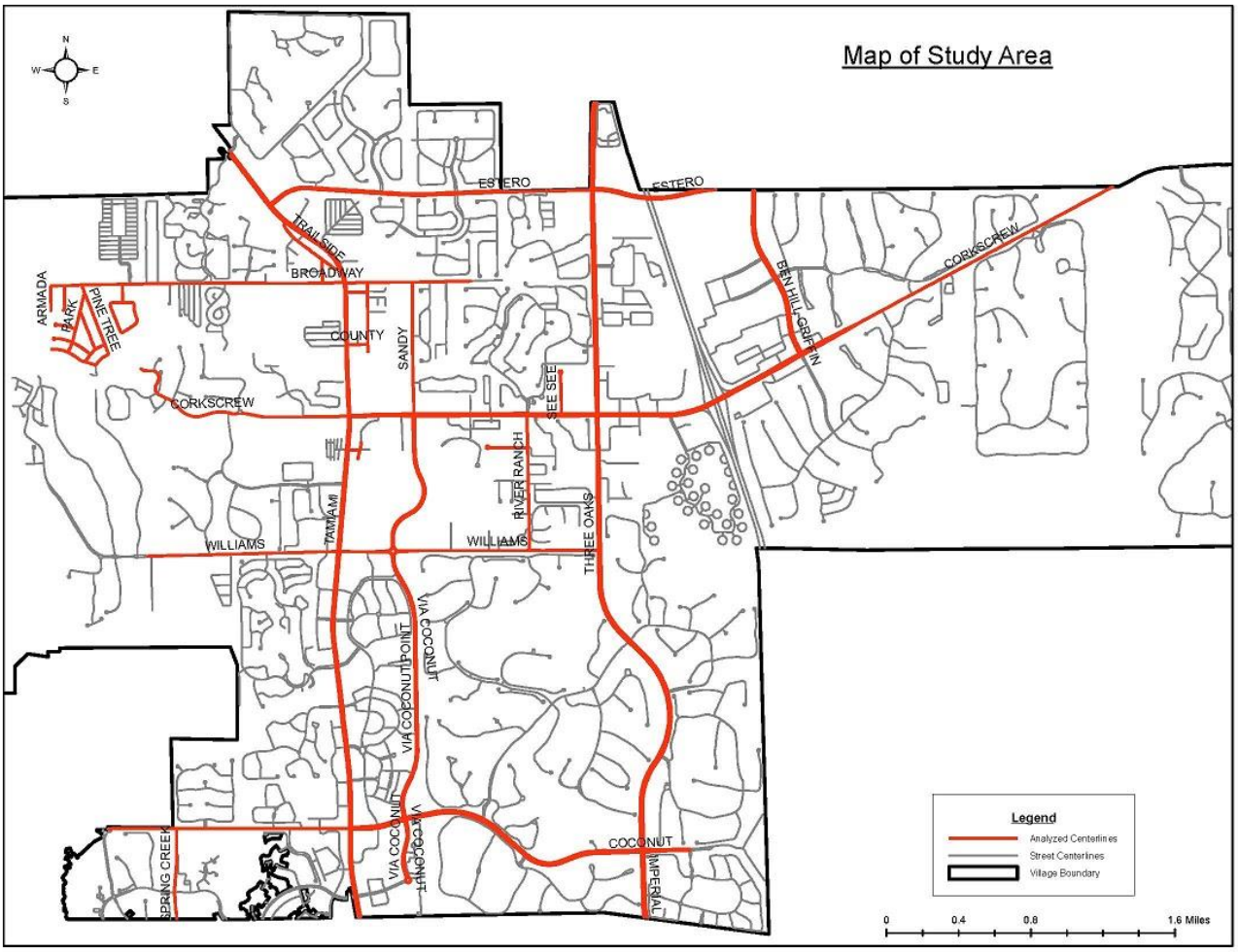


Figure 1: Study Area

Methodology and Approach

OVERALL INVENTORY APPROACH

To approach this project, the Team met with community and Estero area representatives, developed an inventory process (described below), conducted cross-training, and completed a comprehensive inventory of roadway, landscape, and bicycle/pedestrian facilities using existing and new data. The Team collected new data through field reviews, otherwise known as 'ground truthing'. All facilities were mapped to facilitate a GIS analysis.

- Bicycle and pedestrian facilities were assessed for their location, type of facility, safety, adequacy, and condition.
- Roadways were assessed for their condition, including surface distress (cracks and raveling) and the timeframe associated with repairs**.** The assessment was based on the 2015 Florida Department of Transportation (FDOT) - Pavement Condition Survey Handbook (FDOT 2015).[2]
- Landscaping conditions were inventoried according to existing landscaping and appropriateness to the context.

FIELD SURVEY METHODS

To conduct all of the assessments, the Team used a combination of video footage, visual surveys, and measurements from Google Maps and Google Earth.

The field survey involved approximately 31 centerline miles(98 lane miles) of paved roads in the network system. The purpose of the survey wasto identify the facilities;evaluate pavementdistresses such as cracking, raveling, potholes, and patching; and evaluate thebicycle path, sidewalk, and landscaping conditions in the Village. The pavement condition survey was used to provide the Village of Estero with different alternativesfor rehabilitation treatments within critical timeframes for improvement. The goal for the bicycle, pedestrian, and landscape survey was to identify facilities and develop recommendations and priorities for future

[2]The Condition Survey is a systematic approach to collecting and presenting existing road information. Originally, a pavement's relative ability to serve traffic was determined quite subjectively by visual inspection and experience. Although various sophisticated equipment has been developed overtime, the visual distress survey has been widely used to assess the condition of roadways. The following was also included: A surface distress condition survey, limited structural condition survey, and a functional condition survey.

investments. In order to accomplish the work described above the follow procedures were developed:

1) To ensure consistency and accuracy, each student was first trained by Dr. Banyan and Dr. Villiers at FGCU.[3]The faculty and students conducted a trial survey on a selected roadway in the Village.Based on this trial survey, the Team estimated the time that would be needed to complete the full inventory for the entire Village.To minimize bias, all the roadways were assessed by more the than one assistant. At least one faculty was present at all times during the walk-through survey. This was done tomaintain quality and safety in the field. At the end of each section, the assistants compared notes and discussed any major differences.

2) A drive-through survey was conducted using 4K Ultra HD high resolution GoPro videocamera. Recordings were performed on both sides of the roads. The data obtained from this process was used to evaluate the pavement and other facility conditions. These data can serve as a benchmark of the conditions of the infrastructure upon acceptance by the Estero Village officials. The video can also be used for future work such as bidding and assessment of the roadways condition overtime.Several State and County Department of Transportation (DOT) including Florida DOT and Lee County DOT have been using this video-log technique to assess their pavement infrastructure. The benefit of this image acquisition is to obtain right-of-way data,railroad crossing identification, signs, traffic signals and intersections,edge line of pavements, sidewalk and landscaping conditions, pavement images for automated pavement distress evaluation, and possible perspective of traffic flow at the time of the survey.[4]

3) A procedure was developed to divide each roadway into different sections. Each section was 500 feet long with ½ a miledistance in-between. This provided an unbiased approach to evaluate the infrastructure. Google Earth was used to pin point the beginning and ending location of the sections.

4) A visual survey was conducted using a "walk-and-look" surveywhosemain focus was to evaluate and “ground truth” the conditionsof the pavement, bicycle path, sidewalk, and landscaping. The information recorded included the number of lanes of pavement, width of side work, sidewalk buffer, bicycle lanes, pavement lanes, and median, conditions of pavement, bicycle path, and landscaping. For the pavement conditions, the work was conducted based on the

[3]Student assistants may be identified in this report as “Assistant 1”, “Assistant 2”, and etcetera.
[4]The final deliverable for this project includes the video files.

Florida Department of Transportation (FDOT) guidelines as highlighted on the 2015 Flexible Pavement Condition Survey Handbook.[5] This visual distress survey is widely used and still considered the best way to assess conditions of roadways, especially on a project level.

INFRASTRUCTURE EVALUATION

Pavement

Cracking is one of the most important distress types of asphalt pavement. Cracking in this report is classified as alligator cracking and longitudinal cracking; the characteristics based on their type, extent, and severity. FDOT considers three types of cracking in their flexible pavements handbook (FDOT 2015). The classes of cracks are described as follows:

> ***Class IB -*** Hairline cracks that are less than or equal to ⅛ inch (3.18 mm) wide in either the longitudinal or transverse direction. These may have slight spalling and slight to moderate branching. These cracks are estimated individually for the total linear length of the cracks. The width of the affected area is considered one (1) foot (0.30 m).
>
> ***Class II -*** Cracks greater than ⅛ inch (3.18 mm) and less than ¼ inch (6.35 mm) wide in either the longitudinal or transverse direction. These may have moderate spalling or severe branching. Also includes all cracks less than ¼ inch (6.35 mm) wide that have formed cells less than 2 feet (0.61 m) on the longest side, also known as alligator cracking. Class II cracks are considered rectangular, and the total affected area in square feet is counted.
>
> ***Class III -*** Cracks greater than ¼ inch (6.35 mm) wide that extend in a longitudinal or transverse direction and cracks that are opened to the base or underlying material. Also includes progressive Class II cracking resulting in severe spalling with chunks of pavement breaking out. Class III cracks are considered rectangular, and the total affected area in square feet is counted.

Roughness/Raveling is an important distress factor to consider in a pavement condition survey. Roughness is a measure of a pavement's functional performance; that is, how well the pavement

[5] Florida Department of Transportation, "2015 Flexible Pavement Condition Survey Handbook" In Florida Department of Transportation Website: http://www.dot.state.fl.us/statematerialsoffice/administration/resources/library/publications/researchreports/pavement/flexiblehandbook.pdf, last access August 2015, State Materials Office and the State Construction Office, Gainesville, FL, January 15, 2015.

is providing a smooth, safe ride to the traveling public. Roughness can develop from surface irregularities that are built into the pavement during construction and surface irregularities that develop after construction (due to traffic loading, climatic effects, and other factors). The severity levels used by FDOT to describe raveling are as follows:

> ***Light -*** The aggregate and/or binder has begun to wear away but has not progressed significantly, with some loss of aggregate.
>
> ***Moderate -*** The aggregate and/or binder has worn away and the surface texture is becoming rough and pitted; loose particles generally exist; loss of aggregate has progressed.
>
> ***Severe -*** The aggregate and/or binder has worn away and the surface texture is very rough and pitted, loss of aggregate very noticeable.

Patching is defined as an area of the pavement that has been replaced with a newer material after the time of original construction. According to FDOT, patching should reflect a defect in the pavement that has been repaired.[6] In this report, only significant areas of patching were considered.[7]

Sidewalk, Bicycle Lanes, and Landscaping

The remaining infrastructure was assessed using a scoring protocol adapted from two well-respected bicycle / pedestrian audit tools. The first tool is a comprehensive survey of the physical environment, called the "Spaces Instrument".[8] This protocol includes such items as walking and cycling paths, street assessment (crossing aids, streetlights, etc.), and an overall assessment. The second protocol, the "Pedestrian Environment Data Scan" (PEDS), was slightly newer.[9] It provided additional items to measure that are important for the pedestrian environment. The final combined protocol appears in Appendix B. In order to analyze the data using GIS, the Team then developed a second series of data points or measures that were based on these protocols. These measures were documented in a code book and defined. The code book appears in Appendix C

---

[6]Ibid.

[7] Rutting is another form of distress, however, that analysis is beyond the scope of this work due to the need to block traffic and obtain approvals.

[8] The University of Western Australia (2003). Survey of the Physical Environment in Local Neighbourhoods, Spaces Instrument: Observers Manual. Nedlands, Western Australia.

[9]Livi, Andrea D. (2004). Pedestrian Environment Data Scan. National Center for Smart Growth. College Park, MD.

and the measures are summarized in Table 1 below. The measures are further described in the findings section of this report.

Table 1: Data Points for Pedestrian, Bicycle, and Landscape

Pedestrian	Bicycle	Landscape
• Uses in Segment • Traffic Volume • Sidewalk Location • Sidewalk Type • Sidewalk Material • Sidewalk Condition • Sidewalk Buffer • Buffer Distance • Pedestrian Connectivity • Driveways per block • Sidewalk Width • Curb Type • Sidewalk Lighting • Shade Tree Density • Land Use Mix	• Bike facility location (one or both sides of the street) • Bike facility type (shared use path / marked bike lane) • Bike facility width • Bike facility condition	• Voltage of Power • Width of median • Landscaped median • Irrigated Median • Landscaped Roadside • Utilities in Roadside

DEVELOPING RECOMMENDATIONS

Following the infrastructure inventory, the information gathered was analyzed and mapped. The Team then hosted a "Recommendations Conference" where experts in bicycle/pedestrian, landscaping, and pavement discussed the findings and recommended improvements. This approach allowed the Team to develop recommendations from multiple interests and perspectives.

Figure 2: Recommendations Conference Participants at Work

The recommendations do not propose to identify all of the constraints on the Village in terms of available resources or current development standards / guidelines. For example, the entity that will be responsible for the roadways in the Village is not yet known. Second, the Team recognized that opportunities for improving the infrastructure and facilities are context-sensitive in that opportunities for improvement may coincide with grants or priorities outside the Village's jurisdiction (such as those at the Lee County or MPO level). Finally, the Team considered that solutions are both context-sensitive in terms of treatment (in that not all roadways demand the same solution) and context-sensitive in terms of timing (opportunities for improved sidewalks may coincide with utility repair or potential development of the Village Center). As a result, these recommendations are centered on improvements to the existing infrastructure that would benefit the residents from a travel, connectivity, and safety perspective.

Results & Recommendations

PAVEMENT ANALYSIS: FIELD DISTRESS SURVEY

Data collection was accomplished by visual inspection to assess the distresses present within each roadway section in the Village. The data obtained for each section were processed and analyzed. The videos obtained for the drive-through survey were also processed to identify any major differences in the rest of the roadways that were not part of the walk-through survey. About 30 Centerline miles of roadways were assessed using the 2015 Florida Department of Transportation Pavement Condition Survey Handbook. The distresses measured are reported in terms of cracking, raveling, and patching. Based on the conditions of the pavement, the following rating/terminology was used:

> ***Poor Conditions*** - Extensive cracking (Class III), numerous/deep potholes or advance/severe moisture damage, and/or moderate to severe raveling.
>
> ***Fair Conditions -*** Moderate cracking (Class II or Type II)[10], few potholes or advance moisture damage, and/or moderate raveling.
>
> ***Good Conditions –*** No/minor hair cracks (Class IB), early signs of moisture damage, and/or light raveling.

Roads Needing Immediate Attention

Several potholes, extensive cracking, and/or moderate raveling were observed on Estero Parkway, Poinciana Avenue, and Trailside Drive. These streets cover about 12 lane miles of pavement (see Table 2 below). These roads were categorized to be in poor condition. Immediate attention is recommended. The conditions of these roadways may deteriorate very rapidly, which may result in a much more expensive solution to rehabilitate them. For example, one hundred percent (100%) of the total surface area on Estero Parkway has extensive raveling (Figure 3). At some locations the base materials are exposed. Extensive cracking and patching were observed in Poinciana Avenue (Figures 4 and 5). Some type II block cracking was observed on about the entire pavement of Trailside Drive (Figure 6). These roadways should be repaved within the next year. Additional information about each of these roadways is also provided in Appendix A.

[10] This report uses the terminology Type II and Class II interchangeably.

Table 2: Streets Needing Immediate Attention

Street Name	Distance (ft)	Distress/concern	Recommendations / Actions
Estero Parkway	9,504	Severe raveling throughout the entire road. Pavement appears to be very thin and is not flush with curbing (~1 inch). Light to moderated cracking.	Immediate attention is recommended. Repave as early as possible.
Poinciana Avenue	661	Severe raveling throughout the entire road. Road base can be seen through the cracks, depressions from erosion on the shoulder, as well as potholes and patching throughout.	Immediate attention is recommended. Repave as early as possible.
Trailside Drive	2,166	Moderate, type II block cracking is present throughout the entire road.	Immediate attention is recommended. If repaving is not an option at this time, at the minimum, monitor crack propagation in the next year. Reevaluate in the next year to ensure that condition does not worsen.

Figure 3: Severe Raveling & Road Not Flush with Curbing - Estero Parkway

Figure 4: Exposed Base and Type III Alligator Cracking - Poinciana Avenue

Figure 5: Potholes and Large Patches – Poinciana Avenue

Figure 6: Type II Block Cracking Throughout – Trailside Drive

Roads Needing Evaluation in 2-3 Years

Table 3 contains roadways in which cracks have started to propagate. These streets cover about 20 lane miles of pavement in the Village. Additional information about these roadways are provided in Appendix A. In general, most of the roads listed in Table 3 are in good-to-moderate condition. However, in some instances these cracks cover roughly 25% of the surface area. These roads should be reevaluated in two to three years.

It is important, to also highlight Broadway Avenue (about 5 lane miles), Sandy Lane (about 1.5 lane miles); and Charing Cross Circle (about 1.25 lane miles). These three roadways contain some type II/III cracking and light-to-moderate raveling that may need additional attention. These are highlighted in yellow on the table. The distresses cover about forty percent (40%) of the surface area on these three roadways. Longitudinal and alligator cracking, especially in the wheel path or centerline, was present on Broadway Avenue (West side of US 41) (Figure 7) and Sandy Lane (Figure 8 & 9). About ten percent (10%) of back slope of drainage exits on the side of these roads. Although the cause of the distress observed on Broadway Avenue and Sandy Lane is beyond the scope of this work, it appears that the drainage provides inadequate lateral support which may in turn accelerate the deteriorating conditions on these roads.

Table 3: Streets to beReevaluated in the Next Two or Three Years

Street Name	Distance (ft)	Distress/concern	Recommendations / Actions
Armada Court	792	Road is in fair condition. Type IB cracking throughout.	Reevaluate in two to three years.
Broadway Avenue	12,778	Road is in fair condition. Light raveling east of US 41. Type IB cracking visible and type II longitudinal crack along the centerline.	Reevaluate in two to three years – consider scope of distress
Charing Cross Circle	3,274	Road is in fair condition. Moderate raveling and many type IB and type II cracks present.	Reevaluate in two to three years - consider scope of distress
Coconut Drive	1,320	Road is in fair condition. Many type IB and type II cracks present.	Reevaluate in two to three years
Coralee Avenue	1,214	The road is in good condition. Some type IB cracking throughout.	Reevaluate in two to three years
County Road	528	Road is in fair condition. Moderate raveling and many type IB cracks throughout.	Reevaluate in two to three years
Highlands Avenue	1,848	Road is in fair condition. Light raveling and many type IB and some type II cracks present.	Reevaluate in two to three years
Lords Way Street	580	Road is in fair condition. Moderate raveling and many type IB cracks throughout.	Reevaluate in two to three years
Mederia Lane	686	Road is in fair condition. Many type IB and fairly severe type II crack that should be monitored.	Reevaluate in two to three years
Palmetto Terrace	792	Road is in fair condition. Many type IB and some type II cracks present.	Reevaluate in two to three years
Park Place	1,214	Road is in fair condition. Many type IB cracks throughout.	Reevaluate in two to three years
Pinetree Lane	2,164	Road is in fair condition. Many type IB cracks throughout.	Reevaluate in two to three years
Porthole Court	792	Road is in fair condition. Many type IB cracks throughout.	Reevaluate in two to three years

Street Name	Distance (ft)	Distress/concern	Recommendations / Actions
Riverside Drive	1,373	Road is in fair condition. Many type IB cracks throughout.	Reevaluate in two to three years
Royal Palm Drive	1,214	Road is in fair condition. Many type IB and some type II cracks present.	Reevaluate in two to three years
Sandy Lane	3,854	Road is in fair condition. Many type IB cracks, type II cracking in the wheel path, and heavy to moderate type III longitudinal cracking present.	Reevaluate in two to three years - consider scope of distress
See See Street	1,161	Road is in fair condition. Moderate raveling, many type IB and fairly severe type II crack that should be monitored.	Reevaluate in two to three years
Spring Creek Drive	2,904	Road is in fair condition. Some type IB cracking throughout and type II alligator cracking down the wheel path.	Reevaluate in two to three years
Williams Road	13,200	Road is in fair condition. Light raveling, some type IB cracking, few type II cracking east of round-about. West of round-about is in good condition.	Reevaluate in two to three years

Figure 7: Alligator and Longitudinal Cracking in Wheel Path - Broadway Avenue

Figure 8 Longitudinal and Alligator Cracking in Wheel Path - Sandy Lane

Figure 9: Type III Cracking Along Wheel Path – Sandy Lane

Roads in Good Condition

The rest of the roadways (Table 4) are in very good shape with only minor hair and/or very light raveling (see, for example, Coconut Road in Figure 10). These streets cover about 66 lane miles of pavement in the Village. Three Oaks Parkway showed some minimal cracking in between the wheel path (Figure 11). In addition only two (2) to five (5) percent of these distresses cover the surface area on these roads. As a result, no action is required on these streets.

Table 4: Streets in Good Condition

Street Name	Distance (ft)	Distress/concern	Recommendations / Actions
Ben Hill Griffin Parkway	5,280	The road is in overall good condition. Little type IB and minimal Type II cracking exists on the newer south extension.	No immediate action needed
Coconut Road	17,582	The road is in good condition. Very few type IB cracks on the eastern end.	No immediate action needed
Commons Way	580	The road is in good condition.	No immediate action needed
Corkscrew Road	27,456	Road appears to be in good condition. There were some type IB cracks on the west bound lane between US 41 and I-75.	No immediate action needed
River Ranch Road	3,960	The road is in good condition. Very few type IB cracks.	No immediate action needed
Three Oaks Parkway	23,760	The road is in overall good condition. Little type IB and minimal Type II cracking exists on the newer south extension.	No immediate action needed
Via Coconut Point	14,362	Road is in very good condition.	No immediate action needed

Figure 10: Road in Very Good Condition - Coconut Road

Figure 11: Minimal Cracking in Between Wheel Path - 3 Oaks Parkway

SIDEWALK AND SHARED USE PATH ANALYSIS

The goal of conducting a sidewalk analysis is somewhat different from a pavement analysis. There are several main considerations for sidewalk infrastructure: a) whether the facility exists and b) the extent to which the facility is placed in areas that meet the needs of residents. Other considerations are the walking environment, which considers the comfort and usability of the facility. This project mapped the sidewalk infrastructure, assessing the following characteristics:

- Uses in Segment
- Traffic Volume
- Sidewalk Location
- Sidewalk Type
- Sidewalk Material
- Sidewalk Condition
- Sidewalk Buffer
- Buffer Distance
- Pedestrian Connectivity
- Driveways per block
- Sidewalk Width
- Curb Type
- Sidewalk Lighting
- Shade Tree Density
- Land Use Mix

In addition, the Team mapped the existing crossings throughout the Village. These crossings are important to develop a system with safe walking conditions.

This work yielded a series of maps that allowed the Team to better understand issues and opportunities. The primary issues were gaps in the sidewalk infrastructure, substandard conditions, and unsafe conditions for pedestrians. The opportunities involved access for pedestrians to recreation, education, and employment; increases in connectivity; and increased access in areas of high usage.

Using the maps that appear in Figure 12 below, the Team assessed the presence and condition of existing facilities as well as gaps.

The Team developed a series of recommendations based on the following set of criteria:

- Safe access to educational opportunities – examples include access to Estero High School
- Safe access to recreational, shopping, or employment opportunities – examples include access to Estero Community Park and future opportunities in the Village Center
- High areas of usage – defined as areas where there are many destinations within a walking distance
- Connectivity – defined as those sidewalks or streets where there are opportunities to connect existing infrastructure to create a network. Connectivity also includes connections between destinations, such as parks to parks or parks to schools.

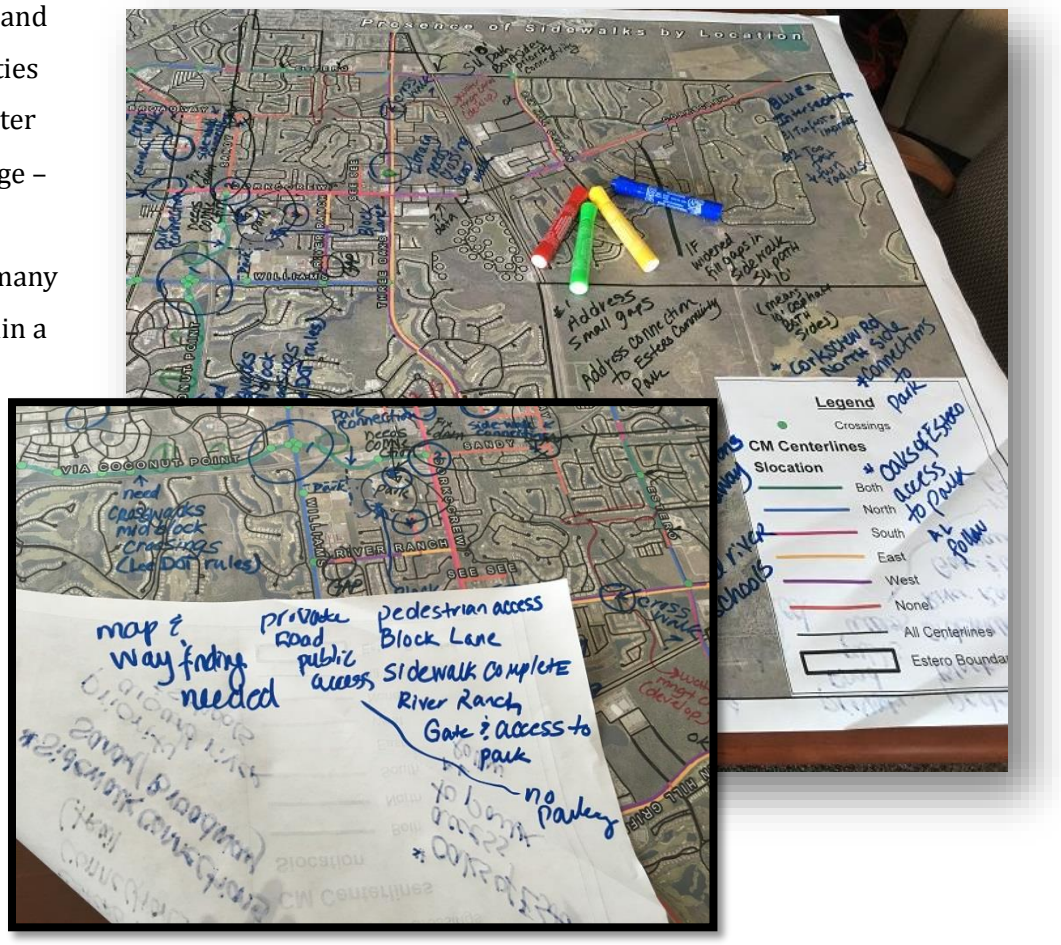


Figure 12: Recommendations at Work

This analysis yielded the recommendations that appear in Table 5 below. As noted above, this list is not prioritized in terms of immediate needs, as the opportunities for improvements are sensitive to funding availability and/or other improvements (such as utility work or repaving).

Table 5: Summary of Sidewalk Recommendations

Road / Street	Limits	Facility	Connectivity	Usage	Safety	Access
Estero Parkway	Tamiami Trail to 3 Oaks Parkway	New 10' Shared Use Path - Asphalt	✓	✓	✓	✓
River Ranch Road	Corkscrew to Williams	New Sidewalks to Repair Gaps	✓	✓	✓	✓
Connections to Estero Community Park	Via Coconut Point to Park	New Sidewalk	✓	✓	✓	✓
	Estero Park to Block Lane	New / Improved Sidewalk				✓
	Corkscrew Road (Existing Entrance) to Estero Park	Wider sidewalk				✓
Sandy Lane	Broadway to Corkscrew	New Sidewalk	✓	✓	✓	✓
	Bigelow Place to Estero River Circle	Bike/Ped Bridge over Estero River	✓			✓
Corkscrew Road	US 41 to 3 Oaks	New 10' Shared Use Path - Asphalt	✓	✓	✓	✓
Broadway	US 41 to Sandy	Sidewalk	✓			
3 Oaks Parkway	South of Coconut to City Boundary	Sidewalk repair due to tree roots			✓	
US 41 (East Side)	Covered Wagon Trailer Park to Williams Road	Sidewalk significantly under water most of rainy season		✓		✓

The map that appears in Figure 13 shows the location of existing sidewalks and sidewalk gaps. The most significant are gaps that appear on Estero Parkway from US 41 to 3 Oaks Parkway (west of the Don Eslick Bridge). Many of the participants in the recommendations conference considered Estero Parkway to be a significant opportunity to showcase the Village's efforts to be a walkable and bikable community. This was due, in part to the opportunities for connections to

residential developments and to other important facilities; including shopping and Florida Gulf Coast University.

In addition, there are many gaps on River Ranch Road near Estero High School that should be addressed. These gaps are significant because the sidewalks are primarily on one side but switch sides periodically. This presents unsafe walking conditions for students and families as it forces pedestrians to cross multiple times if they intend to use the sidewalk.

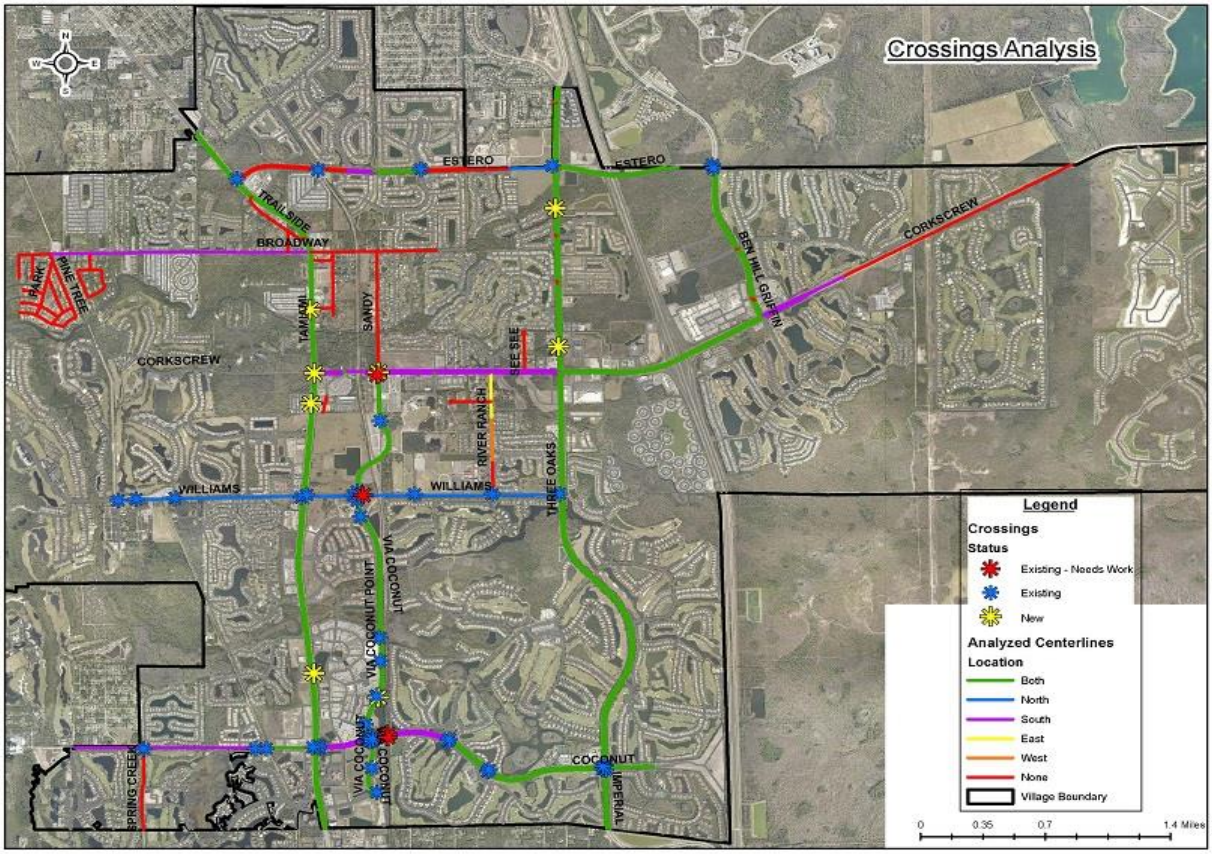


Figure 13: Sidewalks & Intersections & Crossings

There are priority connections for pedestrians that include access to the Estero Community Park from multiple directions. There may be an existing opportunity to connect the residents along River Ranch to the Park via Block Lane and access from Via Coconut Point to the park. These connections would help to reinforce the livability and sense of place in the Village.

Though the goal of this project was not primarily to develop recommendations for future connections, there were some obvious future opportunities. For example, future connections

through the Village of Estero include connecting the area's parks. The Team found it especially important to consider connections between Estero Community Park, the Estero Bay Preserve State Park, the Koreshan State Historic Site, and the potential new Village Center. Many residents would benefit from sidewalks throughout the Village, as they begin to enjoy walking as a form of recreation.

Walk Score Heat Map Analysis

An additional analysis was conducted using data from Walk Score. Walk Score measures walkability on a scale from 0 - 100 based on walking routes to destinations such as grocery stores, schools, parks, restaurants, and retail. Walk Score measures the walkability of any address by analyzing walking routes to nearby amenities. Points are awarded based on the distance to amenities in each category. Amenities within a 5 minute walk (.25 miles) are given maximum points. A decay function is used to give points to more distant amenities, with no points given after a 30 minute walk.[11] However, Walk Score does not indicate whether the facilities in any given location are available to users.[12]

Walk Score®	Description
90–100	**Walker's Paradise** Daily errands do not require a car.
70–89	**Very Walkable** Most errands can be accomplished on foot.
50–69	**Somewhat Walkable** Some errands can be accomplished on foot.
25–49	**Car-Dependent** Most errands require a car.
0–24	**Car-Dependent** Almost all errands require a car.

Figure 14: Walk Score Description

Using the data provided to the FGCU Team by Walk Score, the Team was able to create a 'heat map' of the areas in Estero with the highest proximity of amenities. Again, this map does not assess the quality of facilities in an areas, but shows where there are opportunities for significant usability, if the infrastructure is available. The map that appears in Figure 15 below shows that the areas with the highest score in the Village cluster around Corkscrew / Tamiami Trail, Corkscrew / Ben Hill Griffin, and Coconut Pointe. Still, it should be noted that these areas are considered somewhat walkable with a maximum score of 58 / 100.

[11] Walk Score also measures pedestrian friendliness by analyzing population density and road metrics such as block length and intersection density. Data sources include Google, Education.com, Open Street Map, the U.S. Census, Localeze, and places added by the Walk Score user community.

[12] Walk Score's methodology: https://www.walkscore.com/methodology.shtml

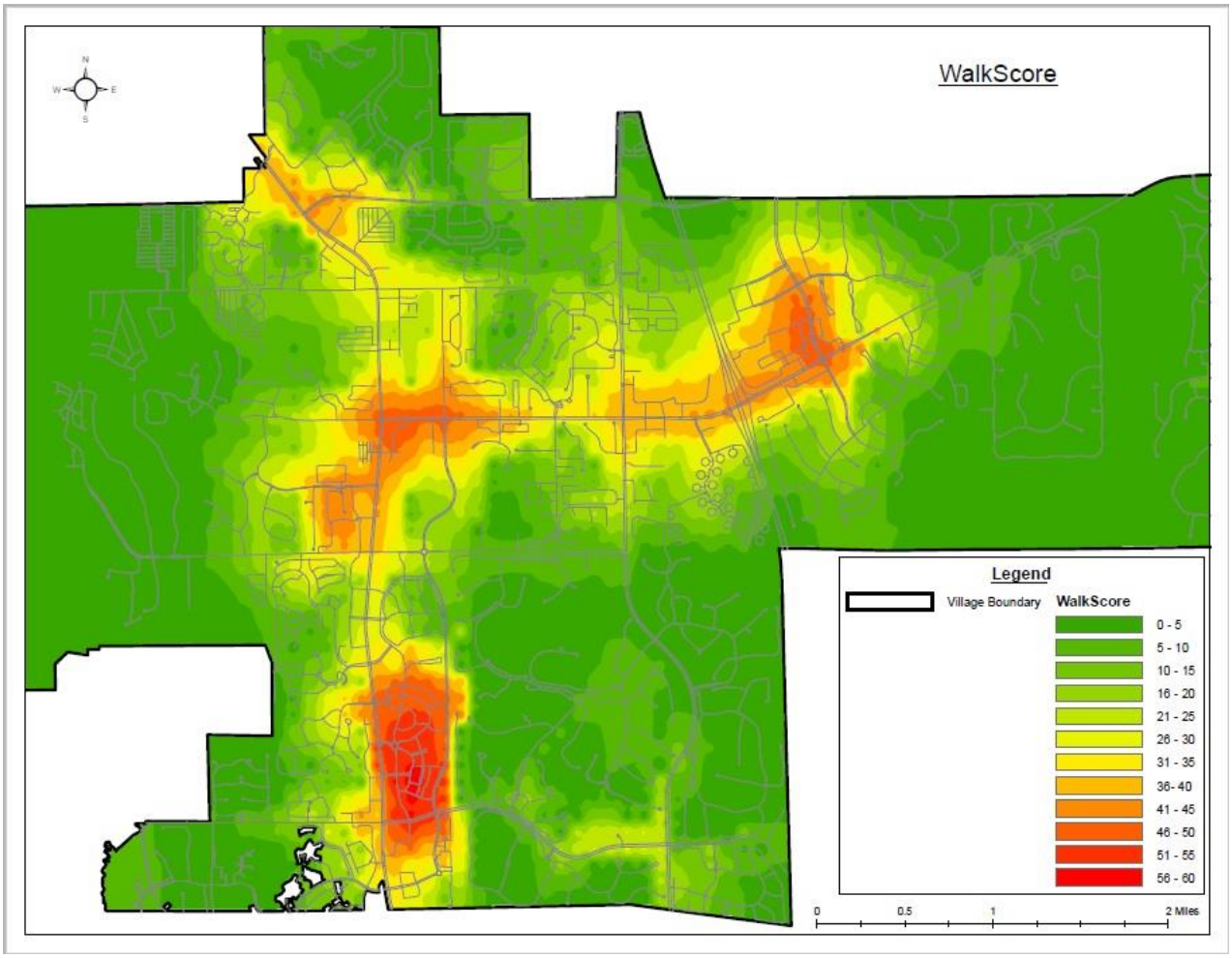


Figure 15: Walk Score Heat Map

Further analysis is available with the Walk Score Heat Map that shows the existing sidewalk infrastructure layered over the Walk Score Heat Map that appears below in Figure 16.[13] This analysis shows that several areas with higher amenities lack basic sidewalk infrastructure or only have a sidewalk on one side.

[13] For the purpose of simplicity, Figure 16 shows the existence of a sidewalk on one or both sides. Please refer to Figure 13 to see which side of the street the sidewalk is placed.

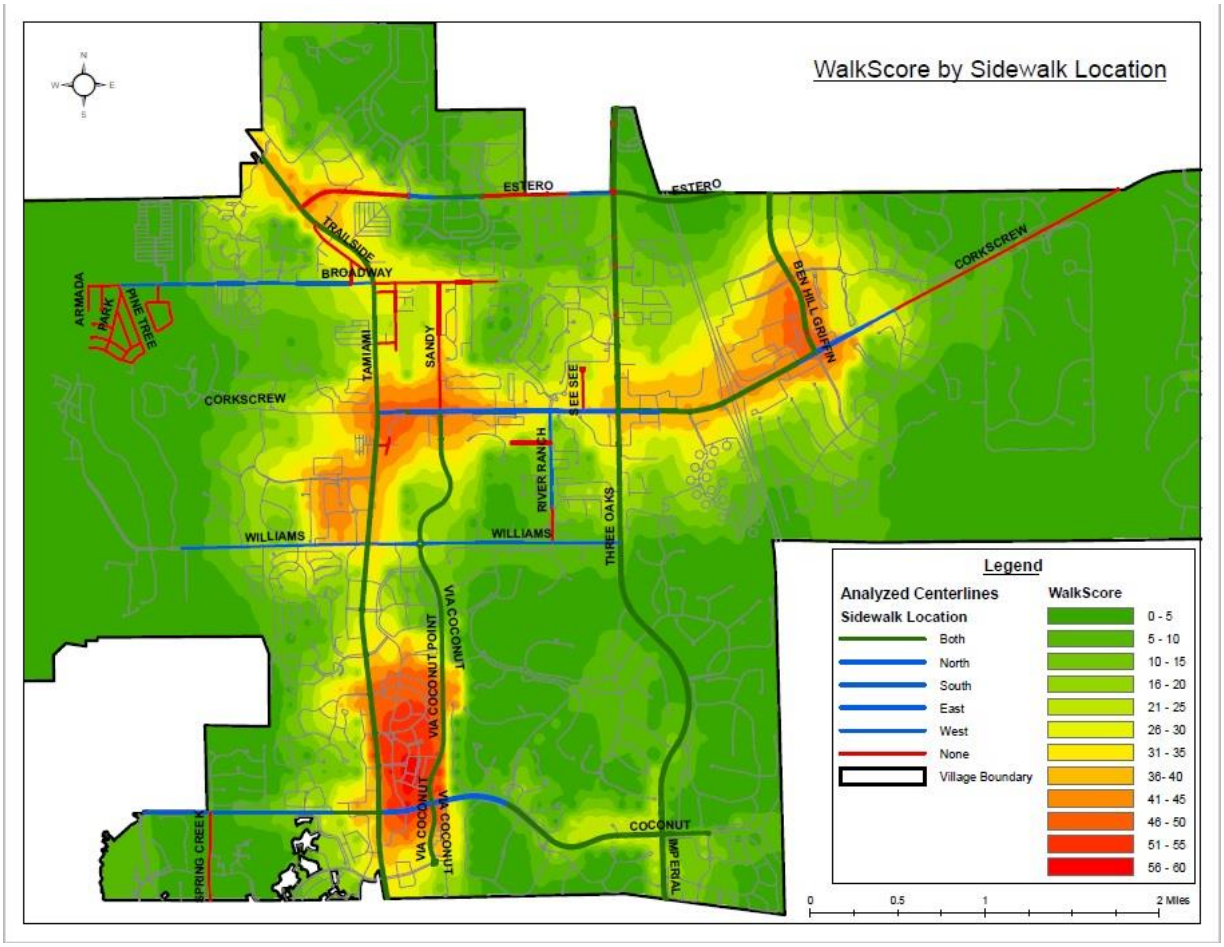


Figure 16: Walk Score with Estero Sidewalk Location Layer

INTERSECTIONS AND CROSSINGS

In addition to the sidewalks, the Team mapped many of the intersections in Estero. Intersections are particularly important from a safety standpoint because they represent conflicts between pedestrians / bicyclists and automobiles. The primary issue with the existing intersections in the Estero community is their speed. This analysis and the recommendations found four intersections that were problematic. These are indicated on the map (see Figure 13) as red asterisks. They are also listed below in Table 6.

Table 6: Intersection Improvements

Intersection	Issue	Recommendation
Williams Road Roundabout at Via Coconut Point	Speed of automobiles exiting roundabout places pedestrians at risk	Place crosswalks further away from the intersection to increase site line
Crossing Via Coconut Point at Corkscrew	Speed of automobiles turning south to Via Coconut Point present safety hazard for pedestrians crossing	Consider installing island to reduce the turning radius and offer a pedestrian refuge (see Figure 17 below).
Intersection of Via Coconut Point and Coconut Road	Speed of automobiles turning present safety hazard for pedestrians crossing	Consider installing island to reduce the turning radius and offer a pedestrian refuge (see Figure 17 below). Consider timing and operation of pedestrian light.
Intersection of US 41 and Corkscrew	Speed of automobiles turning present safety hazard for pedestrians crossing	Consider installing island to reduce the turning radius and offer a pedestrian refuge (see Figure 17 below)

A primary solution to increase safety at intersections is to reduce the turning radius for vehicles. A common tool are pedestrian islands that induce traffic calming. They work to both reduce the turning radius and offer a landing / resting point for pedestrians, should it be needed. Figure 17 below is an example of one such island.

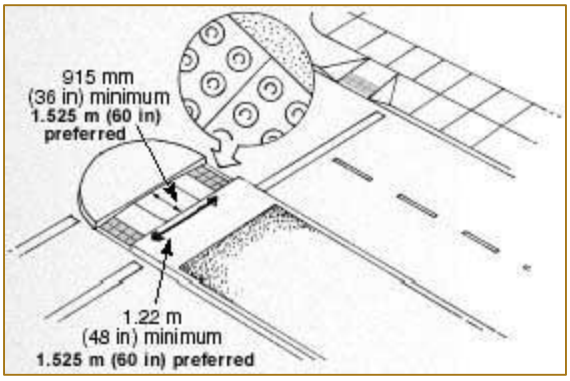


Figure 17: Pedestrian Median [14]

In addition, the Team noted that the pedestrian signal at the intersection of Via Coconut Point and Coconut Road does not automatically turn during a green light. By forcing pedestrians to activate the walk signal, it pedestrians must wait long periods and through several light cycles before crossing.

The map that appears in Figure 13 graphically shows the sidewalk gaps and notable crossings in the community.

In addition to the existing intersections, there are several important new crossings that, if installed, could significantly increase the safety and walkability of the community. These are listed below in Table 7 as well as indicated in yellow asterisks on Figure 13. While several of these crossings are not in the jurisdiction of the Village of Estero, there may be opportunities to improve these intersections in the future.[15]

[14]From https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/sidewalk2/sidewalks209.cfm

[15]Though the purpose of this exercise was not to analyze traffic conditions, it was noted that there are problematic intersections for drivers attempting to exit their gated communities with a left-hand turn. Specifically, residents of the Cascades and the Reserve face problematic conditions.

Table 7: Potential New Crossings

Intersection	Issue	Recommendation
Corkscrew at Sandy Lane	Safety in crossing busy Corkscrew Road	New crossing needed in future to accommodate access to Estero Park
US 41 Crossing at Covered Wagon Trailer Park to Publix	Safety issue in crossing busy US 41	New crossing needed to increase safety for residents walking to shopping
US 41 Crossing at Lychee Lane (Sunny Grove Trailer Park)	Safety Issue in crossing busy US 41	New crossing needed to increase safety for residents walking to shopping
US 41 at Coconut Point Mall	Safety Issue in crossing busy US 41	New crossing needed to increase safety for residents walking to shopping
3 Oaks Parkway South of Estero Parkway	Increased access across busy 3 Oaks Parkway	New crossing needed within reasonable proximity to shopping and residential uses
3 Oaks Parkway North of Corkscrew Road to connect the library and post office	Increased access across busy 3 Oaks Parkway	New crossing needed within reasonable proximity to public and civic uses
Via Coconut Point at Coconut Point Mall	Increase access from east sidewalk to west at Coconut Point entrance	New crossing needed to accommodate pedestrians and bicyclists traveling from residential areas on the east side of Via Coconut Point to the Coconut Point Mall

BICYCLE FACILITY ANALYSIS

The bicycle facility data collection effort consisted of the following data points:

- Bike facility location (one or both sides of the street)
- Bike facility type (shared use path / marked bike lane)
- Bike facility width
- Bike facility condition

The analysis and mapping followed a similar process as described above in the section on sidewalks. Figure 18 shows the existing marked bike lanes and paved shoulders.[16]

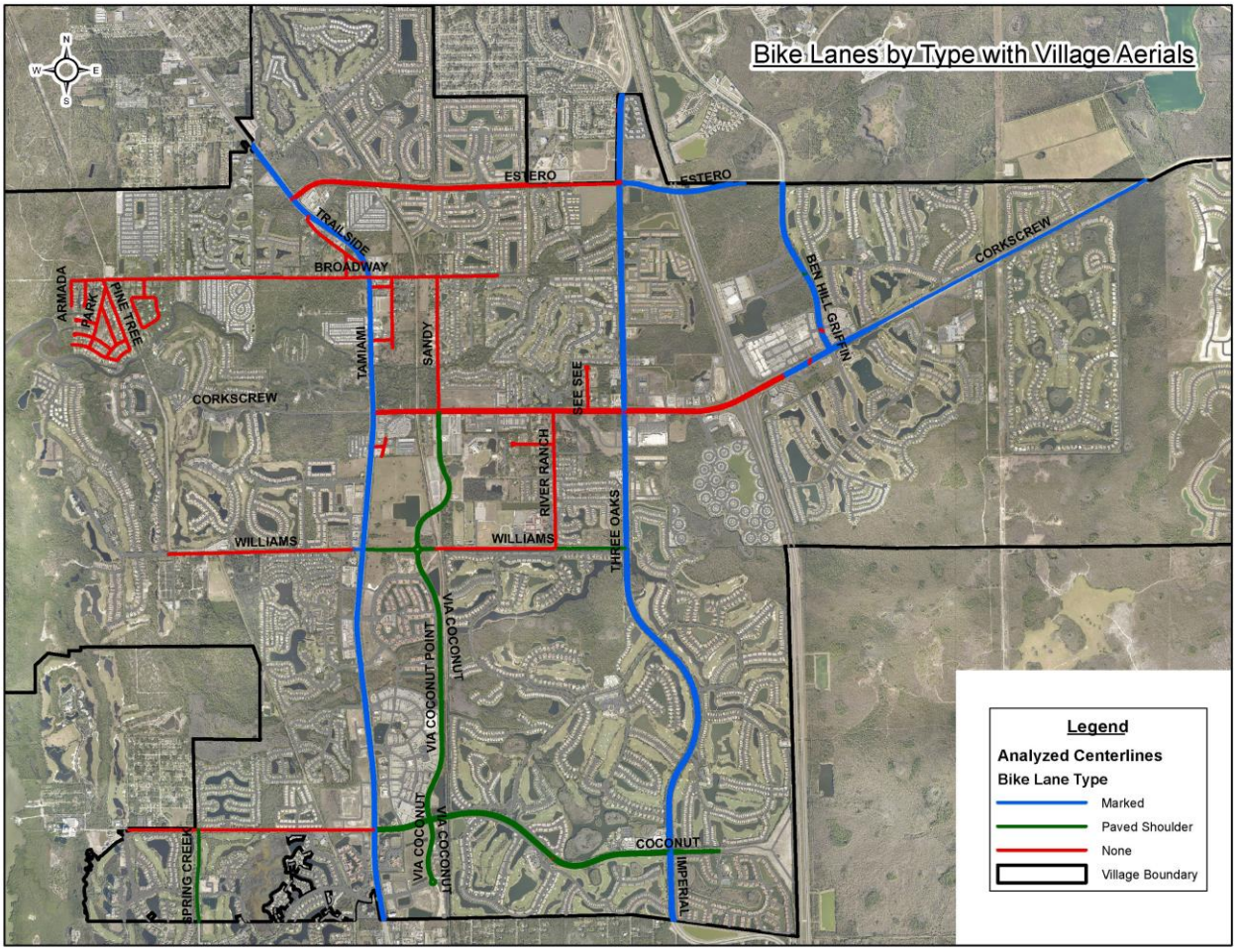


Figure 18: Estero Biking Facilities

[16] Estero Parkway has a small paved shoulder that is not noted here, as the facility is not usable as a bike facility.

A similar criteria were used to assess the recommendations for improvements to the bicycle infrastructure. These were:

- Safe access to educational opportunities – examples include access to Estero High School
- Safe access to recreational, shopping, or employment opportunities – examples include access to Estero Community Park and future opportunities in the Village Center
- High areas of usage – defined as areas where there are many destinations within a walking distance
- Connectivity – defined as those sidewalks or streets where there are opportunities to connect destinations, such as connections between parks or parks-schools. Connectivity also included the ability to connect gaps in the infrastructure.

As shown on Figure 18, there are many gaps in the biking facilities in the Village. There are a variety of benefits of fixing these gaps, including increased safety, usage, and reduction of vehicle miles traveled. In addition, there are connectivity benefits that could increase livability.

Walk Score Bicycle Analysis

Similar to the discussion related to the Walk Score and side walk analysis, the FGCU Team also analyzed the implications of the proximity of amenities for the bicycling infrastructure. Figure 19 below shows the Walk Score Heat Map with the bicycling facilities layer. The analysis of this map supports the recommendation for additional biking facilities along Corkscrew west of Ben Hill Griffin and Estero Parkway west of the Don Eslick Bridge.

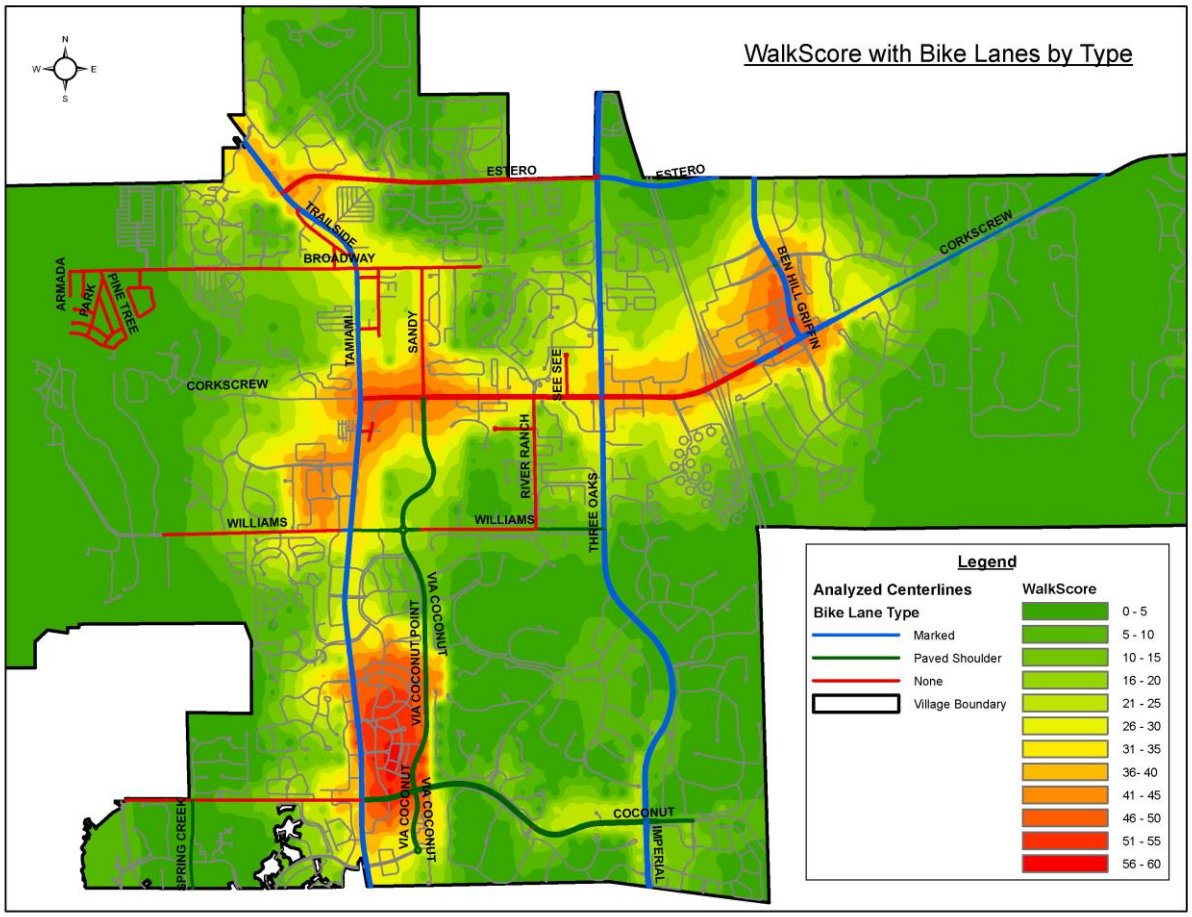


Figure 19: Walk Score by Bike Lane Type

As a result of this analysis, the recommended improvements are outlined in Table 8 below.

Table 8: Bike Facility Improvements

Road / Street	Limits	Facility	Connectivity	Usage	Safety	Access
Estero Parkway	US 41 to Don Eslick Bridge	New 10' Shared Use Path – Asphalt and Buffered and Marked Bike Lane	✓	✓	✓	✓
River Ranch Road	Corkscrew to Williams	New Bike Lanes	✓	✓	✓	✓
Connections to Estero Community Park	Corkscrew Road (Existing Entrance) to Estero Park	Bike Lane	✓			✓
Williams Road	River Ranch to Via Coconut Point	Bike Lanes	✓	✓	✓	✓
Broadway	Estero Bay Park to US 41	Paved Shoulder	✓			✓
Sandy Lane	Broadway to Corkscrew	Paved Shoulder	✓		✓	✓
Corkscrew Road	US 41 to Miramar Mall Area	New 10' Shared Use Path - Asphalt	✓	✓	✓	✓
3 Oaks Parkway	South of Estero Parkway to Village Boundary	Consider buffered bike lanes			✓	
Village Center		Consider slow streets and sharrows		✓		✓

There are certain improvements that if made, could significantly add to a connected network. This would provide safer biking for residents in Estero. For example, as Figure 20 shows, a shared use path and a buffered bike lane along Estero Parkway connecting US 41 to 3 Oaks Parkway and the University Loop would significantly increase the entire network.

Figure 20: Estero Parkway Potential Connection to University Loop

This is also true for a bike lane on Williams that could connect Via Coconut and 3 Oaks Parkway; creating a loop going east on Williams, south to 3 Oaks, west on Coconut, and north on Via Coconut back to Williams. This is illustrated in Figure 21.

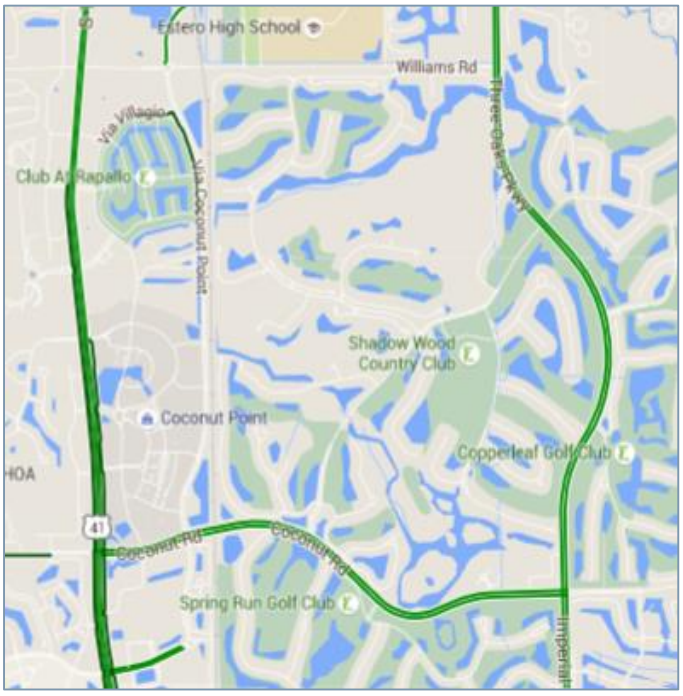


Figure 21: Potential Williams Road Bike Loop

In addition, the CSX rail line could add additional biking and walking opportunities through a shared use path along a potential railway or a rails-to-trails project.

The final set of recommendations involve opportunities with the proposed Village Center. Because the concept is to have slow and walkable streets, there is less of a need for wide bike lanes. In this instance, the recommendations are to retain slower streets or install sharrows on slower streets. Sharrows are simply paint on the street that indicates that bicycles are welcome and should share the road with automobiles. In addition, if streets are slow, it is possible to safely share the road. An example of a sharrow appears in Figure 22.

Figure 22: Example of a Sharrow

Designing for safety

All of the treatments for biking facilities in Estero should be designed for safety. For example, given that 3 Oaks Parkway is likely to be extended, increased traffic will affect the areas south of Estero Parkway. This will mean that safety will become a primary factor in bike facility usage.

Buffered bike lanes and lane diets should be considered as the Village continues to develop. Buffered bike lanes are those that separate the riding lane from the automobile lane. There are many examples of buffered bike lanes, including those that are created with paint, hard infrastructure, or on-street parking. Figure 23 illustrates a common buffering strategy using paint. This is a relatively inexpensive solution to a safety problem because it involves repainting, rather than hard infrastructure improvements.

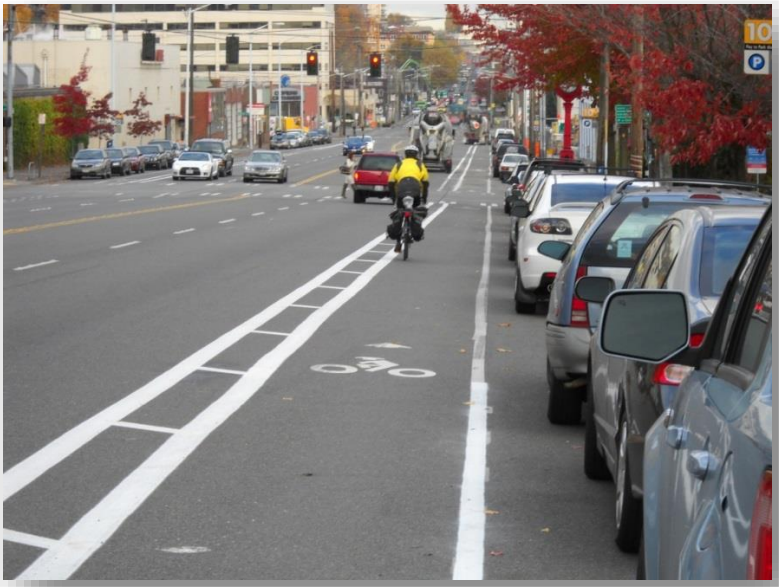


Figure 23: Example of Buffered Bike Lane

To make room for buffered bike lanes, lane diets narrow the travel lane, simultaneously slowing cars and making room for buffering (see Figure 24). Lane diets also work to calm traffic by making drivers feel less comfortable and thereby decreasing speed. This has benefits for all users. For drivers, slower speeds reduce the number and severity of vehicle collisions. For pedestrians, less lane width means increased comfort and decreased crossing distances. For all users, livability is thought to increase as access to schools, shopping, and good jobs is enhanced.[17]

For example, reducing the lane width on roadways such as Estero Parkway from 12' to 11' each would create a 2' right of way "savings". The additional foot could be allocated to increase the paved shoulder and the other foot allocated to some form of buffer.[18] Given the need to rehabilitate or resurface the road would mean that this improvement would be of insignificant cost.

[17] Federal Highway Administration. U.S. Department of Transportation (2015). Road Diet Desk Reference. Accessed 1/22/16 from: http://www.safety.fhwa.dot.gov/road_diets/desk_ref/#s2b

[18]There are no strict guidelines for buffer width. However, wider buffers increase safety and the perception of safety.

Figure 24: Lane Diet Example [19]

Overall, the lack of connectivity that exists in the gated communities tends to force all modes of transportation onto very few roads. This creates safety issues for pedestrians and bicyclists. As the Village continues to develop, standards should be created to require future communities to create connectivity within their developments. In addition, the creation of a bicycle/pedestrian master plan would be enormously important to identifying future opportunities and a multi-modal vision for the community.

[19] From http://www.annarbor.com/assets_c/2013/05/ReImagine_Washtenaw_052813_001-thumb-646x342-143513.jpg

LANDSCAPE ANALYSIS AND RECOMMENDATIONS

The Team also collected data on landscaping in the medians and roadsides. This included the following:

- Voltage of Power
- Width of median
- Landscaped median
- Irrigated Median
- Landscaped Roadside
- Utilities in Roadside

The median landscaping was mapped in a similar fashion as the other facilities. Figure 25 shows the presence of median landscaping in the Village.

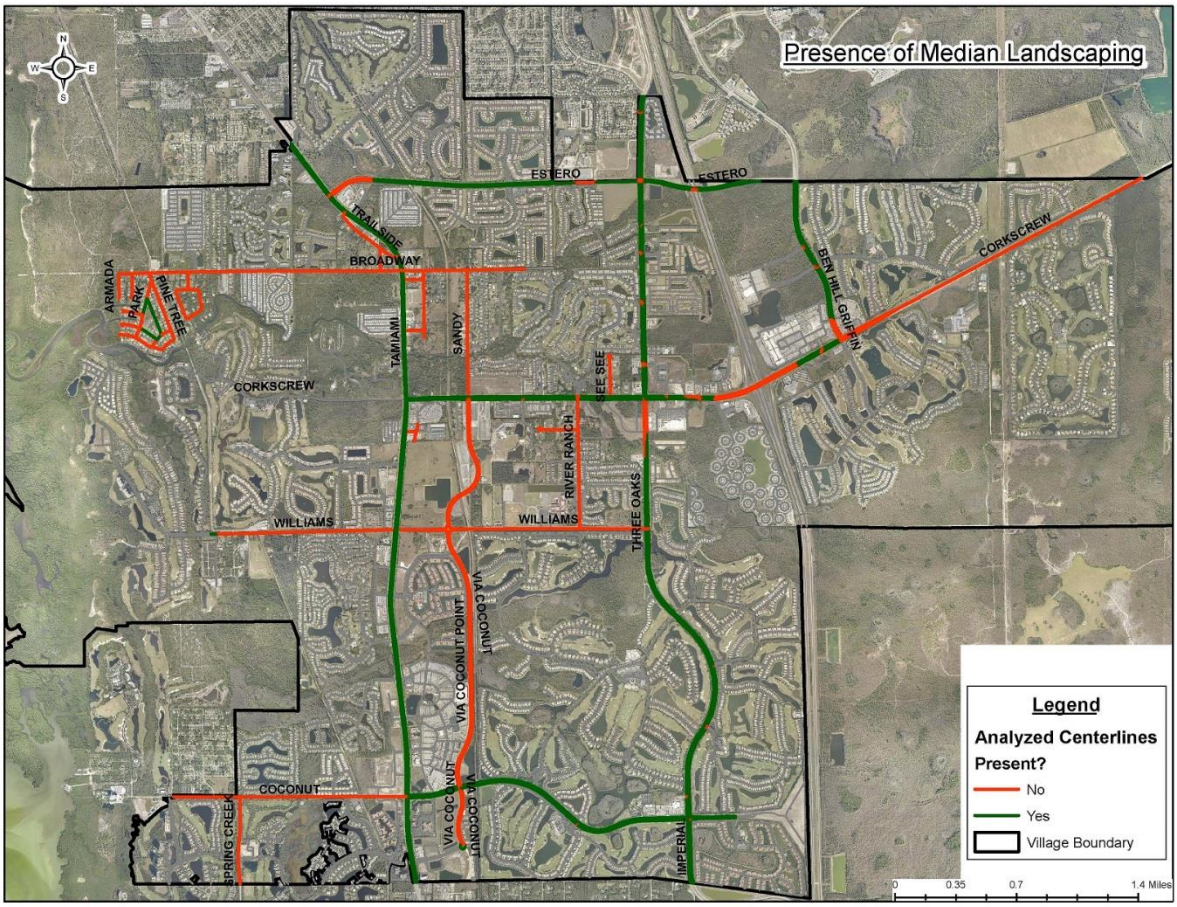


Figure 25: Median Landscaping

The recommendations group prioritized landscaping for the medians with the criteria of lower cost, aesthetic value, and enhancement of the image of the Village as the main criteria. The availability of water was also a main consideration. When water is available or nearby developers are willing, the landscaping can come at a reasonable cost. In addition, landscaped medians can work to calm traffic and therefore increase safety for all users of the roadways.

The recommendations appear in Table 9 below.

Table 9: Landscaping Priorities

Road / Street	Recommendation	Priority	Cost	Aesthetic	Image
Estero Parkway at US 41	Plant median	1	✓	✓	✓
Via Coconut Point	Median planting	2	✓	✓	✓
Estero Community Park	Enhanced landscaping at entrance	3		✓	✓
Corkscrew Road	Median planting	3		✓	✓
Oakbrook	Median planting	4	✓	✓	✓
Williams Road	Planting on south side of ROW	5		✓	✓
Village Center	Consider incentives for enhanced landscaping		✓	✓	✓
U.S. 41 (Tamiami Trail)	Enhanced landscaping				✓
3 Oaks Parkway	Enhanced landscaping				✓
Other	Consider tree planting programs for private properties		✓	✓	

Each of the landscaping priorities offer unique opportunities to enhance the image and aesthetic in the Village. In some instances, developers are now willing to offer water; in other instances, a tree program on private property is an excellent resource. Tree programs are popular across the country where municipalities or volunteer groups offer trees toproperty owners who are willing to provide the water and maintenance. Finally, the Village may consider strategies for enhanced landscaping on both U.S. 41 and 3 Oaks Parkway, as they both are important roadways that enter the community.

Conclusions

The objective of this study was to identify the infrastructure conditions in the Village of Estero, including pavement distresses, sidewalks, bicycle facilities, and landscaping conditions. In order to meet this goal, a field survey of the entire roadway of the Village was conducted.

- Overall, the roadways are in very good condition. Only minor hair cracks and/or very light raveling (if any) were observed on approximately 68% (66 lane miles) of the roads. As a recommendation, no action is required on these streets.
- On some other streets, type IB cracks have started to propagate. Some of these roadways appear to be a little rougher than those classified earlier as the "no action" category. As a result, continued monitoring is recommended. They should be revaluated in the next two to three years. About 20% (20 lane miles) of roadways fall into this category. Broadway Avenue, Sandy Lane, and Charing Cross Circle were the three roadways in this category in which noticeable pavement distresses were observed. Special attention should be given to Broadway Avenue and Sandy Lane in particular.
- Some other areas appeared rougher (more raveling) as compared to the other streets in the study. These roadways represent approximately 12% (12 lane miles) of the total roads in the Village. These roads need immediate attention. Extensive raveling was observed on Estero Parkway on almost 100% of the road. In many locations the base materials were exposed and the pavement layer appeared to be very thin. Extensive cracking and patching were observed in Poinciana Avenue. Some type II block cracking was observed on about the entire pavement of Trailside Drive. It is recommended to repave these roadways within the next year or so.
- The pedestrian infrastructure analysis showed that connections in areas of high usage along with safety improvements would be significantly beneficial. Specifically, this included pedestrian access around Estero High School as well as the Estero Community Park.
- There are several intersections and crossings that should be considered to reduce the potential for serious accidents.
- Connecting gaps in the bicycle infrastructure network would significantly improve the opportunities to access a much larger system within and outside the Village.

- There is a need to consider the next step of creating a bicycle/pedestrian master plan that could identify additional future opportunities for a connected and integrated system.

APPENDIX A
FIELD DISTRESS SURVEY

Table A-1. Armada Court Field Distress Survey

Armada Court																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.440336°	W81.837352°	N/A	N/A	N/A	N/A	22'3"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.440269°	W81.837358°	N/A	N/A	N/A	N/A	19' 7"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	D	none	none	none	Drainage culvert at 322'
			JH	IB	D	none	none	none	No sidewalk
			Ave	**IB**	**D**	**none**	**none**	**none**	No bike lanes
			CV	II	F	none	none	none	Residential - dead end
			JH	II	F	none	none	none	
			Ave	**II**	**F**	**none**	**none**	**none**	

Note: 1 mile = 5280 feet [a] Asst. = Assistant [b] Eng. = Engineer [c] - = Not applicable
[d] R = Right Side of the Road [e] NA = Not available [f] L = Left Side of the Road

Table A-2. Ben Hill Griffin Parkway Field Distress Survey

Ben Hill Griffin Parkway																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	2	Begins	N26°26.876'	W81°46.479'	5'	10'		4'2"	21'7"		46'2"		22'2"	4'1"		15'2"	5'
			Ends	N26°26.477'	W81°46.477'	7'11"	10'3"	N/A	3'10"	22'2"	N/A	45'9"		22'7"	4'3"	10'8"	3'	5'2"
2	600	2	Begins	N26°26.349'	W81°46.289'	8'3"	1'3"	11'3"	4'3"	22'	12'	30'7"	N/A	24'11"	4'2"	N/A	15'9"	4'10"
			Ends	N26°26.252'	W81°46.269'	7'11"	2'	12'	3'5"	22'7"	12'	34'6"	N/A	21'10"	3'10"	N/A	14'9"	5'1"

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	2	CV	IB	D	none	none	none	Gas Pipeline at 160'
			JH	IB	D	none	none	none	Drainage at 280'
			Ave	**IB**	**D**	**none**	**none**	**none**	1/4 of sidewalk repaired
			CV	II	F	none	none	none	Estero way sign at 148'
			JH	II	F	none	none	none	Marked bike path
			Ave	**II**	**F**	**none**	**none**	**none**	
2	600	2	CV	IB	B	none	none	none	Utility at 600'
			JH	IB	B	none	none	none	Corkscrew way sign at 600'
			Ave	**IB**	**B**	**none**	**none**	**none**	Sidewalk in bad condition 30%
			CV	none	none	light	4	none	Cable line at 417'
			JH	none	none	light	4	none	Drainage at 232'
			Ave	**none**	**none**	**light**	**4**	**none**	

Table A-3. Broadway Avenue Field Distress Survey

Broadway Avenue																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26°26.525'	W81°48.059'	N/A	N/A	N/A	N/A	19'9"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°26.523'	W81°48.149'	N/A	N/A	N/A	N/A	16'10"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	500	1	Begins	N26°26.511'	W81°48.808'	4'6"	18'6"	N/A	N/A	20'2"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°26.514'	W81°48.898'	5'	16'10"	N/A	N/A	20'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	500	1	Begins	N26°26.513'	W81°49.407'	4'11"	5'	N/A	N/A	22'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°26.515'	W81°49.488'	5'	5'	N/A	N/A	21'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	500	1	Begins	N26°26.508'	W81°49.964'	5'3"	4'6"	N/A	N/A	18'10"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°26.506'	W81°50.055'	5'1"	5'	N/A	N/A	20'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	B	light	4	none	Longitudinal cracking along centerline
			JH	IB	B	light	4	none	
			Ave	**IB**	**B**	**light**	**4**	**none**	
			CV	II	F	light	4	none	
			JH	II	F	light	4	none	
			Ave	**II**	**F**	**light**	**4**	**none**	
2	500	1	CV	IB	B	light	4	none	Sidewalk on south (east bound) side only
			JH	IB	B	light	4	none	Longitudinal cracking in both wheelpaths
			Ave	**IB**	**B**	**light**	**4**	**none**	Longitudinal near the shoulder
			CV	II	E	light	4	none	Sidewalk in good condition
			JH	II	E	light	4	none	long. In wheelpath 80% in east bound lane
			Ave	**II**	**E**	**light**	**4**	**none**	long. In wheelpath 20% in west bound lane
			CV	IB	C	light	4	none	
			JH	IB	C	light	4	none	
			Ave	**IB**	**C**	**light**	**4**	**none**	
3	500	1	CV	IB	B	light	4	none	Sidewalk in south (east bound) side only
			JH	IB	B	light	4	none	Fire hydrant at 218'
			Ave	**IB**	**B**	**light**	**4**	**none**	Sidewalk in moderate condition
4	500	1	CV	IB	A	light	4	none	Sidewalk patching
			JH	IB	A	light	4	none	Sidewalk ends at end of section
			Ave	**IB**	**A**	**light**	**4**	**none**	

Table A-4. Charing Cross Circle Field Distress Survey

Charing Cross Circle																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.440139°	W81.832066°	N/A	N/A	N/A	N/A	20'3"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.438860°	W81.831518°	N/A	N/A	N/A	N/A	20'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	D	Moderate	4	none	Residential single family
			JH	IB	D	Moderate	4	none	No sidewalk or bike lane
			Ave	**IB**	**D**	**Moderate**	**4**	**none**	Moderate raveling throughout
			CV	II	G	Moderate	4	none	Ecessive raveling and patching of potholes
			JH	II	G	Moderate	4	none	near intersection to circle
			Ave	**II**	**G**	**Moderate**	**4**	**none**	

Table A-5. Coconut Drive Field Distress Survey

Coconut Drive																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.439514°	W81.834663°	N/A	N/A	N/A	N/A	18'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.438237°	W81.834108°	N/A	N/A	N/A	N/A	19'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	D	none	none	none	Residential single family
			JH	IB	D	none	none	none	No sidewalk or bike lane
			Ave	**IB**	**D**	**none**	**none**	**none**	Community park located on west side
			CV	II	F	none	none	none	
			JH	II	F	none	none	none	
			Ave	**II**	**F**	**none**	**none**	**none**	

Table A-6. Coconut Road Field Distress Survey

Coconut Road																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	2	Begins	N26°23.775'	W81°47.210'	7'7"	11'1"	N/A	4'1"	22'	N/A	33'7"	11'4"	22'1"	3'9"	N/A	12'1"	8'
			Ends	N26°23.760'	W81°47.295'	7'11"	4'10"	11'6"	4'	22'2"	N/A	44'4"		21'11"	4'	N/A	13'4"	7'10"
2	500	2	Begins	N26°23.814'	W81°47.759'	8'7"	10'10"	N/A	4'1"	21'9"	N/A	45'8"	N/A	22'5"	3'8"	N/A	10'	9'
			Ends	N26°23.849'	W81°47.834'	8'8"	6'3"	N/A	4'3"	22'1"	N/A	34'9"	N/A	21'9"	4'3"	N/A	5'4"	8'8"
3	500	2	Begins	N26°23.927'	W81°48.376'	N/A	N/A	N/A	4'9"	22'11"	N/A	35'5"	11'	22'	3'10"	11'3"	N/A	8'7"
			Ends	N26°23.890'	W81°48.472'	N/A	N/A	11'9"	4'2"	22'9"	13'9"	30'	N/A	22'4"	4'5"	N/A	6'7"	8'1"
4	500	2	Begins	N26°23.880'	W81°49.071'	8'	25'7"	N/A	N/A	24'9"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°23.882'	W81°49.164'	7'10"	24'5"	N/A	N/A	24'2"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	500	2	Begins	N26°23.876'	W81°49.721'	8'	22'	N/A	N/A	25'5"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°23.875'	W81°49.813'	7'10"	22'	N/A	N/A	27'2"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	2	CV	IB	A	none	none	none	Light sidewalk cracking
			JH	IB	A	none	none	none	Asphalt sidewalk
			Ave	**IB**	**A**	**none**	**none**	**none**	
2	500	2	CV	none	none	none	none	none	Light sidewalk cracking from tree roots
			JH	none	none	none	none	none	Asphalt sidewalk
			Ave	**none**	**none**	**none**	**none**	**none**	Way sign at start
3	500	2	CV	none	none	none	none	none	No sidewalk on north (west bound) side
			JH	none	none	none	none	none	Landscaping in buffer
			Ave	**none**	**none**	**none**	**none**	**none**	
4	500	2	CV	none	none	none	none	none	No sidewalk on north (west bound) side
			JH	none	none	none	none	none	Buffer with landscaping in swale
			Ave	**none**	**none**	**none**	**none**	**none**	50% of sidewalk concrete w/ major cracks
5	500	2	CV	none	none	none	none	none	No sidewalk on north (west bound) side
			JH	none	none	none	none	none	Buffer with landscaping in swale
			Ave	**none**	**none**	**none**	**none**	**none**	

Table A-7. Commons Way Field Distress Survey

Commons Way																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	250	1	Begins	N26.428504°	W81.809751°	N/A	N/A	N/A	N/A	30'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.428481°	W81.810515°	N/A	N/A	N/A	N/A	34'6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	250	1	CV	none	none	none	none	none	Entrence to Estero Commons Commercial
			JH	none	none	none	none	none	Gutters
			Ave	**none**	**none**	**none**	**none**	**none**	No bike lanes or sidewalks

Table A-8. Coralee Avenue Field Distress Survey

Coralee Avenue																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.428694°	W81.794833°	N/A	N/A	N/A	N/A	20'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.428694°	W81.796363°	N/A	N/A	N/A	N/A	19'11"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	D	none	none	none	No sidewalk
			JH	IB	D	none	none	none	No bike lanes
			Ave	**IB**	**D**	**none**	**none**	**none**	Residential - dead end

Table A-9. County Road Field Distress Survey

County Road																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.437026°	W81.809067°	N/A	N/A	N/A	N/A	20'2"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.436990°	W81.810600°	N/A	N/A	N/A	N/A	24'4"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	D	Moderate	4	none	No sidewalk
			JH	IB	D	Moderate	4	none	No bike lanes
			Ave	**IB**	**D**	**Moderate**	**4**	**none**	Utility - water at 490'
									Road need attention

Table A-10. Estero Parkway Field Distress Survey

Estero Parkway																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	2	Begins	N26.449547°	W81790767°	N/A	N/A	N/A	3'10"	23'7"	N/A	6'8"	13'6"	23'5"	4'	12	33'6"	5'
			Ends	N26.449515°	W81.792292°	N/A	N/A	N/A	4'8"	24'	8'6"	13'	N/A	24'5"	4'	N/A	45'6"	5'
2	500	2	Begins	N26.449253°	W81.801348°	7'7"	8'	N/A	3'	23'6"	N/A	18'7"	N/A	23'	4'6"	N/A	9'	5'
			Ends	N26.449215°	W81802893°	6'6"	8'7"	12'	4'5"	23'	13'	5'6"	N/A	23'6"	3'	N/A	11'3"	4'8"
3	500	2	Begins	N26°26.964'	W81°48.794'	N/A	N/A	N/A	5'	24'	N/A	9'3"	N/A	24'	3'8"	12'9"	16'6"	5'
			Ends	N26°26.979'	W81°48.711'	N/A	N/A	N/A	5'	24'	N/A	18'4"	N/A	24'	3'	N/A	30'	5'

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	2	CV	IB	A	Severe	4	none	Severe raveling on 100% of the roadway
			JH	IB	A	Severe	4	none	Pavement appears to be very thin throughout
			Ave	**IB**	**A**	**Severe**	**4**	**none**	Not flush with curb and gutter (~1" difference)
2	500	2	CV	IB	A	Severe	4	none	Severe raveling on 100% of the roadway
			JH	IB	A	Severe	4	none	Pavement appears to be very thin throughout
			Ave	**IB**	**A**	**Severe**	**4**	**none**	Not flush with curb and gutter (~1" difference)
3	500	2	CV	II	E	Severe	4	none	Severe raveling on 100% of the roadway
			JH	II	E	Severe	4	none	Pavement appears to be very thin throughout
			Ave	**II**	**E**	**Severe**	**4**	**none**	Not flush with curb and gutter (~1" difference)
			CV	IB	A	Severe	4	none	
			JH	IB	A	Severe	4	none	
			Ave	**IB**	**A**	**Severe**	**4**	**none**	

Table A-11. Highlands Avenue Field Distress Survey

Highlands Avenue																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.441874°	W81.809049°	N/A	N/A	N/A	N/A	19'6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.440506°	W81.809038°	N/A	N/A	N/A	N/A	19' 7"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	C	light	4	none	No sidewalk
			JH	IB	C	light	4	none	No bike lanes
			Ave	**IB**	**C**	**light**	**4**	**none**	Residential and chuches
			CV	II	G	light	4	none	
			JH	II	F	light	4	none	
			Ave	**II**	**G**	**light**	**4**	**none**	

Table A-12. Lords Way Street Field Distress Survey

Lords Way Street																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.441244°	W81.809132°	N/A	N/A	N/A	N/A	21'7"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.441233°	W81.810664°	N/A	N/A	N/A	N/A	19'1"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	D	Moderate	4	none	No sidewalk
			JH	IB	D	Moderate	4	none	No bike lanes
			Ave	**IB**	**D**	**Moderate**	**4**	**none**	Road need attention

Table A-13. Mederia Lane Field Distress Survey

Mederia Lane																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	480.2	1	Begins	N26.438559°	W81.836737°	N/A	N/A	N/A	N/A	19'3"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.437733°	W81.835288°	N/A	N/A	N/A	N/A	19'1"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	480.2	1	CV	IB	C	none	none	none	Residential single family
			JH	IB	C	none	none	none	No sidewalk or bike lane
			Ave	**IB**	**C**	**none**	**none**	**none**	Cracking (type II) should be monitored
			CV	II	G	none	none	none	
			JH	II	F	none	none	none	
			Ave	**II**	**G**	**none**	**none**	**none**	

Table A-14. Palmetto Terrace Field Distress Survey

Palmetto Terrace																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.436984°	W81.832622°	N/A	N/A	N/A	N/A	18'9"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.436203°	W81.833849°	N/A	N/A	N/A	N/A	18'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	D	none	none	none	Residential single family
			JH	IB	D	none	none	none	No sidewalk or bike lane
			Ave	**IB**	**D**	**none**	**none**	**none**	Cracking (type II) should be monitored
			CV	II	F	none	none	none	
			JH	II	F	none	none	none	
			Ave	**II**	**F**	**none**	**none**	**none**	

Table A-15. Park Place Field Distress Survey

Park Place																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.436455°	W81.835797°	N/A	N/A	N/A	N/A	19'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.437733°	W81.835288°	N/A	N/A	N/A	N/A	19'6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	D	none	none	none	Residential single family
			JH	IB	D	none	none	none	No sidewalk or bike lane
			Ave	**IB**	**D**	**none**	**none**	**none**	Large depressed patch at 495'

Table A-16. Pinetree Lane Field Distress Survey

Pinetree Lane																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.441595°	W81.834527°	N/A	N/A	N/A	N/A	18'2"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.440316°	W81.833972°	N/A	N/A	N/A	N/A	18'10"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	D	none	none	none	Residential single family
			JH	IB	D	none	none	none	No sidewalk or bike lane
			Ave	**IB**	**D**	**none**	**none**	**none**	

Table A-17. Poinciana Avenue Field Distress Survey

Poinciana Avenue																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	586	1	Begins	N26°26.622'	W81°48.781'	N/A	N/A	N/A	N/A	20'3"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°26.526'	W81°48.781'	N/A	N/A	N/A	N/A	18'3"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	586	1	CV	III	L	Severe	4	3	Connects neighborhood to Broadway
			JH	III	L	Severe	4	3	Road Very Bad Condition
			Ave	**III**	**L**	**Severe**	**4**	**3**	Can see base through cracks depressions on shoulder potholes throughout

Table A-18. Porthole Court Field Distress Survey

Porthole Court																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.441607°	W81.836168°	N/A	N/A	N/A	N/A	20'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.440235°	W81.836142°	N/A	N/A	N/A	N/A	19'10"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	D	none	none	none	Longitudinal crack along the centerline
			JH	IB	D	none	none	none	Residential single family
			Ave	**IB**	**D**	**none**	**none**	**none**	No sidewalk or bike lane
			CV	IB	C	none	none	none	
			JH	IB	C	none	none	none	
			Ave	**IB**	**C**	**none**	**none**	**none**	

Table A-19. River Ranch Road Field Distress Survey

River Ranch Road																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26°25.779'	W81°47.678'	5'	4'3"	N/A	N/A	20'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°25.688'	W81°47.678'	4'10"	4'5"	N/A	N/A	20'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	500	1	Begins	N26°25.319'	W81°47.678'	N/A	N/A	N/A	N/A	26'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°25.236'	W81°47.676'	N/A	N/A	N/A	N/A	11'1"	11'2"	N/A	N/A	10'11"	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	A	none	none	none	Sidewalk on east (north bound) only
			JH	IB	A	none	none	none	Estero Place at 310'
			Ave	**IB**	**A**	**none**	**none**	**none**	Some culverts are daamaged
2	500	1	CV	none	none	none	none	none	Fire hydrant at 160'
			JH	none	none	none	none	none	
			Ave	**none**	**none**	**none**	**none**	**none**	

Table A-20. Riverside Drive Field Distress Survey

Riverside Drive																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.441595°	W81.834527°	N/A	N/A	N/A	N/A	17'4"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.440316°	W81.833972°	N/A	N/A	N/A	N/A	18'4"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	C	none	none	none	Residential single family
			JH	IB	C	none	none	none	No sidewalk or bike lane
			Ave	**IB**	**C**	**none**	**none**	**none**	More long. cracking near the shoulder

Table A-21. Royal Palm Drive Field Distress Survey

Royal Palm Drive																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.437526°	W81.836852°	N/A	N/A	N/A	N/A	18'6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.437190°	W81.835378°	N/A	N/A	N/A	N/A	19'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	D	none	none	none	Residential single family
			JH	IB	D	none	none	none	No sidewalk or bike lane
			Ave	**IB**	**D**	**none**	**none**	**none**	Cracking (type II) should be monitored
			CV	II	B	none	none	none	Park Pl intersection at section end
			JH	II	B	none	none	none	
			Ave	**II**	**B**	**none**	**none**	**none**	

Table A-22. Sandy Lane Field Distress Survey

Sandy Lane																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26°26.434'	W81°48.302'	N/A	N/A	N/A	N/A	23'3"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°26.358'	W81°48.296'	N/A	N/A	N/A	N/A	22'10"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	C	light	4	none	No sidewalk
			JH	IB	D	light	4	none	No bike lane
			Ave	**IB**	**C**	**light**	**4**	**none**	Heavy to moderate longitudinal cracking
			CV	II	E	light	4	none	Type II cracking in the wheelpaths
			JH	II	E	light	4	none	
			Ave	**II**	**E**	**light**	**4**	**none**	
			CV	III	I	light	4	none	
			JH	III	I	light	4	none	
			Ave	**III**	**I**	**light**	**4**	**none**	

Table A-23. See See Street Field Distress Survey

See See Street																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.434546°	W81.791703°	N/A	N/A	N/A	N/A	19' 7"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26.433170°	W81.791665°	N/A	N/A	N/A	N/A	22'3"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	C	Moderate	4	none	Longitudinal crack down centerline
			JH	IB	C	Moderate	4	none	No sidewalk
			Ave	**IB**	**C**	**Moderate**	**4**	**none**	No bike lanes
			CV	II	H	Moderate	4	none	Residential - dead end
			JH	II	H	Moderate	4	none	
			Ave	**II**	**H**	**Moderate**	**4**	**none**	

Table A-24. Spring Creek Road Field Distress Survey

Spring Creek Road																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26.396418°	W81.826188°	N/A	N/A	N/A	5'4"	23'6"	N/A	N/A	N/A	N/A	6'7"	N/A	N/A	N/A
			Ends	N26.395046°	W81.826201°	N/A	N/A	N/A	6'	23'9"	N/A	N/A	N/A	N/A	5'3"	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	IB	B	none	none	none	Alligator cracking in the wheelpaths
			JH	IB	B	none	none	none	No sidewalk
			Ave	**IB**	**B**	**none**	**none**	**none**	Paved shoulder bike lane
			CV	II	G	none	none	none	Landscaping right up to roadside
			JH	II	G	none	none	none	
			Ave	**II**	**G**	**none**	**none**	**none**	

Figure A-25. Three Oaks Parkway Field Distress Survey

Three Oaks Parkway																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	2	Begins	N26°27.298'	W81°47.334'	7'	N/A	N/A	5'	22'	N/A	54'	N/A	20'	4'6"	N/A	N/A	7'
			Ends	N26°27.135'	W81°47.201'	5'9"	N/A	N/A	3'9"	22'10	N/A	38'6"	9'6"	22'	4'	12'3"	N/A	7'
2	500	2	Begins	N26°26.773'	W81°47.337'	6'	N/A	N/A	4'	22'	N/A	54'2"	N/A	22'	4'	N/A	N/A	6'
			Ends	N26°26.690'	W81°47.335'	5'	N/A	N/A	4'	22'	N/A	48'6"	N/A	26'9"	5'	N/A	N/A	6'
3	500	2	Begins	N26°26.289'	W81°47.326'	6'5"	N/A	N/A	4'	22'	N/A	53'7"	N/A	22'	4'	N/A	N/A	6'10"
			Ends	N26°26.209'	W81°47.328'	7'	N/A	N/A	4'	22'	N/A	27'3"	13'6"	22'	4'	N/A	N/A	7'
4	500	2	Begins	N26°25.778'	W81°47.313'	6'	1'11"	N/A	4'3"	22'	N/A	37'7"	N/A	21'7"	3'9"	N/A	N/A	6'2"
			Ends	N26°25.695'	W81°47.301'	5'10"	4'6"	N/A	4'2"	22'2"	N/A	29'8"	12'2"	22'	3'6"	12'9"	N/A	7'6"
5	500	2	Begins	N26°25.191'	W81°47.304'	5'9"	8'1"	N/A	4'4"	22'	N/A	36'4"	11'4"	22'	3'11"	N/A	6'	9'9"
			Ends	N26°25.120'	W81°47.303'	5'	7'	N/A	4'	22'	N/A	43'11"		22'	5'3"	N/A	9'3"	8'11"
6	600	2	Begins	N26°24.637'	W81°47.027'	6'	5'4"	N/A	4'	22'	N/A	44'1"	N/A	25'10"	4'4"	N/A	4'9"	7'
			Ends	N26°24.586'	W81°46.969'	5'1"	4'10"	N/A	4'1"	22'6"	11'4"	33'6"	N/A	25'	4'2"	N/A	4'6"	8'5"
7	500	2	Begins	N26°24.083'	W81°47.069'	5'6"	5'	N/A	4'	22'2"	N/A	44'8"	N/A	22'2"	4'	N/A	10'3"	8'8"
			Ends	N26°24.001'	W81°46.075'	5'6"	5'4"	N/A	4'1"	25'9"	N/A	44'5"	N/A	21'9"	3'10"	N/A	7'	7'11"

Figure A-25. Three Oaks Parkway Field Distress Survey (continue)

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	2	CV	IB	A	none	none	none	Bus stop and bench in section
			JH	IB	A	none	none	none	Residential single family
			Ave	**IB**	**A**	**none**	**none**	**none**	Gutter, no buffer, irrigationn in median
2	500	2	CV	none	none	none	none	none	Rookery Point at 150'
			JH	none	none	none	none	none	Guardrail at 235'
			Ave	**none**	**none**	**none**	**none**	**none**	Bridge at 405'-477'
									Marked bike path
3	500	2	CV	none	none	none	none	none	Utility (30-72#1) at 42'
			JH	none	none	none	none	none	Fiber at 105'
			Ave	**none**	**none**	**none**	**none**	**none**	Village - Country Creek at 427'
									Post Office at 191'
									Fire Hydrant at 158'
									Utility (west water pump 72-22) at start
4	500	2	CV	none	none	none	none	none	Marked bike path
			JH	none	none	none	none	none	Estero Town Commons at 415'
			Ave	**none**	**none**	**none**	**none**	**none**	Sorkscrew waay sign at 350'
									Utility (cable) at 335'
									Guardrail at 80'-310'
5	500	2	CV	IB	C	none	none	none	Cracking minly between the wheelpaths
			JH	IB	C	none	none	none	Marked bike lanes
			Ave	**IB**	**C**	**none**	**none**	**none**	Alligator cracking in wheelpath near
			CV	II	D	none	none	none	the shoulder
			JH	II	D	none	none	none	
			Ave	**II**	**D**	**none**	**none**	**none**	
6	600	2	CV	IB	D	none	none	none	Minor hairline cracking in lanes
			JH	IB	D	none	none	none	Longitudinal in wheelpaths
			Ave	**IB**	**D**	**none**	**none**	**none**	Minor sidewalk cracking - 0.1%
			CV	II	B	none	none	none	
			JH	II	B	none	none	none	
			Ave	**II**	**B**	**none**	**none**	**none**	
7	500	2	CV	none	none	none	none	none	Minimal sidewalk cracking
			JH	none	none	none	none	none	Utility (cable) at 200'
			Ave	**none**	**none**	**none**	**none**	**none**	

Table A-26. Trailside Drive Field Distress Survey

Trailside Drive																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26°26.586'	W81°48.704'	N/A	N/A	N/A	N/A	23'6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°26.624'	W81°48.777'	N/A	N/A	N/A	N/A	19'8"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	500	1	Begins	N26°26.636'	W81°48.787'	N/A	N/A	N/A	N/A	19'11"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°26.684'	W81°48.860'	N/A	N/A	N/A	N/A	19'9"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	II	D	none	none	none	No sidewald or bike lane
			JH	II	D	light	4	none	Residential and commercial
			Ave	**II**	**D**	**light**	**4**	**none**	
2	500	1	CV	II	D	none	none	none	No sidewalk or bike lane
			JH	II	D	light	4	none	Residential and commercial
			Ave	**II**	**D**	**light**	**4**	**none**	

Table A-27. Via Coconut Point Field Distress Survey

Via Coconut Point																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	2	Begins	N26.430971°	W81.804972°	5'	4'8"	N/A	4'	22'	10'	7'	N/A	22'3"	5'	N/A	5'	5'
			Ends	N26.429601°	W81.804943°	5'	5'	N/A	5'	22'	N/A	6'6"	10'8"	22'	5'	N/A	5'	5'
2	500	2	Begins	N26.423289°	W81805584°	5'	5'	N/A	5'	21'6"	N/A	18'	N/A	22'6"	5'	N/A	5'	5'4"
			Ends	N26.422340°	W81.806654°	5'	5'	N/A	5'	22'	N/A	18'	N/A	22'	4'	N/A	5'	6'
3	500	2	Begins	N26°25.162'	W81°48.410'	5'1"	5'1"	N/A	4'2"	21'10"	N/A	14'2"	N/A	21'8"	4'	N/A	6'2"	4'11"
			Ends	N26°25.089'	W81°48.375'	5'3"	5'	N/A	4'3"	21'9"	N/A	6'7"	11'6"	22'2"	4'1"	N/A	4'6"	5'1"
4	500	2	Begins	N26°24.511'	W81°48.287'	4'11"	5'	N/A	4'	21'9"	N/A	17'9"	N/A	22'2"	4'	N/A	5'3"	5'
			Ends	N26°24.430'	W81°48.273'	5'3"	5'2"	N/A	4'	22'3"	N/A	7'2"	11'6"	21'11"	4'9"	N/A	4'10"	5'1"
5	500	2	Begins	N26°23.853'	W81°48.336'	5'	5'2"	N/A	3'10"	22'1"	N/A	18'	N/A	22'	4'2"	N/A	5'2"	5'
			Ends	N26°23.711'	W81°48.349'	5'2"	5'4"	N/A	3'10"	21'7"	N/A	18'	N/A	23'3"	3'8"	N/A	5'1"	5'

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	2	CV	none	none	none	none	none	Entrance to farm/market at 206'
			JH	none	none	none	none	none	Grass in median and buffer needs maint.
			Ave	**none**	**none**	**none**	**none**	**none**	
2	500	2	CV	none	none	none	none	none	Guard rail at 216'-end of section on west
			JH	none	none	none	none	none	Grass in median and buffer needs maint.
			Ave	**none**	**none**	**none**	**none**	**none**	
3	500	2	CV	none	none	none	none	none	No irrigation in median
			JH	none	none	none	none	none	Grass needs to be maintained
			Ave	**none**	**none**	**none**	**none**	**none**	Way sign at 150'
4	500	2	CV	none	none	none	none	none	Grass not well maintained
			JH	none	none	none	none	none	Utility at 330'
			Ave	**none**	**none**	**none**	**none**	**none**	Guardrail at 20'-113'
									0.01% on sidewalk in need of repair
5	500	2	CV	none	none	none	none	none	Way sign at 700'
			JH	none	none	none	none	none	Misrsol community at 569'
			Ave	**none**	**none**	**none**	**none**	**none**	Grass in median and buffer needs maint.

Table A-28. Williams Road Field Distress Survey

Williams Road																		
Section	Length (ft)	Lanes[a] per Dir.	Coordinates			Road Section Measurement[b]												
			Location	Northing	Easting	Sidewalk	Buffer	Turn	Bike	Road	Turn	Median	Turn	Road	Bike	Turn	Buffer	Sidewalk
1	500	1	Begins	N26°25.228'	W81°47.414	5'3"	22'10"	N/A	6'	24'8"	N/A	N/A	N/A	N/A	5'8"	N/A	N/A	N/A
			Ends	N26°25.226'	W81°47.497'	5'	25'1"	N/A	5'9"	24'5"	N/A	N/A	N/A	N/A	5'8"	N/A	N/A	N/A
2	500	1	Begins	N26°25.227'	W81°48.008'	5'	13'5"	N/A	N/A	22'5"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°25.224'	W81°48.100'	5'	15'3"	N/A	N/A	23'9"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	500	1	Begins	N26°25.220'	W81°48.836'	4'10"	5'2"	N/A	N/A	25'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°25.221'	W81°48.927'	4'5"	21'6"	N/A	N/A	24'9"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	500	1	Begins	N26°25.208'	W81°49.424'	5'2"	4'10"	N/A	N/A	23'4"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Ends	N26°25.206'	W81°49.520'	5'	4'4"	N/A	N/A	25'4"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section	Length (ft)	Lanes[a] per Dir.	Eng.[c] Asst.	Cracking		Raveling		Patching Code	Section Comments
				Type	Code	Type	Code		
1	500	1	CV	none	none	light	4	none	SW good condition
			JH	none	none	light	4	none	Bike - unmarked shoulder
			Ave	**none**	**none**	**light**	**4**	**none**	SW in west bound only
2	500	1	CV	IB	A	none	none	none	No bike lane present in section
			JH	IB	A	none	none	none	light longitudinal hairlines in wheelpath
			Ave	**IB**	**A**	**none**	**none**	**none**	
			CV	II	E	none	none	none	
			JH	II	E	none	none	none	
			Ave	**II**	**E**	**none**	**none**	**none**	
3	500	1	CV	none	none	none	none	none	Starts just after US41
			JH	none	none	none	none	none	No bike lane either side
			Ave	**none**	**none**	**none**	**none**	**none**	Water Utility at 370'
4	500	1	CV	none	none	none	none	none	Drainage at 234'
			JH	none	none	none	none	none	No bike lane on either side
			Ave	**none**	**none**	**none**	**none**	**none**	grass in bad condition on east bound

Appendix B

Segment Type

Road Segment Type
- Low volume road
- High volume road
- Bike or Ped Path

Environment

Uses in Segment	Side 1	Side 2
Housing-Single Family detached		
Housing-Multi-Family		
Housing-Mobile Homes		
Office/Institutional		
Restaurant/Café/Commercial		
Industrial		
Vacant/Undeveloped		
Recreation		
Agriculture		

Intersections (indicate count)	Side 1	Side 2
3 way intersection		
4 way intersection		
Other intersection		
Deadens / path continues		
Deadens		
No intersections		

Pedestrian Facilities

Type(s) of Ped facilities	Side 1	Side 2
Footpath (*worn dirt path*)		
Paved Trail		
Sidewalk		
Pedestrian Street *(no cars)*		

Sidewalk / Path Material	Side 1	Side 2
Asphalt		
Concrete		
Paving Bricks or Flat Stone		
Gravel		
Dirt or Sand		

Sidewalk Condition	Side 1	Side 2
Poor (many bumps/cracks/holes)		
Fair (some bumps/cracks/holes)		
Good (few bumps/cracks/holes)		
Under Repair		

Path Obstructions	Side 1	Side 2
Poles or Signs		
Parked Cars		
Greenery		
Garbage Cans		
Other		
None		

Buffers between road & path	Side 1	Side 2
Fence		
Tress		
Hedges		
Landscape		
Grass		
None		

Path Distance from Curb	Side 1	Side 2
At edge		
< 5 feet		
> 5 feet		

Sidewalk Width	Side 1	Side 2
4		
5		
6		
8		

Curb cuts	Side 1	Side 2
None		
1 to 4		
>4		

Sidewalk Continuity-entire seg.	Side 1	Side 2
Sidewalk is complete		
Sidewalk is incomplete		

Road Attributes

Number of lanes	Side 1	Side 2
Minimum # of lanes to cross		
Maximum # of lanes to cross		

Posted Speed limit
- None posted
- Enter MPH

On –Street parking	Side 1	Side 2
Parallel or Diagonal		
None		

Med-hi volume driveways	Side 1	Side 2
<2		
2 to 4		
>4		

Traffic Control devices
- Traffic light
- Stop sign
- Traffic circle
- Speed bumps
- Chicanes or chokers
- None

Crosswalks
- None
- 1 to 2
- 3 to 4
- >4

Crossing Aids	Side 1	Side 2
Yield to Ped Paddles		
Pedestrian Signal		
Median/Traffic Island		
Curb Extension		
Overpass/Underpass		
Pedestrian Crossing Warning Sign		
Flashing Warning Light		
Share the Road Warning Sign		
None		

Driveway Crossovers:	Side 1	Side 2
Most buildings have one driveway		
Approx. ½ buildings have one driveway		
Approx. ¼ buildings have one "		
No driveways		

Curb type	Side 1	Side 2
Gutter		
Swale		
V-Shaped		

Cycling Facilities

Path Type	Side 1	Side 2
On road cycle lane- marked		
On road cycle lane sharrow		
On road cycle lane - unmarked		

Condition of bike lane	Side 1	Side 2
Poor (a lot of bumps, cracks and holes)		
Moderate (some bumps, cracks and holes)		
Good (very few bumps, cracks and holes)		

Bicycle facilities	Side 1	Side 2
Bicycle Route signs		
Striped bicycle lane designation		
Bicycle crossing warning		
No bicycle facilities		

Bike parking facilities:	Side 1	Side 2
Bike locker or enclosure		
Bike parking or U rails		
Rack or stand		
None		

Bus stops	Side 1	Side 2
Bus stop with shelter		
Bus stop with bench		
Bus stop with signage only		
No bus stop		

Environment

Wayfinding aids?	Side 1	Side 2
No		
Yes		

Are destinations present?	Side 1	Side 2
Yes		
No		

Other Routes available	Side 1	Side 2
Lane		
Access lane through cul-de-sac/no		
Through road		
Path through park		
None		

Streetlights	Side 1	Side 2
Yes		
No		

Does lighting cover path area?	Side 1	Side 2
Yes		
No		

Amenities *(all that apply)*	Side 1	Side 2
Public garbage cans		
Benches		
Water fountain		
Street vendors/ vending machines		
No amenities		

Landscaping

Degree of enclosure	Side 1	Side 2
Little or no enclosure		
Some enclosure		
Highly enclosed		

Powerlines along segment?	Side 1	Side 2
Low Voltage/ Distribution line		
High Voltage/ Transmission line		
None		

Number of trees – walking area:	Side 1	Side 2
1 or more per house block		
Approx. 1 tree for every 2 house blocks		
Approx. 1 tree for every 3 or more house blocks		
No trees		

Median	
Width (from outside of curb)	
Landscaped (Y/N)	

Billboards	Side 1	Side 2
Single-Sided		
Double-Sided		
None		

Roadside	Side 1	Side 2
Utilities?		
Easements?		
Water Retention Areas?		
Landscaped?		

Subjective Assessment (Entire Segment)

1=Strongly Agree 2=Agree
3= Disagree 4= Strongly Disagree

…Is attractive for walking	
…Is attractive for cycling	
…Feels safe for walking	
…Feels safe for cycling	
…Physically easy for walking	
…Physically easy for cycling	

Name	
Date / Time	
Segment	
Road	

If Road is E/W
Side 1 = North
Side 2 = South

If Road is N/S
Side 1 = West
Side 2 = East

Appendix C

	A	B	C	D	E
1	***Variable***	**Label**	**Type of Data**	**Value Labels**	**Notes**
2	***Uses***	Uses in Segment	Character	Single family	*document majority of use*
3				Multi family	
4				Mobile homes	
5				Office	
6				Commercial	*restaurants, retail*
7				Industrial	
8				Vacant	
9				Recreation	*include parks*
10				Agriculture	
11					
12	***Volume***	Traffic Volume	Character	High	
13				Medium	
14				Low	
15					
16	***Slocation***	Sidewalk Location	Character	None	
17				North	
18				South	
19				East	
20				West	
21				Both	
22					
23	***Stype***	Sidewalk Type	Character	Sidewalk	*Developed*
24				Footpath	*Not developed*
25				Multiuse Trail	*Developed*
26					
27	***Smaterial***	Sidewalk Material	Character	Asphalt	
28				Concrete	
29				Gravel	
30				Dirt or Sand	
31				Pavers	
32					
33	***Scondition***	Sidewalk Condition	Character	Good	
34				Fair	
35				Poor	
36				Repair	
37					
38	***Buffer***	Sidewalk Buffer	Character	Fence	*Buffer between sidewalk and roadway*
39				Trees	
40				Hedges	
41				Grass	
42				No Buffer	
43					
44	***BufferDis***	Buffer Distance	Character	0	*Distance between sidewalk & roadway*
45				5 or less	
46				5 or more	
47					
48	***PedConnect***	Pedestrian Connectivity	Character	300 or less	*Distance (feet) btween intersections or mid-block crossings*
49				301-400	*Look at distance between majority of intersections*
50				401-500	*Do not include driveways*
51				501-600	*Count crosswalks as intersections*
52				over 600	
53					
54	***Driveways***	Driveways per block	Character	High	*1 driveway per 300 feet*
55				Moderate	*1 driveway per 600*
56				Low	*1 driveway per 900 feet*
57				None	*no driveways in segment*
58					
59	***Swidth***	Sidewalk Width	Numeric		*measure width of sidewalk*
60					
61	***Curb***	Curb Type	Character	Gutter	*Curb & Gutter or Swale*
62				Swale	
63					

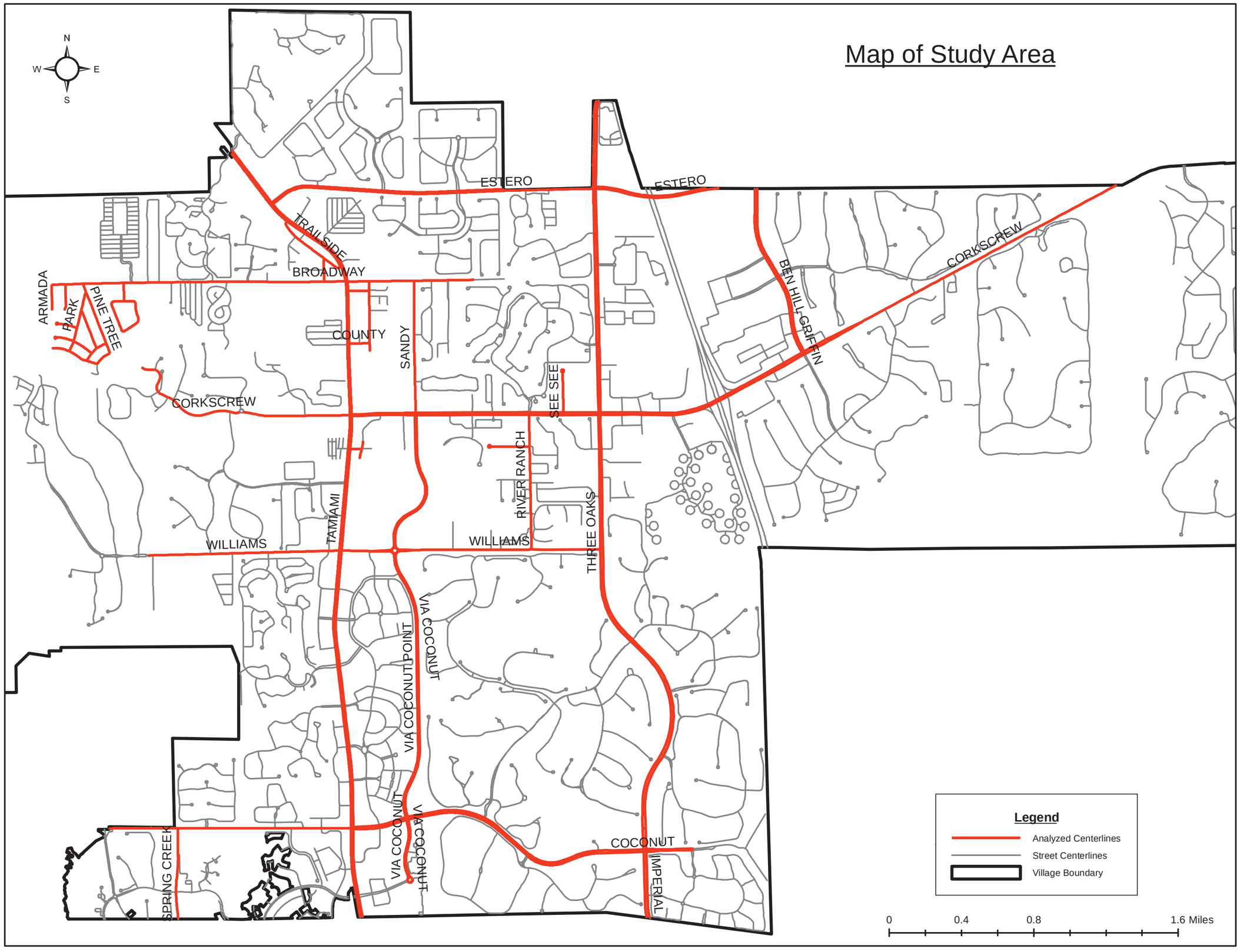
Gutter

Swale

	A	B	C	D	E	F	G	H	I	J
64	***Lighting***	Sidewalk Lighting	Character	Covers sidewalk						
65				Covers street						
66				No lighting						
67										
68										
69										
70	***Trees***	Shade Tree Density	Character	High	*1 shade tree per every 300 feet covering sidewalk*					
71				Moderate	*1 shade tree per every 600 feet covering sidewalk*					
72				Low	*1 shade tree per every 900 feet covering sidewalk*					
73				None	*no shade trees on segment*					
74										
75	***LandUse***	Land Use Mix	Numeric		*Count different land use types, e.g. restaurants, hotels, houses*					
76					*If all residential enter 1; If a bank and 3 restaurants count 2*					
77										
78	***BldgHeight***	AVG Building Height	Numeric		*Estimate the building height along segment for majority of buildings*					
79										
80	***Powerlines***	Voltage of Power	Chacter	Low Voltage						
81				High Voltage						
82										
83	***Medwidth***	Width of median	numeric							
84										
85	***Medland***	Landscaped median	Character	Yes						
86				No						
87										
88	***Medirrig***	Irrigated Median	Character	Yes						
89				No						
90										
91	***RoadLand***	Landscaped Roadside	Character	Yes						
92				No						
93										
94	***RoadUtil***	Utilities in Roadside	Character	Yes						
95				No						
96										
97	***Blocation***	Bikelane location	Character	None						
98				North						
99				South						
100				East						
101				West						
102				Both						
103										
104					*Marked*	*Sharrow*		*Paved shoulder*		
105	***Btype***	Bikelane Type	Character	Marked						
106				Sharrow						
107				Paved shoulder						
108				unpaved shoulder						
109				None						
110										
111	***Bwidth***	Bikelane Width	Numeric		*measure from gutter pan to bike lane striping*					
112										
113										
114										
115					*Gutter pan (area right of pavement)*					
116										
117										
118	***Bcondition***	Bikelane Condition	Character	Good						
119				Fair						
120				Poor						
121				Repair						
122										
123	***CrackRating***	Crack Rating	Numeric	1						
124				2						
125				3						

	A	B	C	D	E	F	G	H	I	J
126										
127	***CrackType***	Cracking Type	Character	Hair						
128										
129										
130										
131	***Raveling***	Raveling Rating	Character	Light						
132				Moderate						
133				Severe						
134										
135	***Patching***	Percent of area	numeric							

Map of Study Area



Pavement by Crack Type

N
W
E
S

ESTERO
ESTERO
TRAILSIDE
BROADWAY
ARMADA
PARK
PINE TREE
CORKSCREW
TAMIAMI
SANDY
SEE SEE
RIVER RANCH
BEN HILL GRIFFIN
CORKSCREW
WILLIAMS
WILLIAMS
THREE OAKS
VIA COCONUT POINT
VIA COCONUT
VIA COCONUT
VIA COCONUT
IMPERIAL
COCONUT
SPRING CREEK

Legend

Analyzed Centerlines

Type

- None
- IB (Light)
- II (Moderate)
- III (Severe)
- Village Boundary

0 0.35 0.7 1.4 Miles

Pavement by Raveling Type

N
W E
S

ESTERO
ESTERO
TRAILSIDE
BROADWAY
ARMADA
PARK
PINE TREE
CORKSCREW
TAMIAMI
SANDY
SEE SEE
RIVER RANCH
BEN HILL GRIFFIN
CORKSCREW
WILLIAMS
WILLIAMS
THREE OAKS
VIA COCONUT POINT
VIA COCONUT
VIA COCONUT
VIA COCONUT
IMPERIAL
COCONUT
SPRING CREEK

Legend

Analyzed Centerlines

Type

- None
- Light
- Moderate
- Severe
- Village Boundary

0 0.35 0.7 1.4 Miles

Sidewalk Locations

N
W
E
S

ESTERO
ESTERO
TRAILSIDE
BROADWAY
ARMADA
PARK
PINE TREE
CORKSCREW
TAMIAMI
SANDY
SEE SEE
RIVER RANCH
THREE OAKS
BEN HILL GRIFFIN
CORKSCREW
WILLIAMS
WILLIAMS
VIA COCONUT POINT
VIA COCONUT
VIA COCONUT
VIA COCONUT
COCONUT
SPRING CREEK
IMPERIAL

Legend

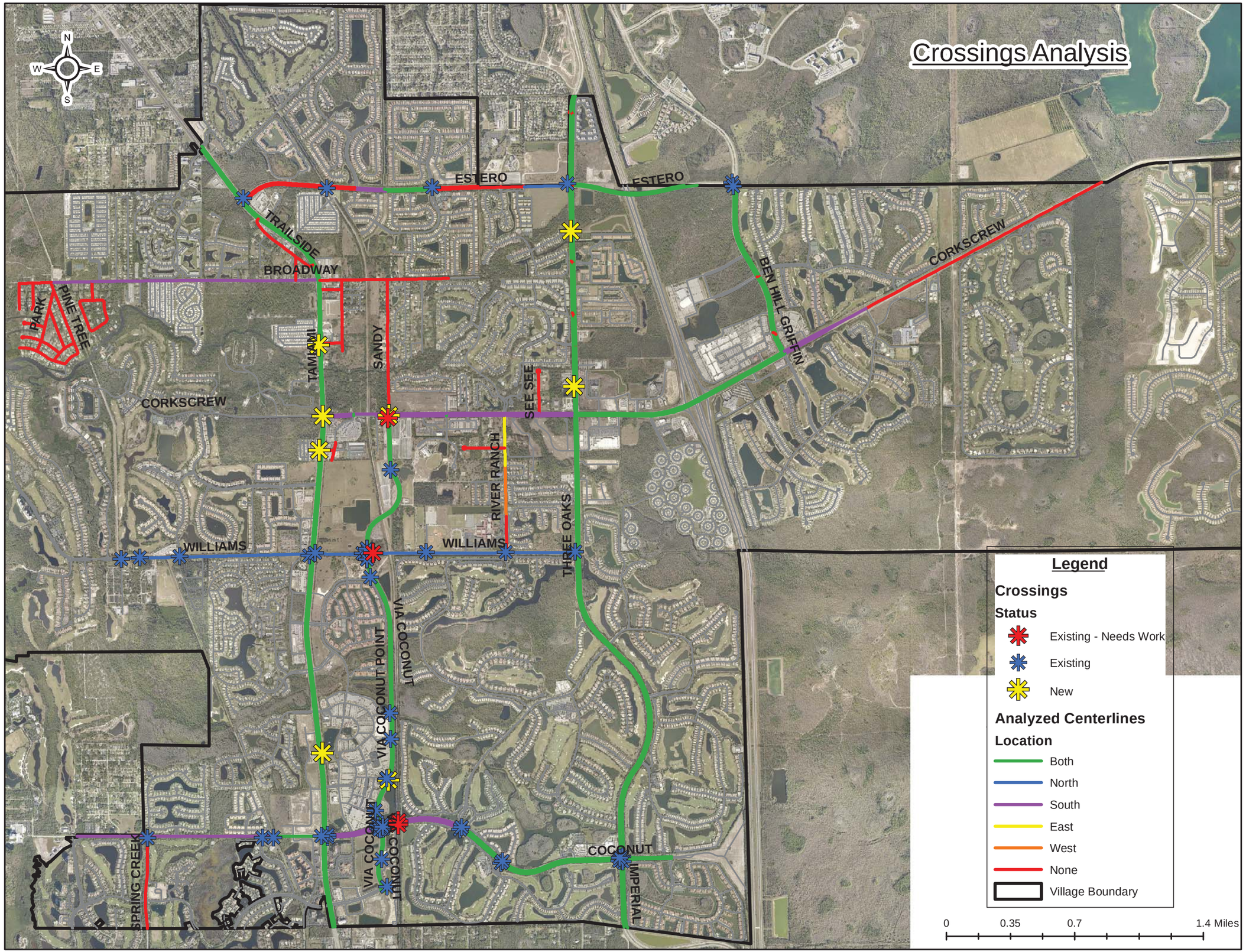
Analyzed Centerlines

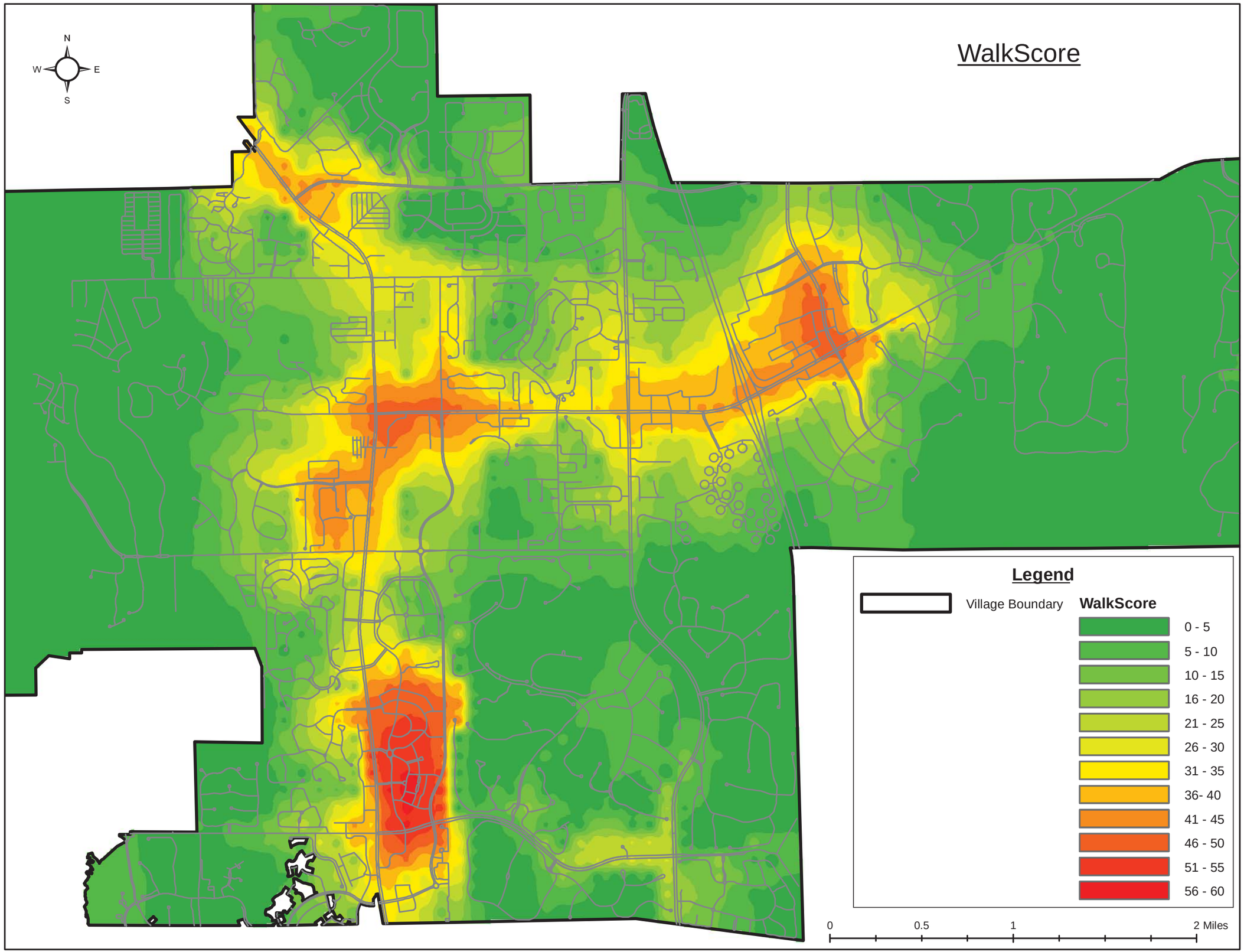
Location

- Both
- North
- South
- East
- West
- None
- Village Boundary

0 0.35 0.7 1.4 Miles

Crossings Analysis




N
W
E
S
WalkScore
Legend
Village Boundary
WalkScore
0 - 5
5 - 10
10 - 15
16 - 20
21 - 25
26 - 30
31 - 35
36- 40
41 - 45
46 - 50
51 - 55
56 - 60
0
0.5
1
2 Miles

WalkScore by Sidewalk Location

N
W E
S

ESTERO
ESTERO
TRAILSIDE
BROADWAY
ARMADA
PARK
PINE TREE
TAMIAMI
SANDY
CORKSCREW
SEE SEE
RIVER RANCH
BEN HILL GRIFFIN
CORKSCREW
WILLIAMS
WILLIAMS
THREE OAKS
VIA COCONUT POINT
VIA COCONUT
VIA COCONUT
VIA COCONUT
COCONUT
IMPERIAL
SPRING CREEK

Legend

Analyzed Centerlines

Sidewalk Location

- Both
- North
- South
- East
- West
- None
- Village Boundary

WalkScore

- 0 - 5
- 5 - 10
- 10 - 15
- 16 - 20
- 21 - 25
- 26 - 30
- 31 - 35
- 36- 40
- 41 - 45
- 46 - 50
- 51 - 55
- 56 - 60

0 0.5 1 2 Miles

Bike Lanes by Type with Village Aerials

N
W E
S

ESTERO
ESTERO
TRAILSIDE
BROADWAY
ARMADA
PARK
PINE TREE
CORKSCREW
TAMIAMI
SANDY
SEE SEE
RIVER RANCH
BEN HILL GRIFFIN
CORKSCREW
WILLIAMS
WILLIAMS
THREE OAKS
VIA COCONUT POINT
VIA COCONUT
VIA COCONUT
VIA COCONUT
COCONUT
IMPERIAL
SPRING CREEK

Legend

Analyzed Centerlines

Bike Lane Type

- Marked
- Paved Shoulder
- None
- Village Boundary

WalkScore with Bike Lanes by Type

N
W E
S

ESTERO
ESTERO
TRAILSIDE
BROADWAY
ARMADA
PARK
PINE TREE
TAMIAMI
SANDY
CORKSCREW
SEE SEE
RIVER RANCH
BEN HILL GRIFFIN
CORKSCREW
WILLIAMS
WILLIAMS
THREE OAKS
VIA COCONUT POINT
VIA COCONUT
VIA COCONUT
VIA COCONUT
COCONUT
IMPERIAL
SPRING CREEK

Legend

Analyzed Centerlines

Bike Lane Type

- Marked
- Paved Shoulder
- None
- Village Boundary

WalkScore

- 0 - 5
- 5 - 10
- 10 - 15
- 16 - 20
- 21 - 25
- 26 - 30
- 31 - 35
- 36- 40
- 41 - 45
- 46 - 50
- 51 - 55
- 56 - 60

Presence of Median Landscaping

N
W
E
S

ESTERO
ESTERO
TRAILSIDE
BROADWAY
ARMADA
PARK
PINE TREE
CORKSCREW
TAMIAMI
SANDY
SEE SEE
RIVER RANCH
BEN HILL GRIFFIN
CORKSCREW
WILLIAMS
WILLIAMS
THREE OAKS
VIA COCONUT POINT
VIA COCONUT
VIA COCONUT
VIA COCONUT
COCONUT
SPRING CREEK
IMPERIAL

Legend

Analyzed Centerlines Present?

- No
- Yes
- Village Boundary

0 0.35 0.7 1.4 Miles