


the Village of ESTERO

Bicycle and Pedestrian Master Plan

July 2019

alta PLANNING + DESIGN

JACOBS®

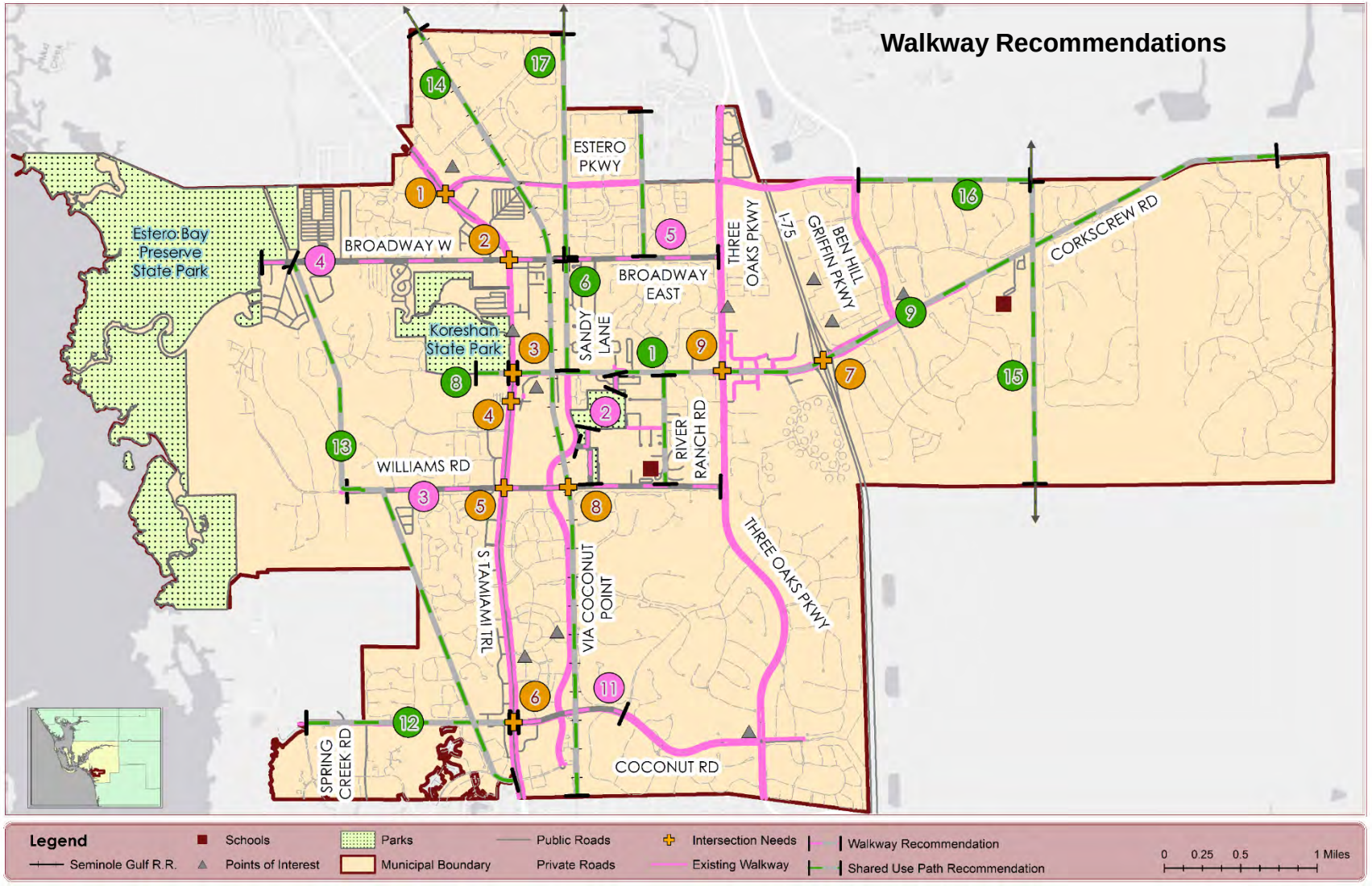
Executive Summary

The goal of this plan, the Village of Estero's first Bicycle and Pedestrian Master Plan, is to develop, document, and implement a strategic and coordinated vision for bicycle and pedestrian transportation in the Village of Estero. **The plan consists of 73.5 miles of new and improved bikeways, walkways, trails, and other related biking and walking projects along 17 different corridors that are estimated to cost $63.5 million over 20 years.** The plan also includes recommendations for improvements at nine intersections, as well as programs and policies that will guide decisions and investments in the Village of Estero. If fully implemented the plan will improve safety for those walking and bicycling as well as connectivity to parks, schools, shopping, employment and entertainment destinations. Improving connections to public parks was a priority consistent with the recommendations made in the recently completed Estero Parks Master Plan.

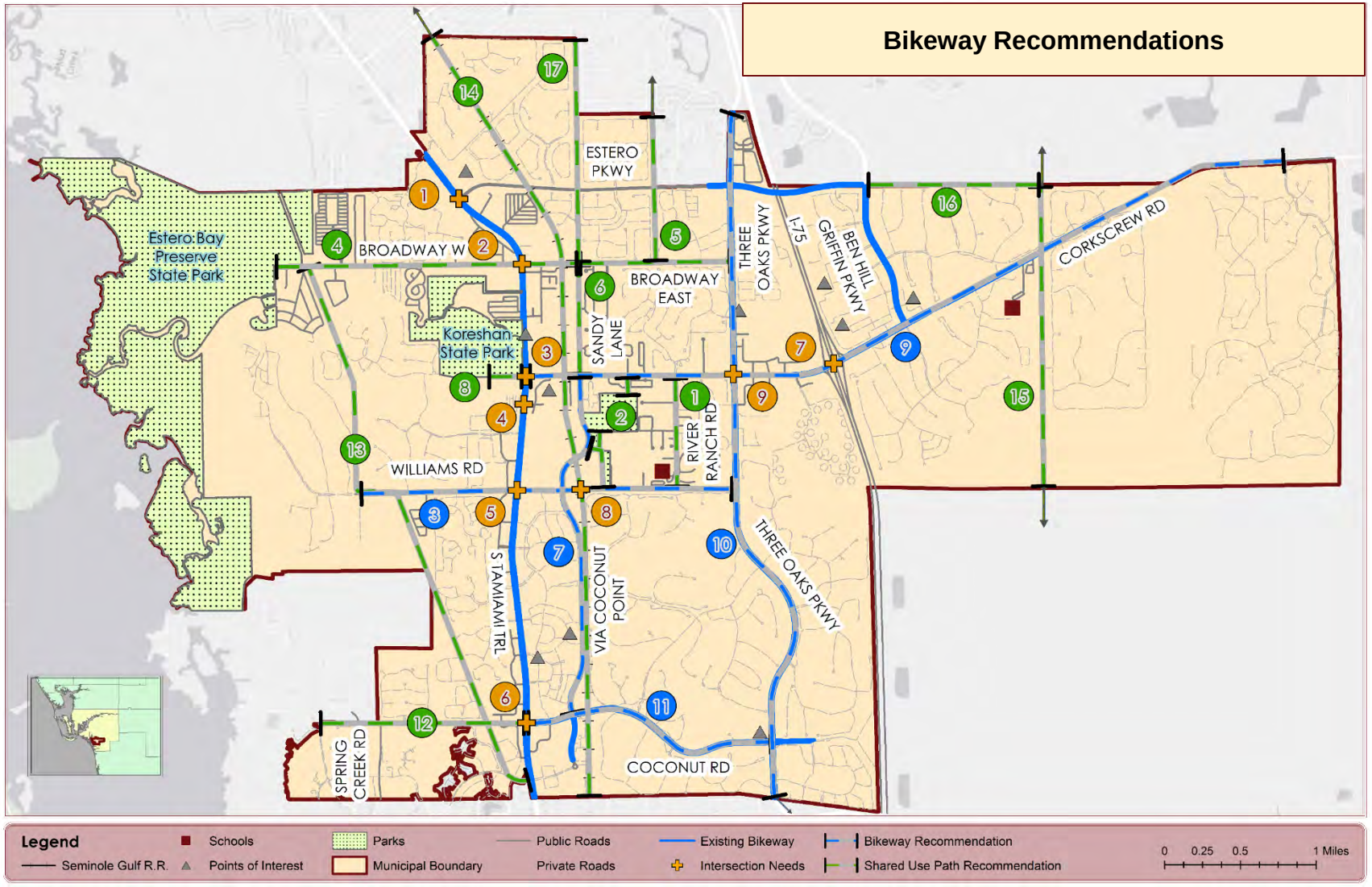
Public engagement was essential to this plan's success. A Project Advisory Committee provided direction and comments at key milestones during its development. Additionally, to engage the public and ensure the strategy and projects meet the needs and desires of the community, the team facilitated two public workshops, maintained project webpages with the Village of Estero and the Lee County MPO, sent press releases and facts sheets to the media and public, and maintained an online interactive mapping tool to gain comments throughout the process.

The Vision for walking and biking in the Village of Estero:

Walking or riding a bike in the Village of Estero should be a comfortable, convenient, and safe transportation choice for people of all ages and abilities.


Walkway Recommendations
ESTERO PKWY
BROADWAY W
BROADWAY EAST
SANDY LANE
THREE OAKS PKWY
I-75
BEN HILL GRIFFIN PKWY
CORKSCREW RD
Estero Bay Preserve State Park
Koreshan State Park
WILLIAMS RD
RIVER RANCH RD
S TAMIAMI TRL
VIA COCONUT POINT
THREE OAKS PKWY
SPRING CREEK RD
COCONUT RD
Legend
Seminole Gulf R.R.
Schools
Points of Interest
Parks
Municipal Boundary
Public Roads
Private Roads
Intersection Needs
Existing Walkway
Walkway Recommendation
Shared Use Path Recommendation
0 0.25 0.5 1 Miles

Bikeway Recommendations



Recommendations by Corridor

Broadway West, from Estero Bay Preserve State Park to US 41 (2.00 miles)

- Shared Use Path on south side of road
- Complete the sidewalk connections on the north side of the road

Broadway East, from Sandy Lane to US 41 (1.00 miles)

- Shared Use Path on south side of road
- Complete the sidewalk connections on the north side of road
- Shared Use Path extension to Three Oaks Parkway
- Shared Use Path extension north from Broadway East to Estero Parkway

Corkscrew Road, from Koreshan State Park to US 41 (0.25 miles)

- Shared Use Path on north side of road
- Complete the sidewalk connections on the south side of road (6 or 8 feet wide)

Corkscrew Road, from US 41 to NE Village Limits (9.50 miles)

- Buffered bike lanes on both sides of road
- Shared Use Path on both sides of road

Coconut Road, from Three Oaks Parkway to US 41 (0.75 miles)

- Shared Use Path on south side of road (widen the existing SUP)
- Reduce travel lanes by two feet total
- Install buffered bike lanes on both sides of road
- Complete the sidewalk connections on the north side of road

Coconut Road, from US 41 to Tuscany Way (1.25 miles)

- Complete sidewalk connections
- Shared Use Path on one side of road

River Ranch Road, from Williams Road to Corkscrew Road (0.75 miles)

- Shared Use Path on west side of road
- Complete the sidewalk connections on the east side of the road

Estero Community Park, access Via Coconut Point and Corkscrew Road (0.70 miles)

- Shared Use Path on one side of entrance
- Complete the sidewalk connections on the other side of the entrance
- Create connection to existing path to Williams Road

Williams Road, from Kings Road to Three Oaks Parkway (2.25 miles)

- Protected bike lanes on both sides of the road
- Complete the sidewalk connections on both sides of the road

Via Coconut Point, from Coconut Road to Corkscrew Road (4.75 miles)

- Reduce travel lanes by one foot each
- Install buffered bike lanes on both sides of road
- Improve connections through roundabout
- Add landscaping

Three Oaks Parkway, from South Village Limits to North Village Limits (9.25 miles)

- Reduce travel lanes by one foot each
- Install buffered bike lanes on both sides of road

Sandy Lane, from Corkscrew Road to Broadway East (0.75 miles)

- Shared Use Path on east side of road

Utility Corridor, from South Village Limits to North Village Limits (4.50 miles)

- Shared Use Path

SUN Trail Rail Corridor, from South Village Limits to North Village Limits (5.25 miles)

- Shared Use Path

Florida Power and Light Utility Line (east of I-75), from South Village Limits to North Village Limits (2.00 miles)

- Shared Use Path

Estero Parkway Extension, from Ben Hill Griffin Parkway to Florida Power and Light Utility Line (1.25 miles)

- Shared Use Path

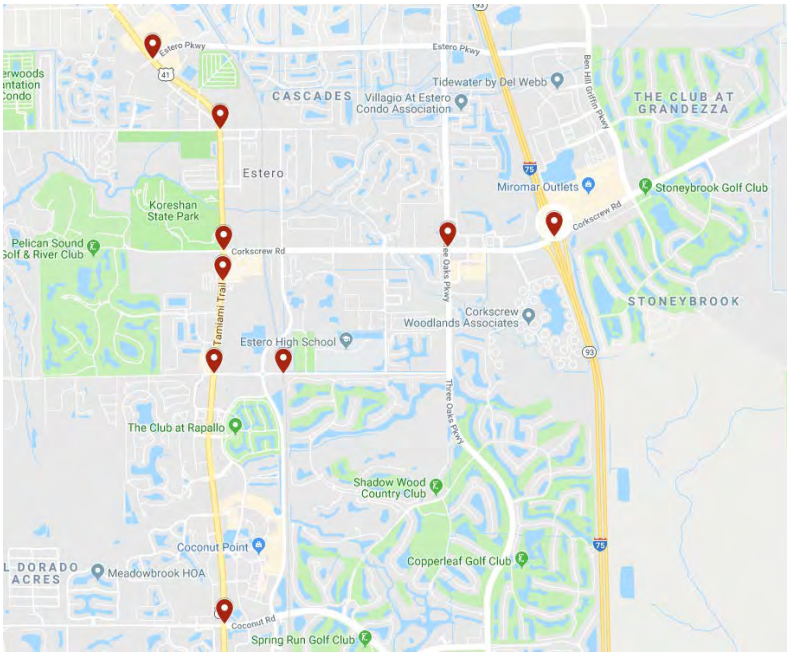
Sandy Lane North Extension, from Broadway East to North Village Limits (1.50 miles)

- Shared Use Path

Intersection Recommendations

The following intersections act as barriers for people walking or riding bikes. Many had safety issues that appeared in the crash analysis.

- US 41 and Estero Parkway
- US 41 and Broadway
- US 41 and Corkscrew Road
- US 41 and Commons Way
- US 41 and Williams Road
- US 41 and Coconut Road
- I-75 and Corkscrew Road interchange
- Williams Road and Grade Crossing
- Three Oaks Parkway and Corkscrew Road



Funding

Project Recommendation	Estimated Miles	Estimated Project Cost
6' Buffered Bikeway	17.50	$ 20,943,299
7' Buffered Bikeway	9.00	$ 10,202,697
Multipurpose Trail	9.25	$ 5,390,995
Protected Bikeway	4.50	$ 12,663,706
Shared Use Path	23.25	$ 11,205,000
Sidewalk	10.00	$ 3,140,642
Total	**73.50**	**$ 63,546,339**

More than 70 miles of new biking and walking infrastructure is recommended at a cost of $63.5 million dollars. Costs were developed using multiple resources from Lee County and Florida Department of Transportation.

All recommendations could be funded with about $3 million annual investment over 20 years.

	Total Cost	Cost Per Year
Walkway Projects	$ 14,345,000	$ 717,250
Bikeway Projects	$ 49,200,000	$ 2,460,000
Total	**$ 63,545,000**	**$ 3,177,250**

Vision and Goals

This is the Village of Estero's first plan dedicated to defining its vision, goals, needs, and priority projects for bicycling and walking in the community.

This Bicycle and Pedestrian Master Plan will guide decisions about when, where, why, and how to assemble a bicycle and pedestrian network that promotes a healthy, vibrant, and safe Village of Estero community. The Village of Estero worked in partnership with the Lee County Metropolitan Planning Organization (MPO) to develop the Plan.

The goal of this Plan is to develop a strategic and coordinated vision for bicycle and pedestrian transportation in the Village of Estero. The Plan consists of new and improved bikeways, walkways, trails, and other related biking and walking projects, programs, and policies that will guide decisions and investments in the Village of Estero. The plan focused on filling walking and bicycling gaps that improved connectivity to schools and public parks.

In addition to new and improved facilities, projects include traffic safety and operational improvements at major intersections. All of the proposed facilities will together provide access between neighborhoods and destinations, address gaps in the system, and enhance safety and use of the existing and developing bicycle and pedestrian network.

The steps taken to draft the Bicycle and Pedestrian Master Plan are described below.

- **Inventory existing bicycle and pedestrian facilities, destinations, crash locations, land use, parks, schools, and transit stops throughout the Village**
- **Review existing plans that may affect this plan**
- **Review Land Development Code design provisions for bicycle and pedestrian facilities**
- **Describe design criteria for bicycle and pedestrian facilities and crossing treatments**
- **Assess needs and identify gaps in the network**
- **Identify and recommend bicycle and pedestrian improvements**
- **Prioritize bicycle and pedestrian projects**
- **Develop costs estimates and identify funding opportunities**

This plan is intended to be revisited and updated regularly as it needs to change and implementation moves forward. A living, evolving document will serve the town and its residents now and in the future.

Vision

The Village of Estero Bicycle and Pedestrian Master Plan is shaped in part by a communal Vision and associated Goals which were created after outreach activities and discussions at public workshops, Project Advisory Committee (PAC) meetings, and Estero Village Council meetings.

The Vision for walking and biking in the Village of Estero:

Walking or riding a bike in the Village of Estero should be a comfortable, convenient, and safe transportation choice for people of all ages and abilities.

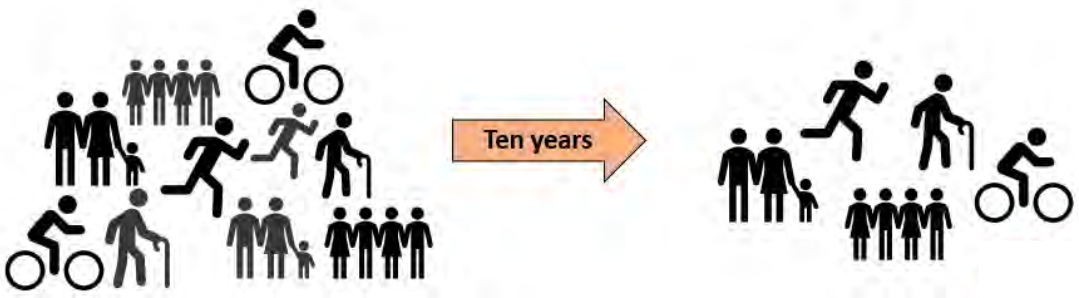
An improved and robust network of walking and biking facilities will enhance the quality of life by providing access to essential daily destinations while programs and policies will encourage increased walking and biking and protection of users. Several key themes are embedded in this vision, including comfortable, convenient, safe, provisions for all ages and abilities, and education:

- **Comfortable** suggests the envisioned network is low stress and an attractive travel option for all users, including people who are new to biking.
- **Convenient** relates to the utility of the network, ensuring that people who are walking and biking do not need to traverse unnecessarily far beyond their path or cross substantial barriers in their journey to reach their destination.
- **Safe** means the future network should be developed to remove hazards to people walking and biking and to prioritize their protection.
- **All Ages and Abilities** emphasizes the need to plan, design and build walking and biking facilities that ARE safe for people to use who have limited mobility.
- **Educate** through events and educational programs oriented towards increasing usage awareness and safe use of facilities by all users.

Goals

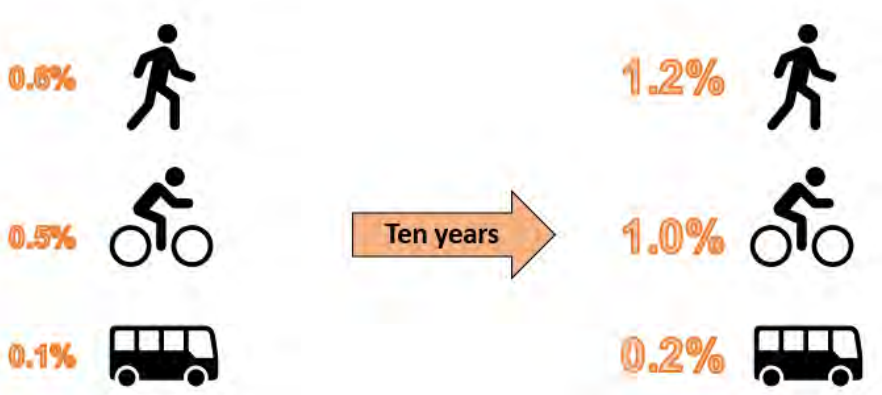
When the Estero Bicycle and Pedestrian Master Plan is fully implemented, the following key policy and infrastructure goals will be accomplished:

1. Increase the safety for all users of the transportation network – people walking, biking, accessing transit, and driving vehicles. **Reduce the number of crashes involving people walking and biking by half by 2030**.

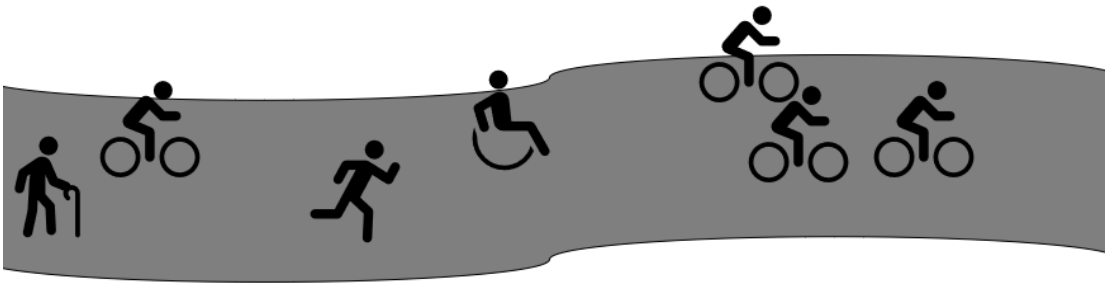


2. Increase the active transportation infrastructure. **Double the number of miles of safe walking and biking facilities in the Village of Estero by 2030.**

3. Increase the active transportation options for residents and visitors. **Grow the share of commuters who choose to walk, bike, and use transit by 100 percent by 2030.**



4. **Complete the Florida SUN Trail link** within the Village of Estero by 2030.

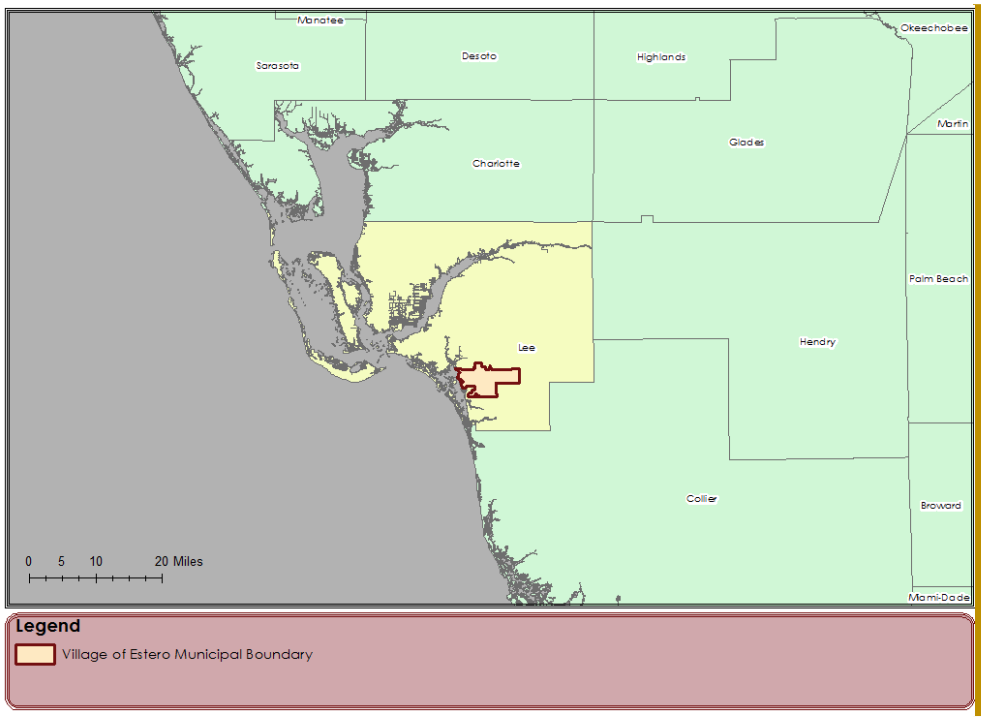


5. **Create at least one new educational campaign** geared towards improving safety in the Village of Estero within five years of adopting this plan.

6. **Create at least one new encouragement program** to increase the number of people using the active transportation network in the Village of Estero within five years of adopting this plan.

Existing Conditions

The Village of Estero is a growing municipality on Florida's Gulf Coast, about halfway between Fort Myers and Naples (**Figure 1**). The Village, about 20 square miles, is home to 34,631 residents (2018). Existing walking and biking facilities are identified in this chapter as is the current population, employment, demographics, and infrastructure in the Village of Estero.



About the Village:

Year Incorporated:	**2014**
Total Area (miles²):	**20.0**
Jobs:	**13,417 (2010)**
Permanent Residents:	**34,631 (2018)**
Peak Season:	**51,738 (2018)**
Permanent Households:	**15,000**
Miles of Bike Lanes:	**34**
Miles of Sidewalk:	**40**

~population numbers reflect the 2018 Village of Estero Comprehensive Plan, 2010 Census; mileage was calculated as part of this plan and reflect publicly-maintained roadways

Figure 1. Village of Estero study area

Demographics

The Village of Estero was incorporated on December 31, 2014, and is the newest municipality in Lee County. The Village is bordered on the west by Estero Bay, on the south by Bonita Springs, and on the north by San Carlos Park and unincorporated Lee County. Some of the major attractors in Estero are the many golf courses, country clubs, business headquarters (such as the Hertz worldwide headquarters), Estero Bay Preserve State Park, Koreshan State Park, Hertz Arena, the Miromar Outlets, and the Coconut Point Mall. Florida Gulf Coast University is located just outside the Village limits to the north but is a major regional destination, and an increasing number of university faculty, staff, and students live in Estero.

The Village is experiencing steady population growth as shown in **Figure 2**. The Village is comprised of approximately 20 square miles with 1,130 people per square mile in 2010; the City of Fort Myers has 1,559 people per square mile, as a point of reference. In 2010 Estero had 15,041 households with a median household income of $60,126, according to the US Census American Community Survey. The median age was 60.2 (**Figure 3**). The City of Fort Myers had a median household income of $36,772, and its median age was 36.7.

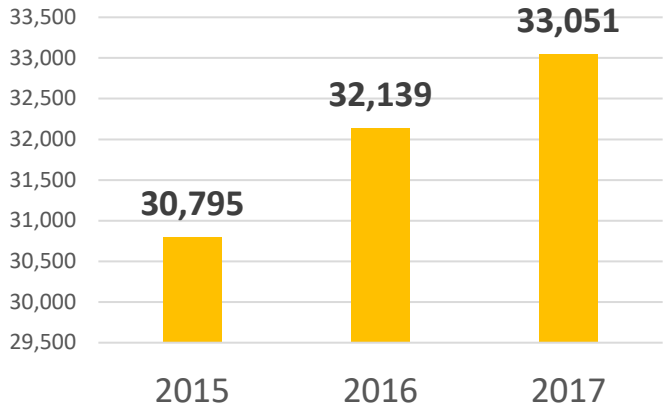


Figure 2. The Village of Estero population trends, 2015-2017

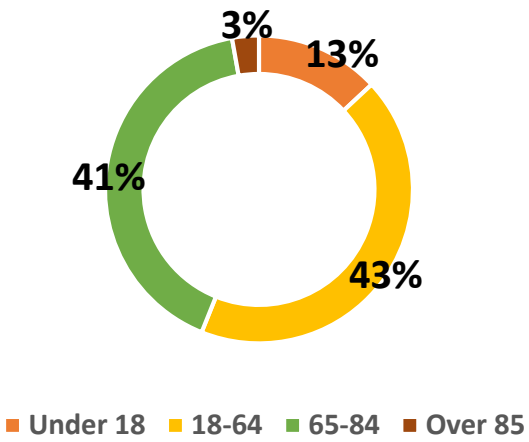


Figure 3. The Village of Estero's age distribution, 2017

The Village of Estero is both older and wealthier than other communities in Florida and Lee County. However, the impression of a sedentary retirement is no longer the norm, particularly in the Village of Estero. As people age, they are remaining active.

Infrastructure

Table 1 lists the approximate coverage of bicycle and pedestrian facilities on the publicly-owned and maintained roads in Estero. About 35 percent of the roads in the Village of Estero have sidewalks and/or bike lanes. **Figure 4** shows the location of the bicycle and pedestrian facilities.

Table 1. Infrastructure Summary

	% of Total Network	% of Sidewalk Coverage	% Bike Facility Coverage
Local (public only)	78%	11.3	10.0
Collector	10%	7.7	4.6
Arterial	12%	20.6	19.6
All Roads		39.6	34.1

The major road network that people use to travel by vehicle, as shown in **Figure 5**, relies heavily on large arterials. Tamiami Trail (US 41) and Three Oaks Parkway traverse the Village north to south, and Estero Parkway, Corkscrew Road, and Coconut Road are the main east-west roads. I-75 is in the east portion of the Village, and there is one interchange within the city limits at Corkscrew Road. US 41, I-75 and Three Oaks Parkway/Imperial Parkway/Livingston Road provide connections to Naples to the south and Fort Myers to the north. People biking and walking rely on these same limited number of roadways to reach their destinations. Biking north and south in Estero is more common and somewhat easier than biking east and west. Major corridors such as Corkscrew Road, Williams Road, Three Oaks Parkway, Estero Parkway, and Coconut Road include sidewalks but are not heavily used by people walking.

People bicycling have the similar routes, but facilities drastically differ from one route to the next. Nearly 65 percent of the total miles of roadways in the Village of Estero are located behind gates which leaves a limited number of public roads available for walking and biking infrastructure.

Attractions and destinations in the Village of Estero, such as parks, grocery stores, schools, and job centers, are rarely close enough for visitors and residents to reach by walking or biking. **Figure 5** also shows the major destinations in the Village of Estero.

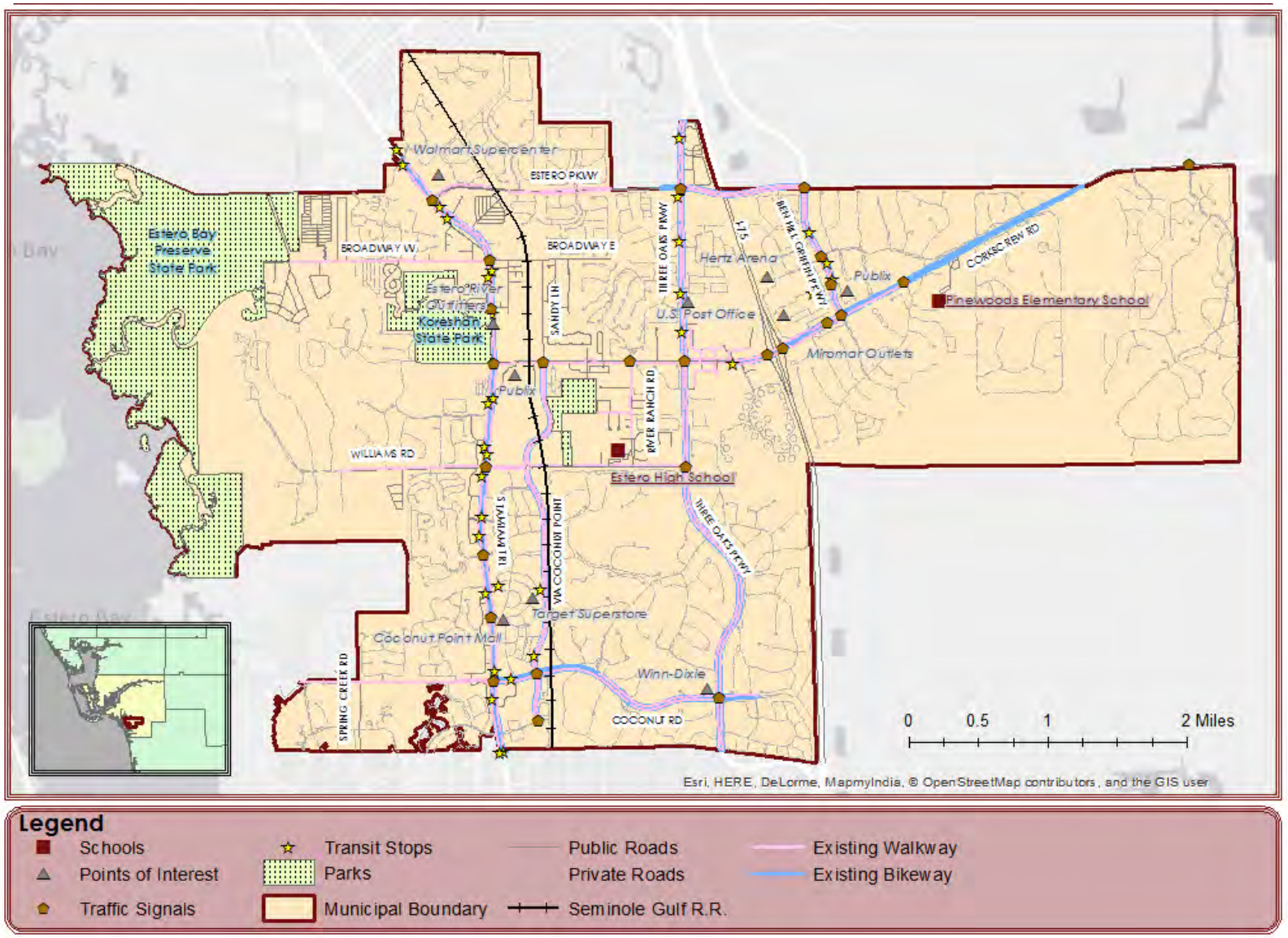


Figure 4. The Village of Estero's existing bicycle and pedestrian facilities

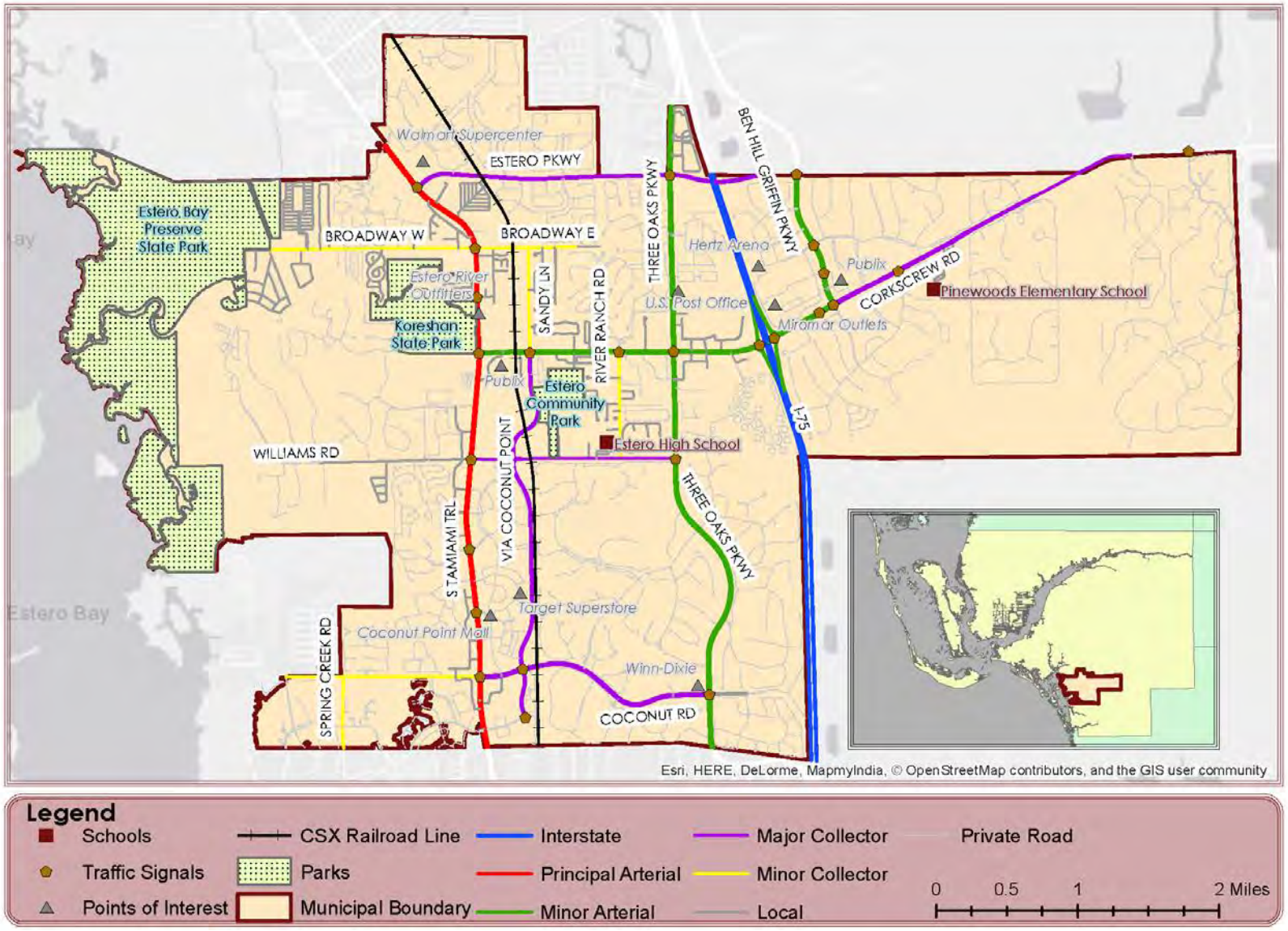


Figure 5. Road classifications and major destinations in the Village of Estero

Transit

The first or last mile for a transit rider in the Village of Estero is often a transportation desert – getting between the bus and home or work is difficult and with few choices. Connecting transit routes and stops to walking and biking facilities is essential for supporting transit and its riders.

Lee County Transit (LeeTran) provides transit service to the Village with four fixed routes (**Figures 6** and **7**). Fares are $1.50 for adults; a $0.75 discount fare is available for those who are disabled, over age 65, full-time students, or those with a Medicare card. LeeTran Passport service provides paratransit services and is available within ¾-mile of the fixed routes, while Good Wheels provides Transportation Disadvantaged service.

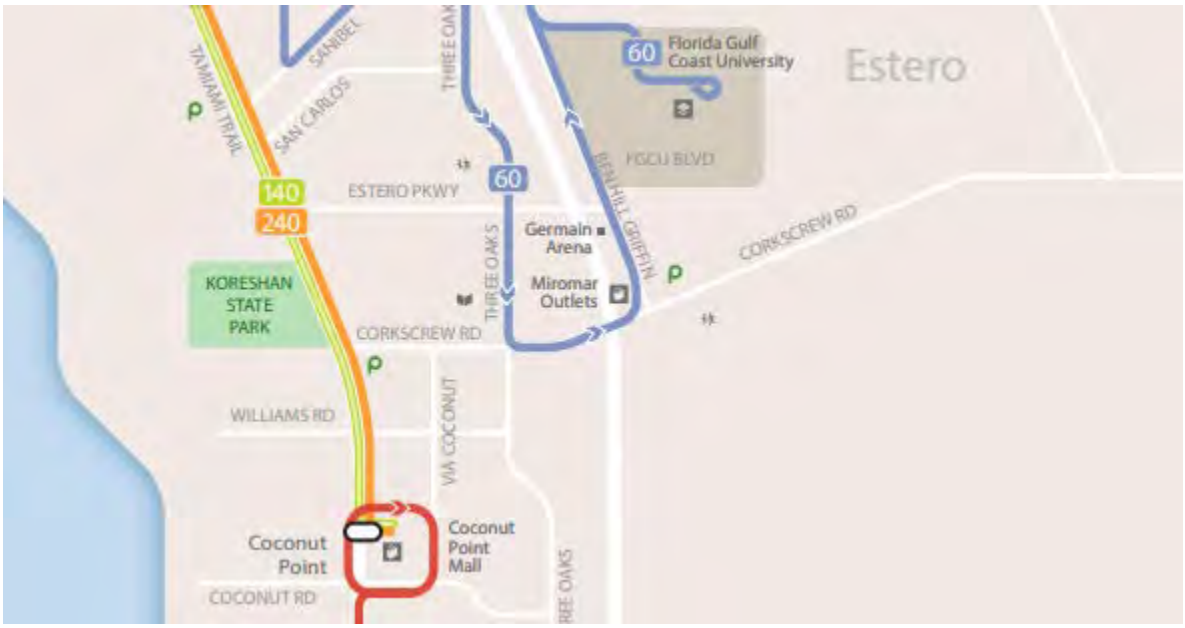


Figure 6. The Village of Estero is served by four fixed LeeTran's routes. (Source: LeeTran)

Table 2 describes the operating characteristics of the four routes that serve the Village of Estero.

- Route 60 connects Estero to the Hertz Arena, the Miromar Outlet Mall, and to Florida Gulf Coast University just to the north of the study area. The route does not operate on Sundays, and its frequency is about every 45 minutes.
- Routes 140 offers Sunday-only service along South Tamiami Trail with its southern terminus at Coconut Point Mall.
- Route 240 operates Monday through Saturday. Frequency for the routes is between 40 and 60 minutes. Route 140 has LeeTran's system's highest ridership with more than one million trips per year (2015), more than 25 percent of the entire system.
- Route 600 is a new route as of November 2018. Passengers on Route 600 may connect with the Collier Area Transit system at the Creekside Transfer Station along Immokalee Road in Collier County to the south of the Village of Estero, and its northern terminus is at Coconut Point Mall. Its frequency is about every 90 minutes, and every 110 minutes on Sundays.

Table 2. Fixed route transit in the Village of Estero

Route Number	Route Description	Days of Operation	Service Span	Headways
60	San Carlos Park to Gulf Coast Town Center via FGCU	Monday – Friday	7:05 am – 9:45 pm	45 to 85 minutes
		Saturday	7:05 am - 8:20 pm	50 to 85 minutes
140	Merchants Crossing to Bell Tower Shoppes via US 41	Monday - Saturday	5:00 am – 9:37 pm	15 to 55 minutes
	Coconut Point Mall to Bell Tower Shoppes via US 41	Sunday	6:05 am – 8:55 pm	50 to 75 minutes
240	Bell Tower Shoppes to Coconut Point Mall via US 41	Monday – Saturday	6:00 am – 10:12 pm	40 to 45 minutes
600	Coconut Point Mall to Immokalee Road in Collier County	Monday - Saturday	5:50 am – 7:15 pm	90 to 95 minutes
		Sunday	7:25 am – 5:45 pm	110 minutes

Currently, sidewalks, shared use paths, or bike lanes exist along the routes, but the network connecting destinations to the routes is lacking. Further study may reveal specific needs surrounding transit stops to increase the comfort, safety, and convenience experienced by people walking and biking to and from transit service.

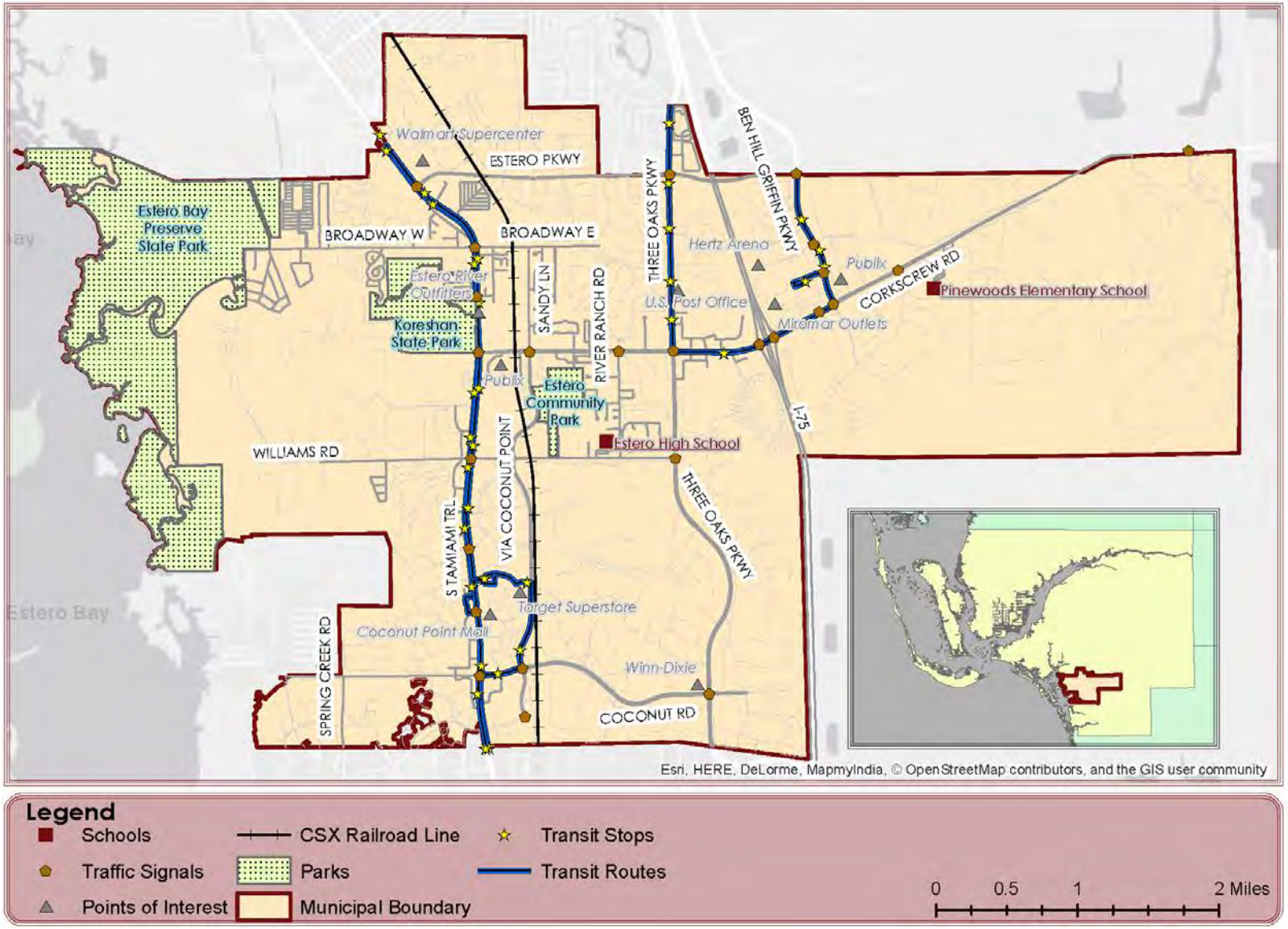


Figure 7. The transit network in the Village of Estero

Commuting

About 40 percent of the Village of Estero's population is in the labor force, and, on average, commutes 24 minutes to work each day. The vast majority of those workers – 98.9 percent – get to and from work in private vehicles. The remaining workers – just over one percent – use a form of active transportation. **Table 3** shows which forms of active transportation are used and how those rates compare to commuting characteristics in the country, state, and county.

Table 3. Commuting characteristics in the Village of Estero (Data source: 2010 census)

	US	Florida	Lee County	Estero
Walk	2.8%	1.5%	1.0%	0.6%
Bike	0.6%	0.7%	0.8%	0.5%
Public Transit	5.1%	2.1%	0.9%	0.1%
Combined	8.5%	4.3%	2.7%	1.1%

Safety

Conversations with residents and data-mining revealed that safety is a concern for those walking and biking in the Village of Estero. Safety needs will influence the projects selected for this plan. Increasing safety and coverage of existing bicycle and pedestrian facilities will allow more residents and visitors to choose to leave their cars behind and enjoy the culture and lifestyle of the Village of Estero. **Figure 7** shows the locations of bicycle and pedestrian crashes from 2013 to 2018.

Most crashes resulting in fatalities and injuries occurred on US 41.

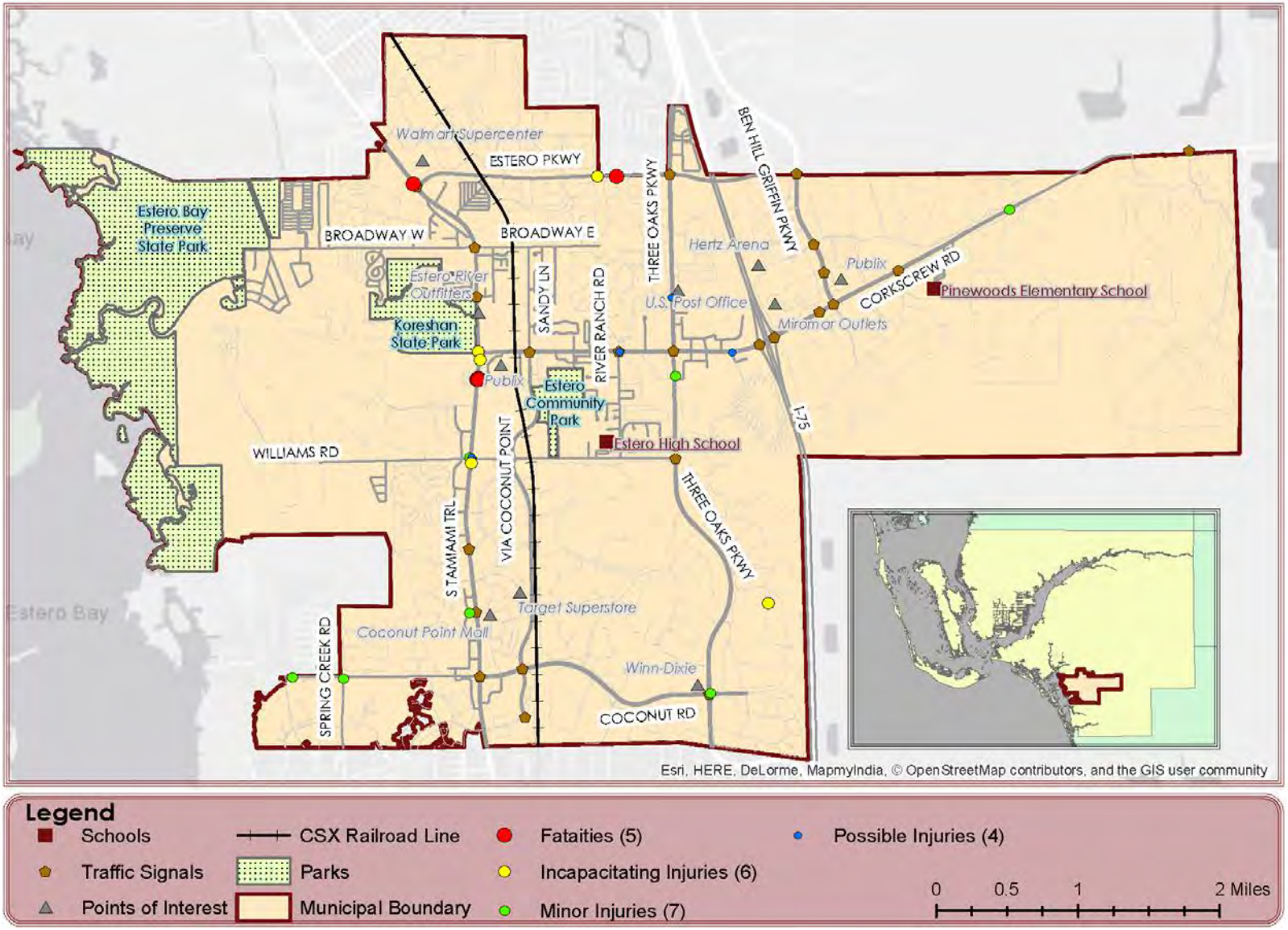


Figure 8. Crashes involving bicycles and pedestrians in the Village of Estero, 2013 - 2018.

Figure 9 compares the share of bicycle and pedestrian crashes to the share of people who walk or bike to work. The share of crashes is disproportionate to the share of active commuters. This can discourage others from trying to use another mode of travel to work, instead feeling like there is not an option.

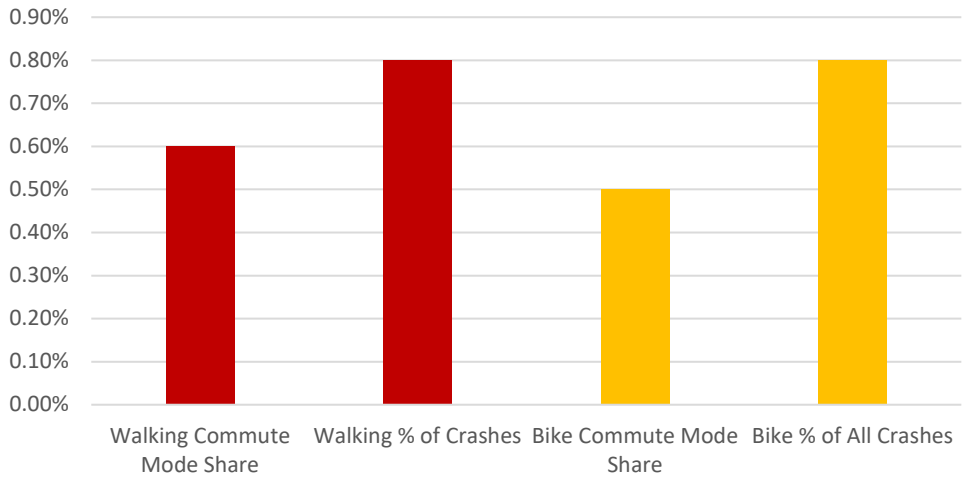


Figure 9. Comparing the commute share with the share of crashes in Estero, 2013-2018

Walk Score

Walk Score (walkscore.com) is a relatively new analysis tool to determine if there are destinations within walkable and bikeable distances. It is dependent on surrounding land uses. Walk Score analyzes hundreds of walking routes to nearby amenities. Points are awarded based on the distance to amenities in each category. Amenities within a five-minute walk (.25 miles) are given maximum points. Fewer points are given for more distant amenities, and no points are given for a 30-minute walk.

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, Localize, and places added by the Walk Score user community.

The Village of Estero has a relatively low score – residents and visitors have few destinations within walking distance of existing residential areas as shown in **Figure 10** – which was reflected in conversations with residents who frequently mentioned wanting to safely walk or bike to places like grocery stores and recreation areas. **Table 4** shows Walk Scores for the Village of Estero and similar communities.

Table 4. Walk Score results

Location	Walk Score	Notes
Village of Estero	13	Almost all errands require a car.
Weston	16	Almost all errands require a car.
Jupiter	29	Most errands require a car.
Naples	35	Most errands require a car.
Bradenton	38	Most errands require a car.
Dunedin	42	Most errands require a car.
Doral	42	Most errands require a car.

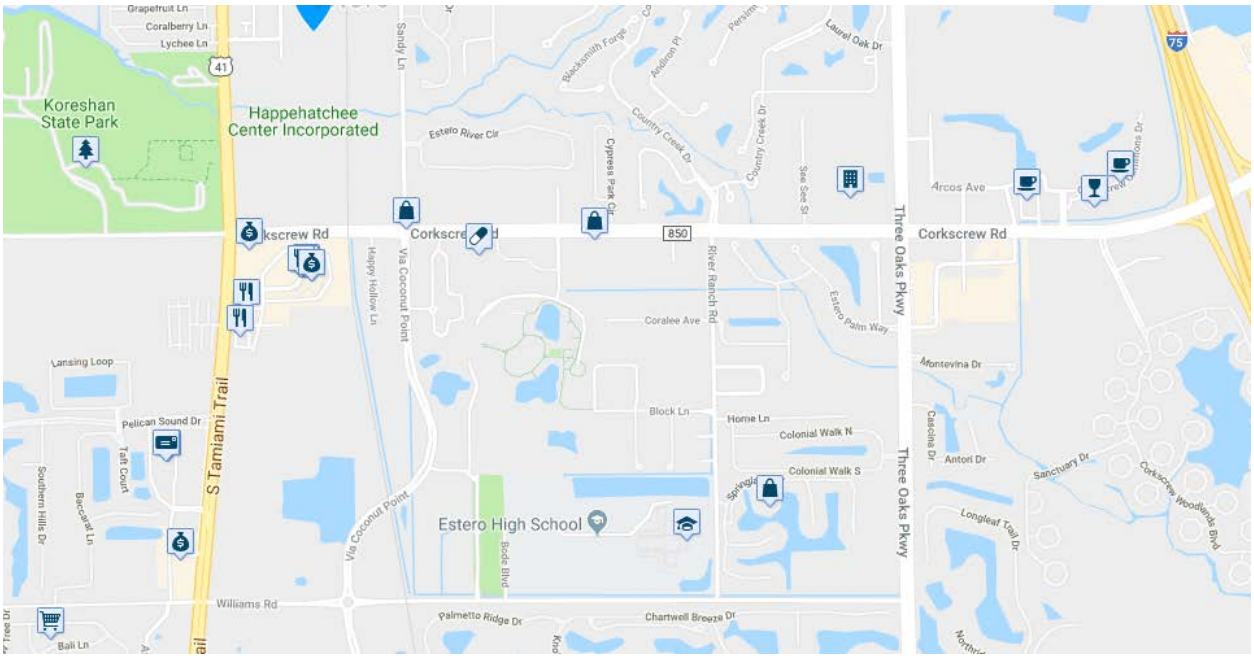


Figure 10. A sample of the Village of Estero destinations as evaluated on Walk Score.com

Related Plans and Initiatives

In addition to documenting the existing on-the-ground conditions, this study also reviewed existing plans, documents, and studies that may still be applicable and can positively impact bicycle and pedestrian facilities. Summaries of the following plans are included as an **Appendix** to this document.

- Local plans and studies
    - Lee County Long Range Transportation Plan
    - Lee County MPO Bicycle and Pedestrian Plan
    - Florida Gulf Coast University Infrastructure Inventory
    - Coconut Road Traffic Study
    - Corkscrew Road Study
    - Estero Parkway Improvement Plan
- Village of Estero Comprehensive Plan
- Land Development Code
- FDOT Complete Streets Implementation Plan

Public Engagement

This plan sought input from the community to ensure that the recommendations reflect their desires and needs. The public engagement effort included two public workshops, an online interactive map that allowed the public to enter comments and questions to the team, and three meetings with the Project Advisory Committee (PAC).

This section summarizes the outreach efforts, the key themes of comments received from the community, and the criteria used to identify priorities. This dialogue was used to develop and prioritize the recommendations for this plan.

Project Advisory Committee Meetings

The PAC was organized by the Village staff and was made up of members of the community who brought a diverse representation of walking and biking interests in the Village of Estero. The group included representatives from law enforcement, the school board, tourism, chamber of commerce, interested citizens, long-distance cyclists, recreational cyclists, and the business community. Staff from the Village, Lee County MPO, Lee County, Lee Tran and the Florida Department of Transportation attended the PAC meetings. PAC members met three times during the plan's development process.

Meeting #1

The first PAC meeting focused on desired outcomes for the plan and high-level needs and is summarized below:

When: Thursday, November 15, 2018, 2:30 to 4:30 pm

Where: Estero Recreation Center

Attendees: 11 (logged on sign-in sheet; additional attendees did not sign in)

After an interactive presentation to introduce the purpose of the plan and some information on trends in biking and walking safety and design, the PAC members began a discussion about the following questions:

- What makes a successful plan?
- What does it mean to bike and walk in Estero?
- Who is our user?

The purpose of the discussion was to begin identifying potential priorities for projects, programs, and policies, as well as design preferences. A strong theme emerged: we heard that two types of cyclists – confident and not-confident – should be accommodated, and shared use paths are a desired tool to achieve this. Another theme that emerged is that residents want to be able to get to destinations – grocery, parks, other places outside of their gated communities – without using a car.

Key recommendations from the PAC regarding the Plan include:

- The Plan should promote a safe and comfortable experience for all ages, abilities, and modes
- The Plan should support a high quality of life for residents and visitors that encourages bicycling and walking
- The Plan should lead to projects that connect residents to destinations
- The Plan should address education and safety programs

- The Plan should identify projects that are buildable and practical

Meeting #2

The second PAC meeting reviewed the initial needs and recommendations and is summarized below:

When: Thursday, February 21, 2019, 2:30 to 4:30 pm

Where: Estero Recreation Center

Attendees: 12 (logged on sign-in sheet; 3 additional attendees did not sign in)

The consultant team reviewed the project purpose, schedule, and goals for the meeting. The discussion focused on the recent public workshop results. The PAC members then reviewed the revised draft vision and goals, as well as project prioritization criteria. Lastly, the draft project needs were presented and discussed. More detail about specific topics follows.

Vision and Goals. The consultant team presented the draft Vision and Goals for the Plan and described the key themes are embedded in this vison are based on what we have heard from PAC, the public, the project scope, and staff. The key themes in the scope include: comfortable, convenient, safe, all ages and abilities, and education:

- **Comfortable** suggests the envisioned network is low stress and an attractive travel option for all users, including people who are new to walking and biking.
- **Convenient** relates to the utility of the network, ensuring that people walking and biking do not unnecessarily need to traverse well outside or cross substantial barriers in their journey to reach their destination.
- **Safe** means the future network should be developed in a means that removes hazards to people walking and biking and prioritizes the protection of these roadway users.
- **All Ages and Abilities** emphases the need to plan, design, and build walking and biking facilities that are safe for people to use who have limited mobility
- **Educate** by creating events and educational programs oriented towards increasing usage and safe use of facilities by all users.

PAC members responded with several recommendations for the vison and goals:

- The Vision and Goals should appeal to a wide range of audiences
- Streamline the Vision
- Dates measuring progress (five years) are too ambitious
- Deemphasize transit
- Add language enhancing quality of life
- Add language emphasizing education and ways to enhance the biking and walking culture in Estero
- Add language emphasizing choice
- Add goals supporting implementation of education and safety programs and policies designed
- Add goal supporting increased usage
- Goals shall support shared-use pathways and other off-road improvements such as the SUN Trail link in Estero

Needs Assessment and Prioritization. The consultant team reviewed the methods used to identify gaps in the walking and biking network. Input for this needs assessment included recommendations identified in previous plans, input from stakeholders and the public, analyzing maps and other desktop

analysis, and reviewing other data sources to determine current levels of use. The analysis identified gaps in the system and locations for walking and biking projects. The gaps were analyzed using criteria in a data-driven process. The criteria are: mobility, safety, connections, and public support. A list of needs identified by the consultant were presented in a series of maps. The PAC asked questions and made observations as the consultant team identifies the projects.

PAC Member Discussion. The project team led a group discussion to help identify the potential priorities for projects, programs, and policies, as well as design preferences. **A strong theme emerged: two types of cyclists – confident and not-confident – should be accommodated, and shared use paths are a desired tool to achieve this.** Another theme that emerged is **that residents want to be able to get to destinations – grocery, parks, other places outside of their gated communities – without using a car.**

Meeting #3

When: Monday, February 25, 2019, 5:00 to 7:00 pm

Where: Estero Recreation Center

Attendees: 8 (logged on sign-in sheet; 3 additional attendees did not sign in)

The third PAC meeting focused on the recommendations of the biking and walking projects identified by the consultant team. The consultant presented the recommendations via handouts of maps and corresponding lists of walking and biking projects. The PAC members reviewed the recommendations, asked clarifying questions, and suggested modifications to the recommendations. They include:

- Ensure that recommendations connect to communities to the north and south of the Village of Estero, particularly south to Bonita Springs
- Support for buffered bike lanes
- Shade trees are important to increasing the comfort level of people walking and biking
- Clarify the need for shared use path recommendations
- Policy recommendations should be included that address site design for better access for people walking and bicycling
- Discuss the possibility of weighing the safety criteria higher to ensure projects that best address safety issues are higher priorities
- Consensus supporting the draft recommendations and the future bicycling and walking network they create

The meeting ended with the PAC communicating support for the Master Plan and its bicycling and walking projects.

Public Workshops

Two public workshops were held at milestone points of the plan. At the public workshops, Village of Estero community members were asked to discuss needed improvements and how to prioritize them.

Workshop #1

The first public workshop focused on needs and specific concerns and is summarized below:

When: Monday, February 11, 2019, 5:00 to 7:00 pm

Where: Estero Recreation Center

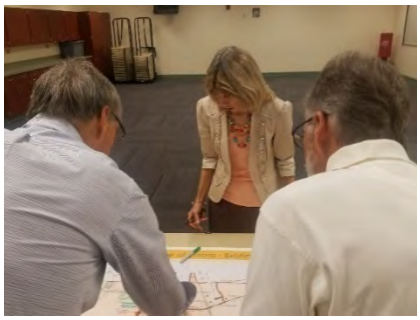
Attendees: 30 (logged on sign-in sheet; additional attendees did not sign in)

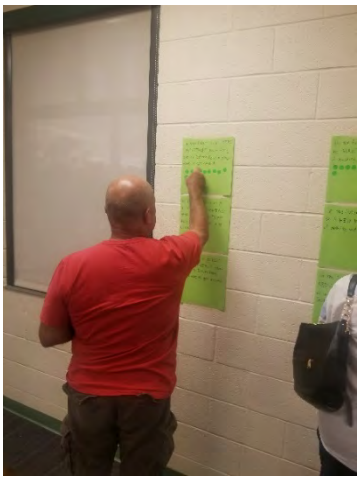
The workshop publicly kicked off the plan with an introductory presentation about the project, a lively discussion, three interactive exercises to understand the Village residents' vision and needs, and time to talk with Village staff and project team members about participants' interests and ideas to improve walking and biking in the Village of Estero.

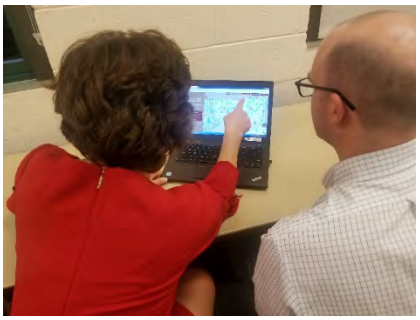
Those in attendance at the workshop discussed the same questions posed to the PAC:

- What makes a successful plan?
- What does it mean to bike and walk in Estero?
- Who is our user?

Participants were also asked to indicate areas of concern on a large map, to participate in an online mapping exercise if they hadn't already, and to help refine the Village's vision and goals for its Bicycle and Pedestrian Master Plan. Project staff was available for questions and comments, and many lively conversations occurred.







Workshop #1 Results

The following themes were heard during each discussion:

What makes a successful plan?

- Results in a useable network of safe and comfortable facilities
- Addresses education and culture of conflict between people driving and people walking and biking
- Includes better east-west connections, especially across US 41

- Allows better coordination between agencies to implement and maintain biking and walking infrastructure
- Creates a reputation for Estero as a biking destination

What does it mean to bike and walk in Estero?

- Wanting to exercise outside
- Wanting to safely get from Point A to Point B, both within Estero and to connections outside

Who is our user?

- People trying to get to work who do not own a car
- Students of all ages
- Retirees who want to bike and walk for transportation and recreation
- Recreational riders – from distance riders to not confident riders

Participants were encouraged to respond to statements associated with the draft vision and goals. Each person received four dots to place on the statements with which they most agree.

As shown in **Table 5**, the attendees overwhelmingly supported the idea that biking and walking in Estero could and should be much improved by increasing its safety, the number of facilities, the accessibility of the biking and walking network, and the destinations they could reach when walking or biking**.**

Table 5. Results of public workshop goal exercise

In the future, walking and biking in Estero should be…	In the future, I'd like to get to…	In the future, there should be…	In the future it is…
…MUCH SAFER than it is now. 20	…MANY MORE places by walking and biking. 17	…MANY MORE miles of walking and biking facilities. 19	…VERY IMPORTANT that everyone in Estero have multiple ways to get around. 16
…a LITTLE SAFER than it is now. 2	…a FEW MORE places by walking and biking. 1	…a FEW MORE miles of walking and biking facilities. 1	…a LITTLE IMPORTANT that everyone in Estero have multiple ways to get around. 0
…about AS SAFE as it is now. 0	…ABOUT THE SAME number of places by walking or biking as I do now. 0	…ABOUT THE SAME number of miles of walking and biking facilities. 0	…NOT VERY IMPORTANT that everyone in Estero have multiple ways to get around. 0

Key themes emerged through the mapping exercise and discussions:

- Like the members of the PAC, those attending the public workshop expressed concerns about feeling safe while walking or biking in Estero. Others said they would like to have the option to walk or bike but felt too unsafe to do so.

- Those attending the public workshop expressed the desire to be able to reach destinations on foot or on bike.

Lastly, a laptop was available for participants to enter their comments on the interactive online map of the study area. A summary of all mapping comments received is included in this section.

Workshop #2

The second public workshop focused on needs and specific concerns and is summarized below:

When: Monday, March 25, 2019, 5:00 to 7:00 pm

Where: Estero Recreation Center

Attendees: 23 (logged on sign-in sheet including staff; additional attendees may not have signed in)

The two-hour long workshop began with a comprehensive 20-minute presentation about the project, including a revised vision and goals, prioritization methodology, and draft project recommendations. A map and list of the draft project recommendations were distributed to participants to facilitate a discussion about how the projects meet the Village's needs. A large map was also displayed in the meeting room. The public was encouraged to talk with the consultant team and Village staff about participants' interests and ideas to improve walking and biking in Estero.

Workshop #2 Results

Key discussion, recommendations, and themes from the second public workshop include:

- Ensure direct site access is provided from the sidewalk to building entrances
- Reallocate roadway space on lanes that are too wide to make better bikeways
- Concern about SUN Trail project from one citizen, but broad support otherwise
- Ensure coordination between the Parks Master Plan and Bicycle and Pedestrian Master Plan
- Coordinate an off-street trail or Shared-Use Path along US 41 to Bonita Springs
- Add recommendations that increase comfort such as landscaping and lightning

Community Input Map

An interactive mapping tool (**Figure 11**) was used for people to engage with the project, promote its use, augment the planning process, and develop key outcomes based on the data received. Specifically, it allowed users to note walking or biking issues, to indicate preferred walking and biking routes, and to share comments.

The Community Input Map was used as a tool to gather people's input on destinations, routes, and barriers they face when walking or bicycling in the Village. The tool was available from January 14 to March 8, 2019, on both mobile and desktop platforms. Over this timeframe, three types of input were collected:

- Destinations people would like to access by foot or bike
- Walking or biking routes that need improvement
- Barriers to walking or biking

People also used the Input Map to comment, like, and dislike other people's comments to create a dialogue between community members. This was one of the most popular forms of input in the process and illustrated collaboration in an online forum.

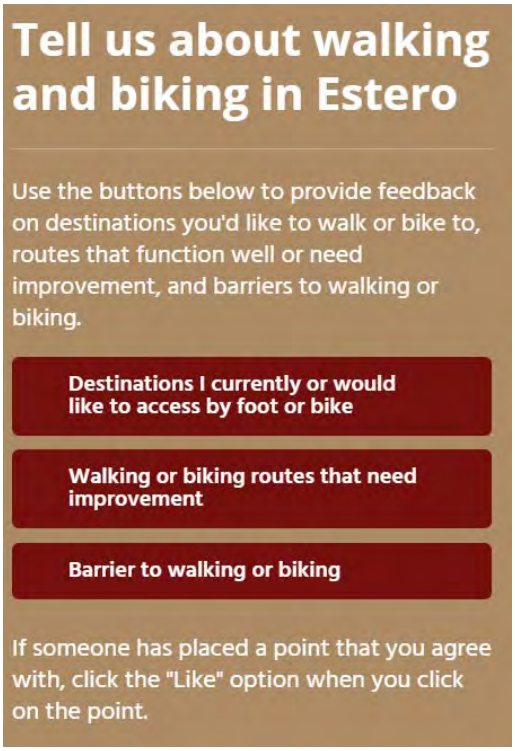


Figure 11. Input Tool Landing Screen with Input Options

Community Outreach

The Input Map was distributed using the following means:

- Village of Estero Community E-mail Newsletter
- Lee County MPO email Newsletter and Advisory Committees email Newsletter
- Shared on social media (Facebook and Nextdoor)
- Shared within private communities and neighborhood associations
- Available for use at public meetings held in February 2019

What We Heard

More than 1,000 data inputs were collected. An illustration (**Figure 12**) on the following page details the breakdown of the input collected. "Voting" positively for other's comments was the most common type of input. The second most common type of input collected was feedback on biking destinations, followed by bicycling routes. Walking routes, barriers to walking and biking, and general comments tied for the three lowest inputs.

Comments received were geographically distributed throughout the Village of Estero but focused on major streets and destinations such as Estero High School and state and community parks.

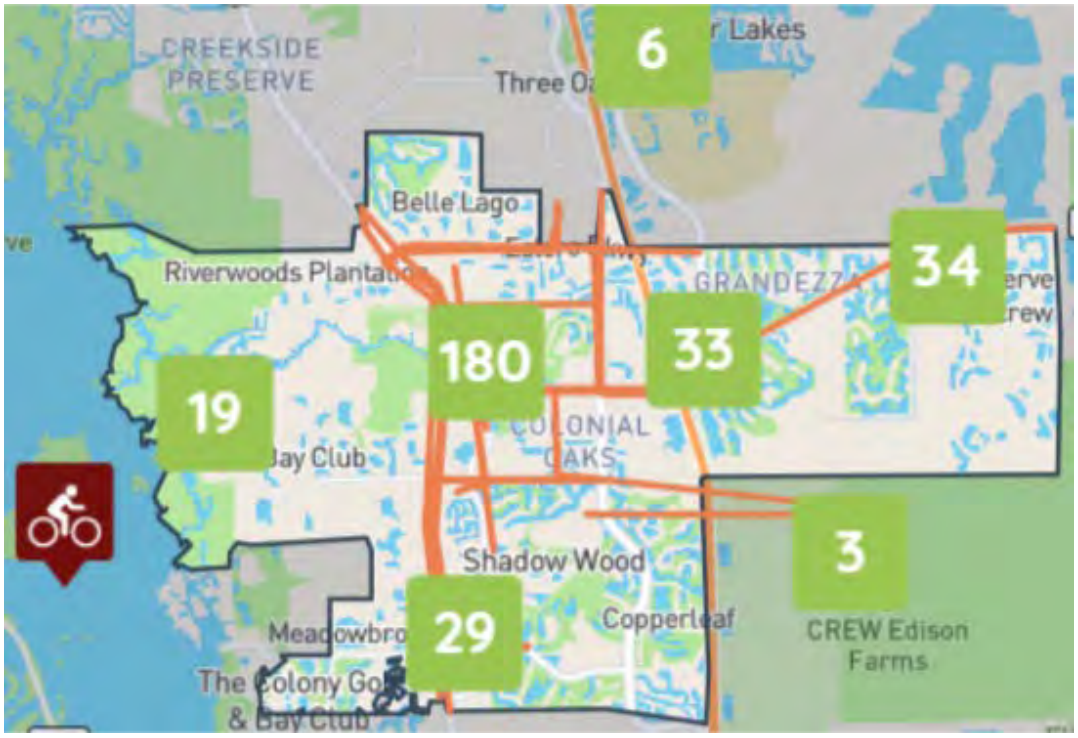


Figure 12. Map of Comments at End of Input Tool's Timeframe

Key Themes

The study team reviewed the input received for trends to inform the study's identification and prioritization process. The following themes were prominent among people using the Input Map:

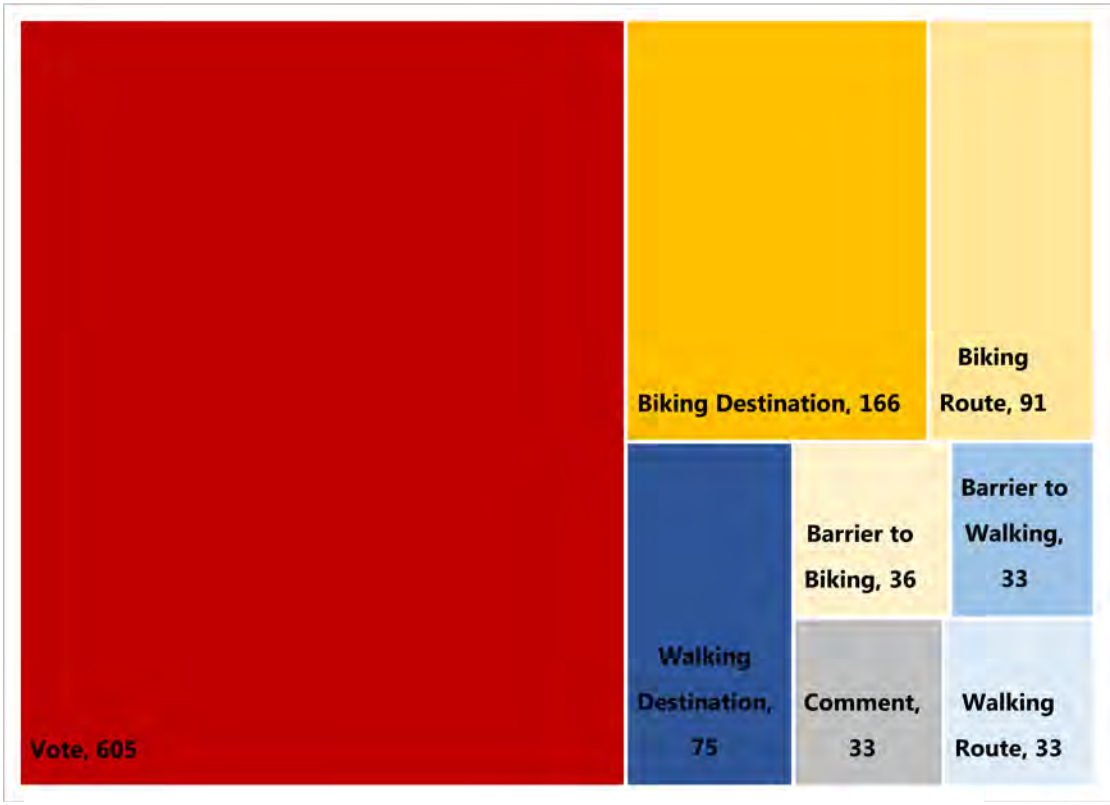


Figure 13. Input Received by Type

1. More people commented on biking routes, barriers, and destinations, than people did for walking.
2. Most comments focused on major roads (arterials and collectors).
3. Many comments on barriers to walking and biking were related to major intersections and entrances to destinations.
4. People who commented on incomplete infrastructure routes or routes where pathways abruptly ended felt unsafe and not able to complete their trip within the Village.

Following are screen capture representations showing comments and Input Map screenshots to highlight the points above.

Figure 14. Estero Parkway received over 30 route suggestions and barriers related comments to walking and biking from Input Map users

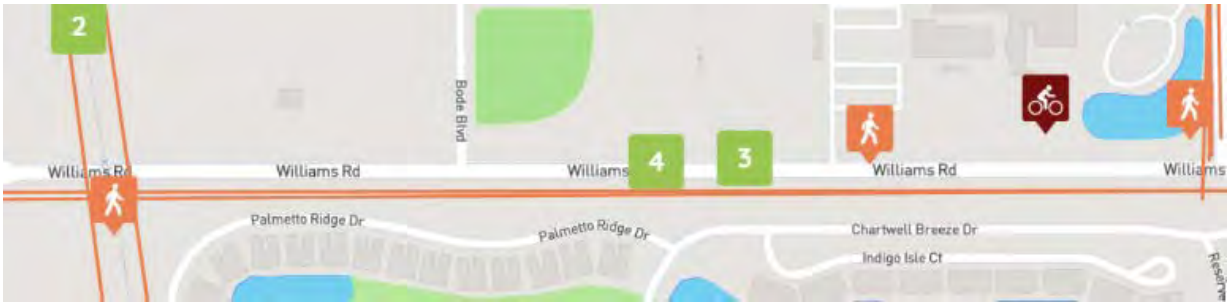


Figure 15. Williams Road received the comment with the most "Likes". Noting that a high-quality bike lane should be developed to entice people to walk and bike to destinations such as the high school and park.

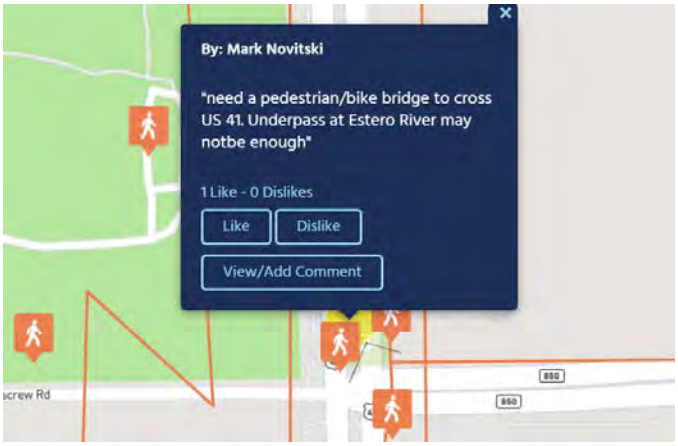
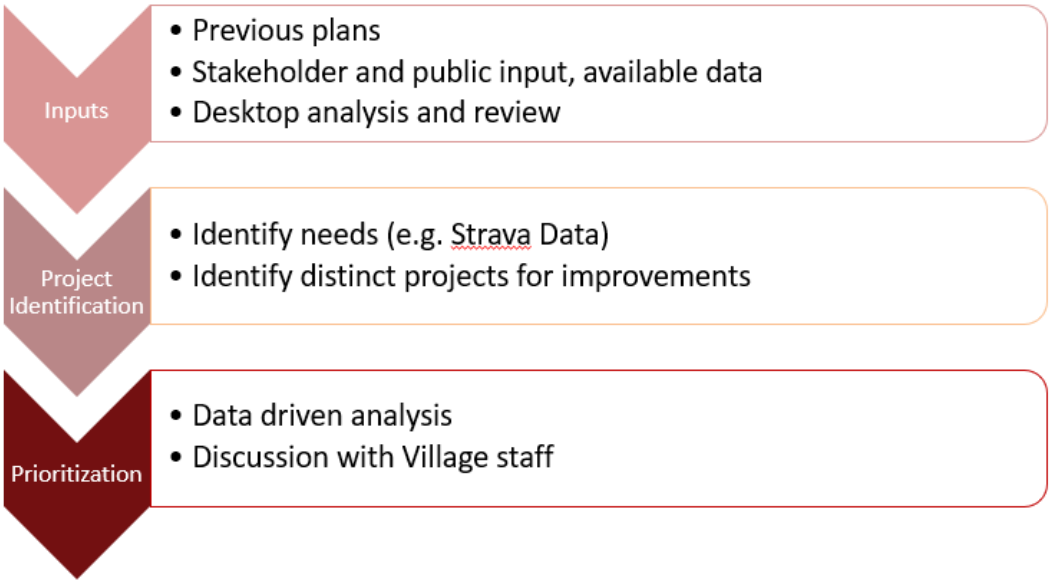


Figure 16. The intersection of Tamiami Trail and Corkscrew Road received the most comments regarding a difficult crossing and facility connections. Many noted that improvements are necessary on both streets to increase safety, comfort, and convenience.

Recommendations

The heart of this plan is the list of recommended projects that will, together, create a bicycling and walking network for the Village of Estero that fulfills the vision of its citizens. The list of projects was developed through a systematic approach outlined below.

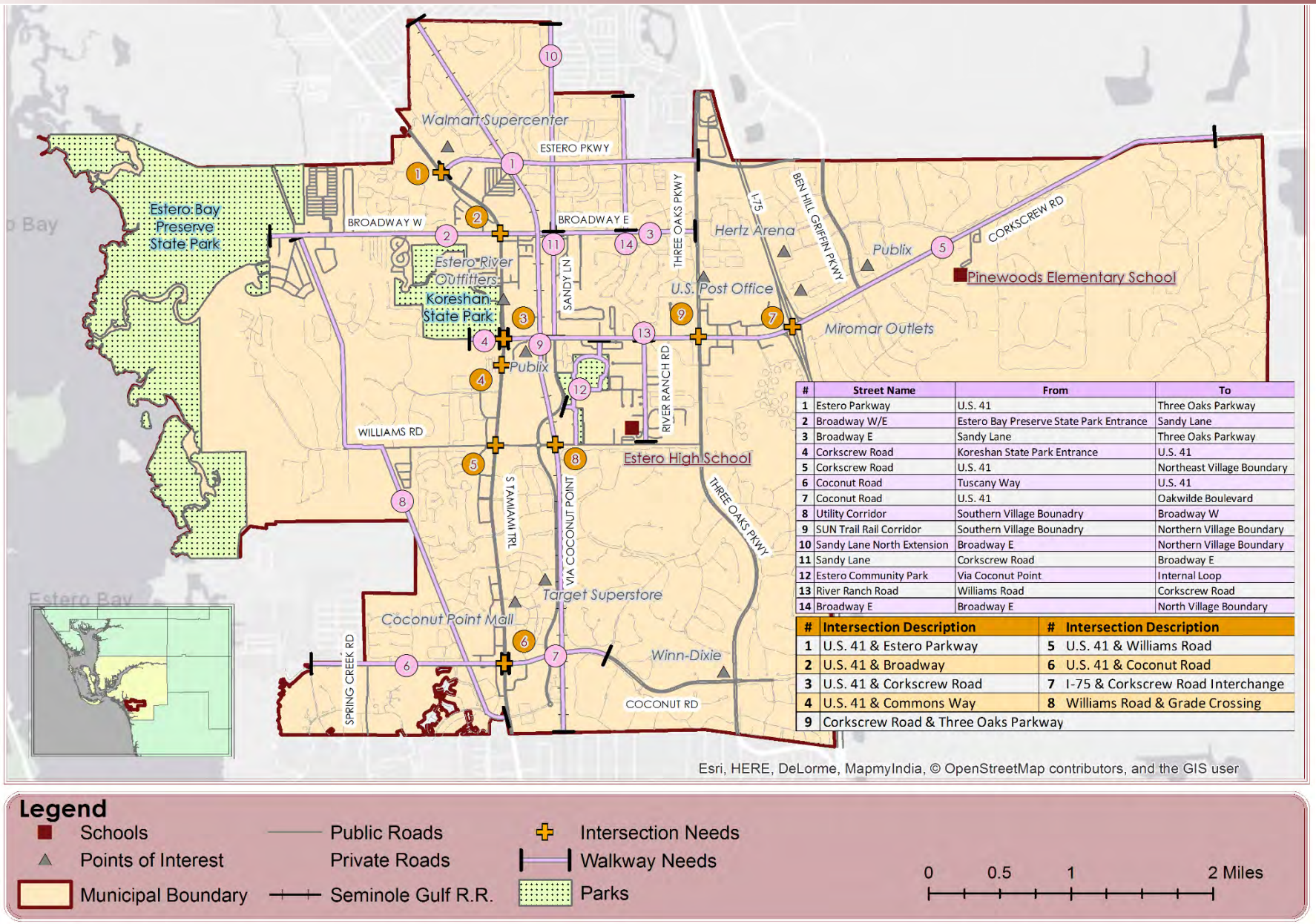


First, the needs assessment determined the gaps in the existing biking and walking network in the study area. It gathered inputs from previous plans (particularly from the Florida Gulf Coast University's Infrastructure Inventory report); desktop analysis and review; and stakeholder and public input. After the needs were identified, specific projects to fill those needs were identified. Then, data-driven analysis and discussions with Village staff led to a prioritized list of projects. This section of this report describes each step in greater detail.

Needs Analysis

The needs analysis resulted in the following two maps; **Figure 17** illustrates the gaps in the sidewalk network as well as either missing or substandard intersection treatments, and **Figure 18** shows the gaps in the bicycling network with the same intersection needs.

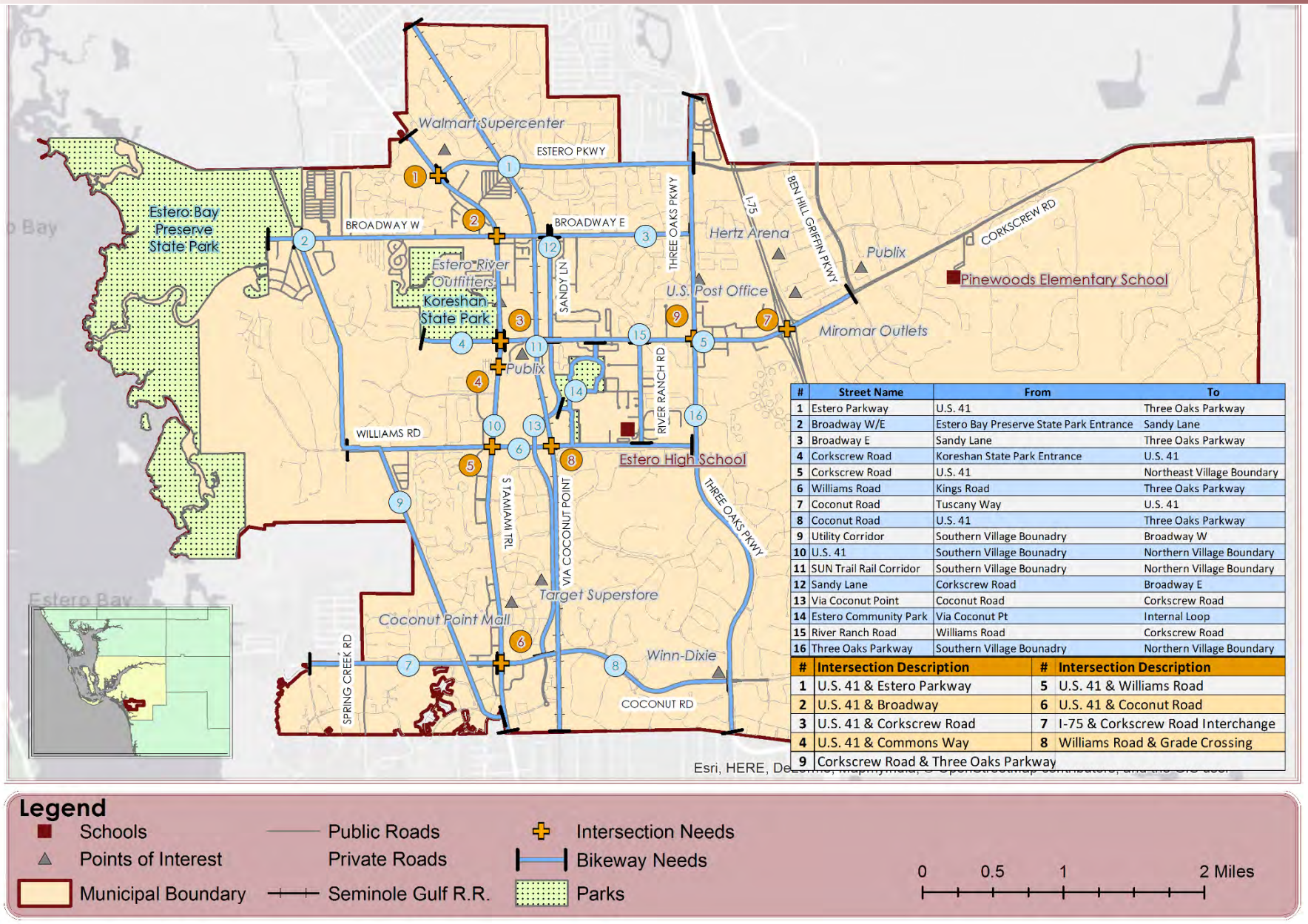
Intersections, when not designed with people on foot or on bikes in mind, can act as barriers to both modes. Most intersection needs appear on US 41 where crash data revealed the greatest safety problems. User data also revealed that people on foot and on bikes were not willing to cross US 41 despite some attractive destinations, such as Koreshan State Park and Estero Bay Preserve, on the west side.



#	Street Name	From	To
1	Estero Parkway	U.S. 41	Three Oaks Parkway
2	Broadway W/E	Estero Bay Preserve State Park Entrance	Sandy Lane
3	Broadway E	Sandy Lane	Three Oaks Parkway
4	Corkscrew Road	Koreshan State Park Entrance	U.S. 41
5	Corkscrew Road	U.S. 41	Northeast Village Boundary
6	Coconut Road	Tuscany Way	U.S. 41
7	Coconut Road	U.S. 41	Oakwilde Boulevard
8	Utility Corridor	Southern Village Bounadry	Broadway W
9	SUN Trail Rail Corridor	Southern Village Bounadry	Northern Village Boundary
10	Sandy Lane North Extension	Broadway E	Northern Village Boundary
11	Sandy Lane	Corkscrew Road	Broadway E
12	Estero Community Park	Via Coconut Point	Internal Loop
13	River Ranch Road	Williams Road	Corkscrew Road
14	Broadway E	Broadway E	North Village Boundary

#	Intersection Description	#	Intersection Description
1	U.S. 41 & Estero Parkway	5	U.S. 41 & Williams Road
2	U.S. 41 & Broadway	6	U.S. 41 & Coconut Road
3	U.S. 41 & Corkscrew Road	7	I-75 & Corkscrew Road Interchange
4	U.S. 41 & Commons Way	8	Williams Road & Grade Crossing
9	Corkscrew Road & Three Oaks Parkway		

Figure 17. The identified sidewalk and intersection needs



#	Street Name	From	To
1	Estero Parkway	U.S. 41	Three Oaks Parkway
2	Broadway W/E	Estero Bay Preserve State Park Entrance	Sandy Lane
3	Broadway E	Sandy Lane	Three Oaks Parkway
4	Corkscrew Road	Koreshan State Park Entrance	U.S. 41
5	Corkscrew Road	U.S. 41	Northeast Village Boundary
6	Williams Road	Kings Road	Three Oaks Parkway
7	Coconut Road	Tuscany Way	U.S. 41
8	Coconut Road	U.S. 41	Three Oaks Parkway
9	Utility Corridor	Southern Village Bounadry	Broadway W
10	U.S. 41	Southern Village Bounadry	Northern Village Boundary
11	SUN Trail Rail Corridor	Southern Village Bounadry	Northern Village Boundary
12	Sandy Lane	Corkscrew Road	Broadway E
13	Via Coconut Point	Coconut Road	Corkscrew Road
14	Estero Community Park	Via Coconut Pt	Internal Loop
15	River Ranch Road	Williams Road	Corkscrew Road
16	Three Oaks Parkway	Southern Village Bounadry	Northern Village Boundary

#	Intersection Description	#	Intersection Description
1	U.S. 41 & Estero Parkway	5	U.S. 41 & Williams Road
2	U.S. 41 & Broadway	6	U.S. 41 & Coconut Road
3	U.S. 41 & Corkscrew Road	7	I-75 & Corkscrew Road Interchange
4	U.S. 41 & Commons Way	8	Williams Road & Grade Crossing
9	Corkscrew Road & Three Oaks Parkway		

Figure 18. The identified bikeway and intersection needs

Recommendations

The sidewalk and bikeway gaps and the problem intersections identified on **Figures 17** and **18** were brought before the PAC and Village staff for review and reactions. They were asked to think about which gaps are most important to bridge to fulfill the citizens' vision for the Village? What types of projects are best suited to bridge these gaps? The PAC and Village staff agreed with the plan's identified needs and then helped identify the recommendations for walking and biking projects.

The recommended projects reinforce the themes that emerged through the project's process. Each project should:

- Connect to destinations for daily and social needs with special attention to schools and parks
- Create a safe biking and walking network
- Accommodate cyclists of all abilities and levels of confidence
- Elevate the Village of Estero to a cycling destination

Figure 19 illustrates the recommended projects that specifically address walking needs. Project types include both sidewalks and Shared Use Paths. The project numbers in **Figure 19** correspond to descriptions in the table immediately following.

Similarly, **Figure 20** illustrates the project recommendations that specifically address bicycling needs. Project types include bike lanes (buffered and protected) and Shared Use Paths. The project numbers correspond to descriptions in the table immediately following.

Shared Use Paths appear on both maps and project lists because they accommodate both people on foot and people on bikes.

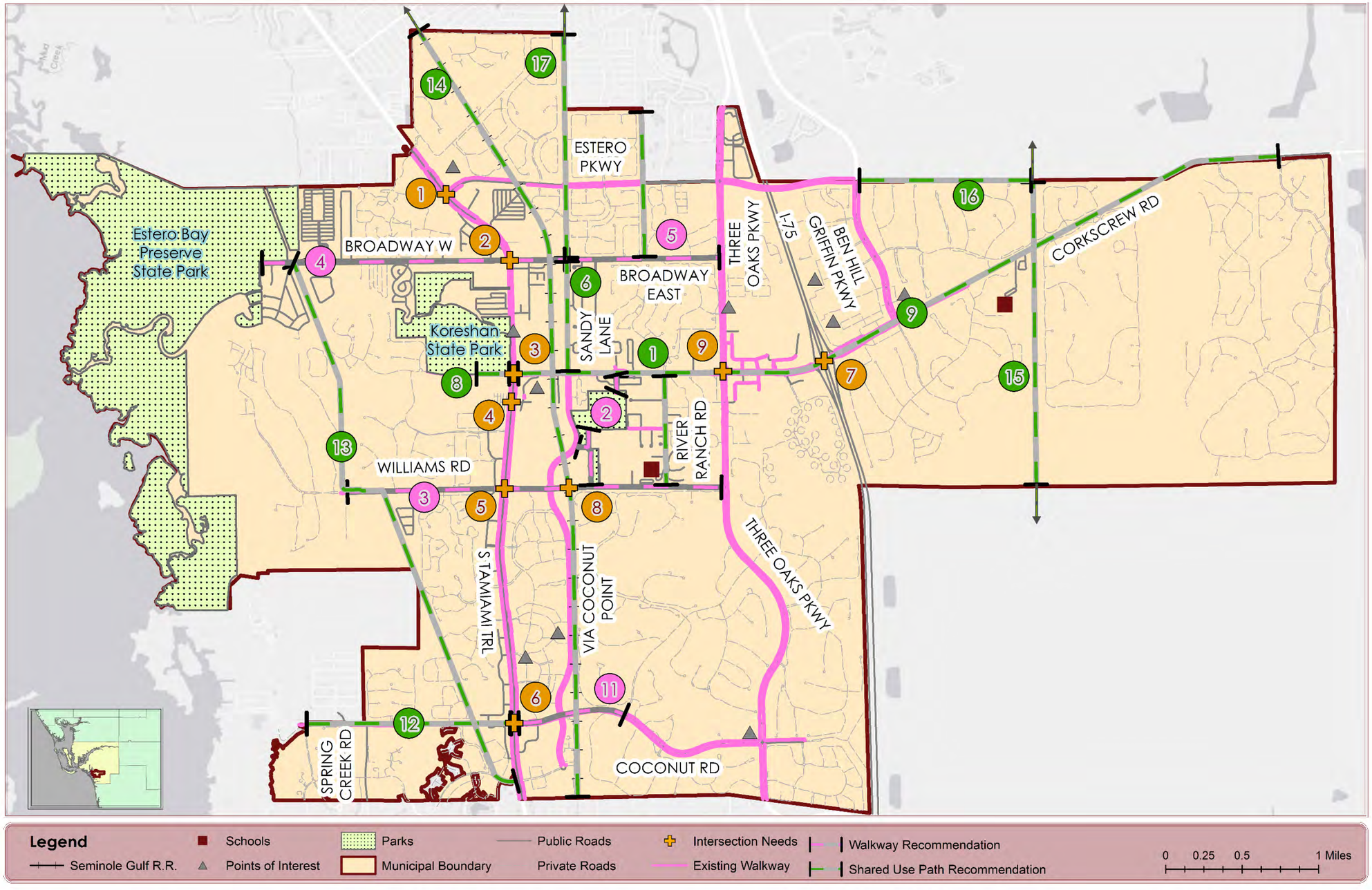


Figure 19. Walkway project recommendations

Draft Walkway Recommendations

#	STREET NAME	FROM	TO	PROJECT RECOMMENDATIONS	APPROX LENGTH (MI)	COMMENTS
1	River Ranch Road	Williams Road	Corkscrew Road (CR 850)	• Shared Use Path on west side of road • Complete sidewalk connection on East side of road	0.75	
2	Estero Community Park	Access Via Coconut Point & Corkscrew Road	Internal loop	• Shared Use Path on one side of entrance • Sidewalk connection on the other side of entrance • Create connection to existing path to Williams Road	0.70	• Complete Park's internal network • Improve intersection/park access
3	Williams Road	Kings Road	Three Oaks Parkway	• Protected Bike Lanes on both sides of road • Sidewalk connection on both sides of road	2.25	
4	Broadway W	Estero Bay Preserve State Park Entrance	Sandy Lane	• Shared Use Path on south side of road • Sidewalk connection on north side of road	2.00	
5	Broadway E	Sandy Lane	U.S. 41 (Tamiami Trl)	• Shared Use Path on south side of road • Sidewalk connection on north side of road • Shared Use Path extension to Three Oaks Parkway • Shared Use Path extension north from Broadway E to Estero Parkway	1.00	
6	Sandy Lane	Corkscrew Road (CR 850)	Broadway E	• Shared Use Path on east side of road	0.75	• Bridge crossing needs
8	Corkscrew Road (CR 850)	Koreshan State Park Entrance	U.S. 41 (Tamiami Trl)	• Shared Use Path no north side of road • Sidewalk on south side of road (6 or 8 feet wide)	0.25	• High traffic volumes on Corkscrew Road (CR 850)
9	Corkscrew Road (CR 850)	U.S. 41 (Tamiami Trl)	Northeast Village of Estero Limit	• Buffered Bike Lanes on both sides of road • Shared Use Path on both sides of road	9.50	• Consider feasibility of bike lanes • Coordinate with Lee County
11	Coconut Road	Three Oaks Parkway	U.S. 41 (Tamiami Trl)	• Shared Use Path on south side of road • Narrow travel lanes by 2 feet and install a buffered bike lanes in both directions • Complete sidewalk connections on north side of road	0.75	
12	Coconut Road	U.S. 41 (Tamiami Trl)	Tuscany Way	• Complete sidewalk connections • Shared Use Path on one side	1.25	
13	Utility Corridor	Southern Village of Estero Limit	Northern Village of Estero Limit	• Shared Use Path	4.50	
14	SUN Trail Rail Corridor	Southern Village of Estero Limit	Northern Village of Estero Limit	• Shared Use Path	5.25	
15	Floirda Power Utility Line	Southern Village of Estero Limit (East of I-75)	Northern Village of Estero Limit (East of I-75)	• Shared Use Path	2.00	
16	Estero Parkway Extension	Ben Hill Griffin Parkway	Florida Power Utility Line	• Shared Use Path	1.25	
17	Sandy Lane North Extension	Brodway E	Northern Village Boundary	• Shared Use Path	1.50	

Intersections

#	INTERSECTION DESCRIPTION	PROJECT RECOMMENDATION
1	U.S. 41 & Estero Parkway	Perform Safety Study to determine which of the most effective countermeasure(s) should be implemented
2	U.S. 41 & Broadway	
3	U.S. 41 & Corkscrew Road	
4	U.S. 41 & Commons Way	
5	U.S. 41 & Williams Road	
6	U.S. 41 & Coconut Road	
7	I-75 & Corkscrew Road Interchange	
8	Williams Road & Grade Crossing	
9	Three Oaks Parkway & Corkscrew Road	

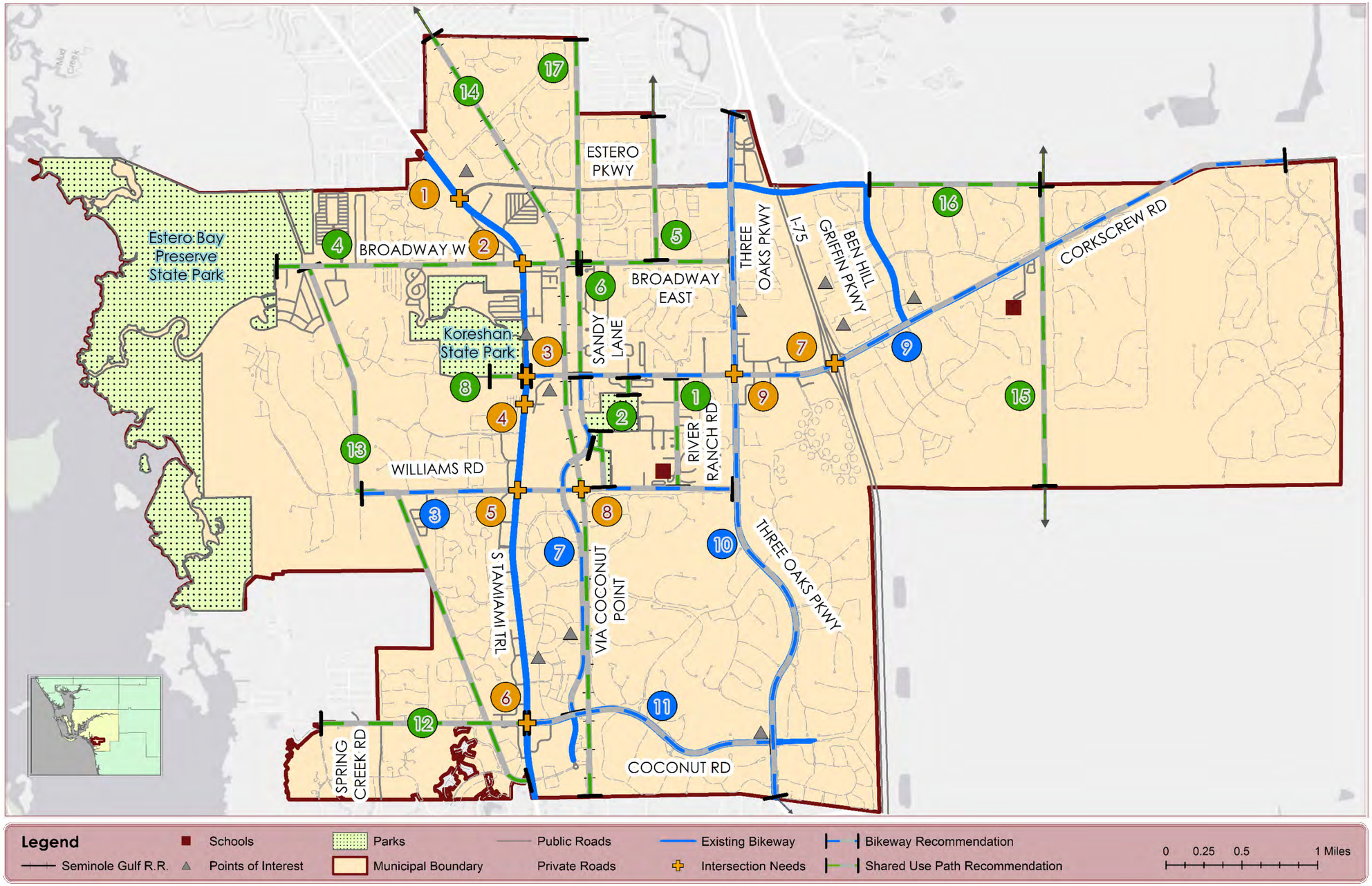


Figure 20. Bikeway project recommendations

Draft Bikeway Recommendations

#	STREET NAME	FROM	TO	PROJECT RECOMMENDATIONS	APPROX LENGTH (MI)	COMMENTS
1	River Ranch Road	Williams Road	Corkscrew Road (CR 850)	• Shared Use Path on west side of road • Complete sidewalk connection on East side of road	0.75	
2	Estero Community Park	Access Via Coconut Point & Corkscrew Road	Internal loop	• Shared Use Path on one side of entrance • Sidewalk connection on the other side of entrance • Create connection to existing path to Williams Road	1.50	• Complete Park's internal network • Improve intersection/park access
3	Williams Road	Kings Road	Three Oaks Parkway	• Protected Bike Lanes on both sides of road • Sidewalk connection on both sides of road	5.00	
4	Broadway W	Estero Bay Preserve State Park Entrance	Sandy Lane	• Shared Use Path on south side of road • Sidewalk connection on north side of road	2.00	
5	Broadway E	Sandy Lane	U.S. 41 (Tamiami Trl)	• Shared Use Path on south side of road • Sidewalk connection on north side of road • Shared Use Path extension to Three Oaks Parkway • Shared Use Path extension north from Broadway E to Estero Parkway	2.00	
6	Sandy Lane	Corkscrew Road (CR 850)	Broadway E	• Shared Use Path on east side of road	0.75	• Bridge crossing needs
7	Via Coconut Point	Coconut Road	Corkscrew Road (CR 850)	• Reduce travel lanes by 1 foot each • Install 2-foot buffered bike lanes on both sides of road • Improve connections through roundabout • Add landscaping	4.75	
8	Corkscrew Road (CR 850)	Koreshan State Park Entrance	U.S. 41 (Tamiami Trl)	• Shared Use Path no north side of road • Sidewalk on south side of road (6 or 8 feet wide)	0.25	• High traffic volumes on Corkscrew Road (CR 850)
9	Corkscrew Road (CR 850)	U.S. 41 (Tamiami Trl)	Northeast Village of Estero Limit	• Buffered Bike Lanes on both sides of road • Shared Use Path on both sides of road	9.50	• Consider feasibility of bike lanes • Coordinate with Lee County
10	Three Oaks Parkway	South Village of Estero Limit	North Village of Estero Limit	• Reduce travel lanes by 1 foot each • Install 2-foot buffered bike lanes on both sides of road	9.25	
11	Coconut Road	Three Oaks Parkway	U.S. 41 (Tamiami Trl)	• Shared Use Path on south side of road • Narrow travel lanes by 2 feet and install a buffered bike lanes in both directions • Complete sidewalk connections on north side of road	3.50	
12	Coconut Road	U.S. 41 (Tamiami Trl)	Tuscany Way	• Complete sidewalk connections • Shared Use Path on one side	1.25	
13	Utility Corridor	Southern Village of Estero Limit	Northern Village of Estero Limit	• Shared Use Path	4.50	
14	SUN Trail Rail Corridor	Southern Village of Estero Limit	Northern Village of Estero Limit	• Shared Use Path	5.25	
15	Floirda Power Utility Line	Southern Village of Estero Limit (East of I-75)	Northern Village of Estero Limit (East of I-75)	• Shared Use Path	2.00	
16	Estero Parkway Extension	Ben Hill Griffin Parkway	Florida Power Utility Line	• Shared Use Path	1.25	
17	Sandy Lane North Extension	Brodway E	Northern Village Boundary	• Shared Use Path	1.50	

Intersections

#	INTERSECTION DESCRIPTION	PROJECT RECOMMENDATION
1	U.S. 41 & Estero Parkway	Perform Safety Study to determine which of the most effective countermeasure(s) should be implemented
2	U.S. 41 & Broadway	
3	U.S. 41 & Corkscrew Road	
4	U.S. 41 & Commons Way	
5	U.S. 41 & Williams Road	
6	U.S. 41 & Coconut Road	
7	I-75 & Corkscrew Road Interchange	
8	Williams Road & Grade Crossing	
9	Three Oaks Parkway & Corkscrew Road	

Intersection Recommendations

This plan identifies nine intersections that require improvements to make walking and biking safer due to a high number of crashes, or because they were identified by Village staff, PAC members, or the public as needing treatments. Identifying the specific walking and biking treatments (markings, signage, flashing beacons, surface treatments, retiming signals, new or improved sidewalk or bicycle lanes) for each intersection will require traffic operations study, but this plan discusses various treatment types in the design chapter.

Priority criteria

The projects were evaluated against criteria organized into four categories:

- Mobility – makes connections or fills gaps
- Safety – in an area with safety issues
- Land Use – access to jobs and residents
- Public Input – which gaps are important to residents

The result was a score for each project based on how well each project is estimated to fulfill the four criteria; the higher the score, the more effective the project. The goal is to determine which gaps would give the best return on investment.

A prioritized list based on criteria can also position the Village of Estero and Lee County for future, unanticipated funding. For example, if a statewide safety program releases a call for projects to be considered for funding, the Village of Estero is now prepared.

Best performing projects

Table 6 lists the top performing project recommendations. These projects rated highly against the prioritization criteria and will contribute significantly to enhancing the Village of Estero's network of bicycling and walking infrastructure. It is recommended that these projects, of varying scales, be tackled together as corridor-wide improvements and are considered short term improvements, aiming for completion by 2030.

Table 6. The top performing project corridors and projects

Facility	From	To	Project type	Rank
River Ranch Road	Williams Road	Corkscrew Road	Shared Use Path on west side of road Complete the sidewalk connection on the east side of the road	1
Estero Community Park	Access Via Coconut Point and Corkscrew Road	Internal Loop	Shared Use Path on one side of the entrance Sidewalk connection on the other side of the entrance Create connection to existing path to Williams Road	2
Williams Road	Kings Road	Three Oaks Parkway	Protected bikeway on both sides of the road Complete the sidewalk connections on both sides of the road	3
Broadway West	Estero Bay Preserve State Park	Sandy Lane	Shared Use Path on south side of the road Sidewalk connections on north side of road	4
Broadway East	Sandy Lane	US 41 (Tamiami Trail)	Shared Use Path on south side of the road Sidewalk connections on north side of the road Shared Use Path extension to Three Oaks Parkway Shared Use Path extension north from Broadway E to Estero Parkway	5
Sandy Lane	Corkscrew Road	Broadway E	Shared Use Path on east side of the road	6

Implementation

Several steps are crucial to the success of future facility development. These steps will legitimize the recommendations found in this Plan and support decision-making necessary to carry out those recommendations.

Adopt This Plan

Before any other action takes place, the Village should adopt this Plan. This step should be considered the first step in implementation. Through adoption of this Plan, the Village will be better able to shape transportation and development decisions so that they fit with the goals of this Plan. Most importantly, having an adopted plan is extremely helpful in securing funding from state, federal, and private agencies. Adopting this Plan does not commit the Village to dedicate or allocate funds, but rather indicates intent to implement this Plan over time.

Identify Funding

Achieving the vision defined within this Plan will require, among other things, a stable and recurring source of funding. Communities across the country that have successfully engaged in pedestrian and bicycle programs have relied on multiple funding sources to achieve their goals. No single source of funding will meet the recommendations identified in this Plan. Instead, stakeholders will need to work cooperatively with local, state, and federal partners to generate funds sufficient to implement the Plan.

Based on the total estimated costs for projects and a 20-year time frame for project implementation, it is estimated that the Village will need to spend $2.8 million per year to complete all projects identified in this Plan. To achieve this pace of implementation, the Village will need to establish a dedicated local funding source as well as leverage other funding opportunities, such as grants and implementation associated with private developments. The following chapter discusses funding sources in greater detail.

Complete Short-Term Priority Projects

By quickly moving forward on priority projects, the Village will demonstrate its commitment to carrying out this Plan and will better sustain the enthusiasm generated during the public outreach stages of the planning process.

All recommendations could be funded with about $3 annual investment over 20 years, as shown in **Table 7**.

Table 7. Annual Project Cost Per Year Summary

	Total Cost	Cost Per Year
Walkway Projects	$ 14,345,000	$ 717,250
Bikeway Projects	$ 49,200,000	$ 2,460,000
Total	**$ 63,545,000**	**$ 3,177,250**

Design Guidelines

Design guidelines are a tool to plan and design high-quality walking and biking networks. Typically, design guidelines provide ideas on how to create streets in line with a community's vision for physical infrastructure. Design guidelines can also be used to conceptualize roadway design treatments before investment in final design and engineering.

This chapter provides national and state design resources for the Village of Estero and local stakeholders to use as resources while exploring options for corridor specific designs for projects identified in this plan. Before implementation, additional community input, and corridor field work should be conducted before final design and engineering.

Active Transportation Design Guides

Active transportation design guidelines describe strategies and standards to create safer streets, a higher quality of life, and new travel choices to reach destinations. Several factors should be considered when using these resources, including the scale and context of the project area, and the needs of people who might be walking and biking. Additional resources are available from each organization referenced below.

The topics covered are:

- National Resources
- State Resources
- Pedestrian Crossing Selection Matrix
- Bicycle Facility Selection Matrix
- Retrofitting Streets for Pedestrian and Bicycle Facilities

National Resources

Transportation design standards and best practices are evolving quickly on the national level. Cities and regions are using these new standards to compete for economic growth, and transportation professionals and decision-makers are increasingly looking for innovative ways to improve roadway safety within communities.

Below is a summary of the current national references for the design of active transportation facilities. The references include important documents and resources used in practice but are not exhaustive. Each corridor and project should be evaluated by a licensed professional qualified to make judgements on roadways and bicycle and pedestrian facilities.

The ***Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD)*** (2009) defines the standards used by traffic engineers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public traffic. The MUTCD is the primary source for guidance on lane striping requirements, signal warrants, and recommended signage and pavement markings.

The ***American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities*** (2012) provides guidance on dimensions, use, and layout of specific bicycle facilities. AASHTO is currently drafting a new version of this guide.

The ***Guide for the Planning, Design, and Operation of Pedestrian Facilities*** (2004) provides guidance for pedestrian facilities.

FHWA's Separated Bike Lane Planning and Design Guide (2015) offers guidance on separated bike lanes (also known as protected bike lanes, or cycle tracks). The guide includes information on the design and implementation of facilities. This includes intersection treatments and interactions with on-street parking, transit, and loading areas.

FHWA's Small Town and Rural Multimodal Networks (2016) is a design resource and idea book that helps small towns and rural communities support safe, accessible, comfortable, and active travel for people of all ages and abilities.

The ***National Association of City Transportation Officials' (NACTO) Urban Street Design Guide*** (2013) integrates up-to-date bicycling infrastructure guidance into a document that addresses pedestrian, bicycle, transit, and motorist design issues. The ***National Association of City Transportation Officials' (NACTO) Urban Bikeway Design Guide*** (2014) offers guidance on the current state of the practice designs for urban bikeway design.

The ***United States Access Board's Proposed Rights-of-Way Accessibility Guidelines*** provides guidelines for the design, construction, and alteration of pedestrian facilities in the public right-of-way. The guidelines ensure that pedestrian facilities are readily accessible for and usable by pedestrians with disabilities.

Other national resources include the ***FHWA Memos: Bicycle and Pedestrian Facility Design Flexibility***; ***Level of Service on the National Highway System;*** and the ***FHWA Toolbox of Pedestrian Countermeasures and Their Potential Effectiveness***.

State Resources

FDOT provides guidance related to the design, construction, and maintenance of highways and streets in Florida. These resources should be used in conjunction with applicable policies and requirements from the Village of Estero, Lee County, FDOT District 1, and FDOT Central Office.

The ***Florida Design Manual (FDM)***, updated in January 2018, controls the design, construction, and maintenance of the Florida Highway System (FHS), which primarily consists of major roadways. The FDM also mandates the processes for lane eliminations (also referred to as Road Diets), speed management, and pedestrian and bicycle facilities. Relevant sections of the FDM that specifically address walking and biking design considerations are:

- Chapter 200 – Context Based Design
- Chapter 222 – Pedestrian Facilities
- Chapter 223 – Bicycle Facilities
- Chapter 224 – Shared Use Paths

FDOT also releases Roadway Design memorandums based on FHWA Interim Approvals (IA) for consistency with the FDM. The FDOT Memorandums define requirements for certain pedestrian and bicycle treatments and how to apply the improvements on roadways under FDOT's jurisdiction. The most recent memorandum released by FDOT was Roadway Design Memorandum 17-05, related to the following FHWA IAs:

- IA.16: Optional Use of Bicycle Signal Faces
- IA.18: Optional Use of Intersection Bicycle Box
- IA.20: Optional Use of Two-Stage Queue Box

FDOT has also published a ***Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways*** (referred to as the ***Florida Greenbook*****)** which provides criteria for the design, construction, and maintenance standards for local streets. The most current copy of the ***Florida Greenbook*** was adopted in 2016, and a 2018 draft is currently under development.

In addition to the *FDM, Florida Greenbook**,*** and relevant memoranda, FDOT has also supported active transportation modes through policies and plans. The ***2015 Complete Streets Implementation Plan*** is a path toward more design consideration for all ages and abilities infrastructure. The plan created new standards for bicycle and pedestrian facilities and instituted provisions for other safety, convenience, and comfort improvements in design manuals. Some considerations available through this effort are:

- On-street parking to slow traffic in areas where it is supported by codes and regulations
- Bulb-outs in certain context classifications
- Street trees which must meet clear sight triangles, but can be placed closer to the face of the curb to slow traffic
- Wider sidewalks within the appropriate context

Pedestrian Crossing Selection Matrix

The quality of the walkway network can drastically impact a person's walking comfort, safety, and convenience. Sidewalks and shared-use paths make up the walkway network used by people to get to daily destinations. While a complete network of pedestrian infrastructure is important, unsafe intersections also influence a person's desire to use such a network. The need to improve places where people cross often requires improving existing intersections or constructing mid-block crossings so people can safely and conveniently cross a road

The ***Pedestrian Crossing Contextual Guidance*** matrix provides information on the type of crossing treatments based on roadway factors. The placement of a crossing treatment is influenced by the type of street, number of lanes, presence of a median, and the posted vehicle speed. Based on these factors, the higher the speed, the greater the number of lanes, and greater number of vehicles using the street, the greater the emphasis is on enhancing the crossing. Engineering judgement should be used to ensure correct facility placement based on context.

PEDESTRIAN CROSSING CONTEXTUAL GUIDANCE At unsignalized locations	Local Streets 15-25 mph		Collector Streets 25-30 mph			Arterial Streets 30-45 mph							
FACILITY TYPE	2 lane	3 lane	2 lane	2 lane with median refuge	3 lane	2 lane	2 lane with median refuge	3 lane	4 lane	4 lane with median refuge	5 lane	6 lane	6 lane with median refuge
Crosswalk Only (high visibility)	✓	✓	EJ	EJ	X	EJ	EJ	X	X	X	X	X	X
Crosswalk with warning signage and yield lines	EJ	✓	✓	✓	✓	EJ	EJ	EJ	X	X	X	X	X
Active Warning Beacon (RRFB)	X	EJ	✓	✓	✓	✓	✓	✓	X	✓	X	X	X
Hybrid Beacon	X	X	EJ	EJ	EJ	EJ	✓	✓	✓	✓	✓	✓	✓
Full Traffic Signal	X	X	EJ	EJ	EJ	EJ	EJ	EJ	✓	✓	✓	✓	✓
Grade separation	X	X	EJ	EJ	EJ	X	EJ	EJ	EJ	EJ	EJ	✓	✓

LEGEND	
Most Desirable	✓
Engineering Judgement	EJ
Not Recommended	X

Figure 21. Pedestrian Crossing Selection Matrix

Bicycle Facility Selection Matrix

People biking use a variety of facilities to reach destinations. A safe, convenient, and comfortable network of bikeways provides people with multiple routes to reach a destination, similar to people driving a vehicle. In some instances, people biking may choose to ride on the sidewalk when not prohibited by law, yet this is not a preferred option and can be more dangerous than biking on the street.

The Bicycle Facility Selection matrix provides design considerations for placement of bikeways on streets. The selection matrix illustrates that as vehicle speeds, volumes, and number of travel lanes increase, the separation between people biking and people driving motor vehicles should also increase. On local streets, a bicycle boulevard or bicycle lane will typically suffice if the conditions are met. On major arterials and collectors, however, visual or physical separation is typically necessary to create a safe and convenient bikeway. Each corridor should be evaluated by a licensed professional qualified to make judgements on roadways and bicycle facilities.

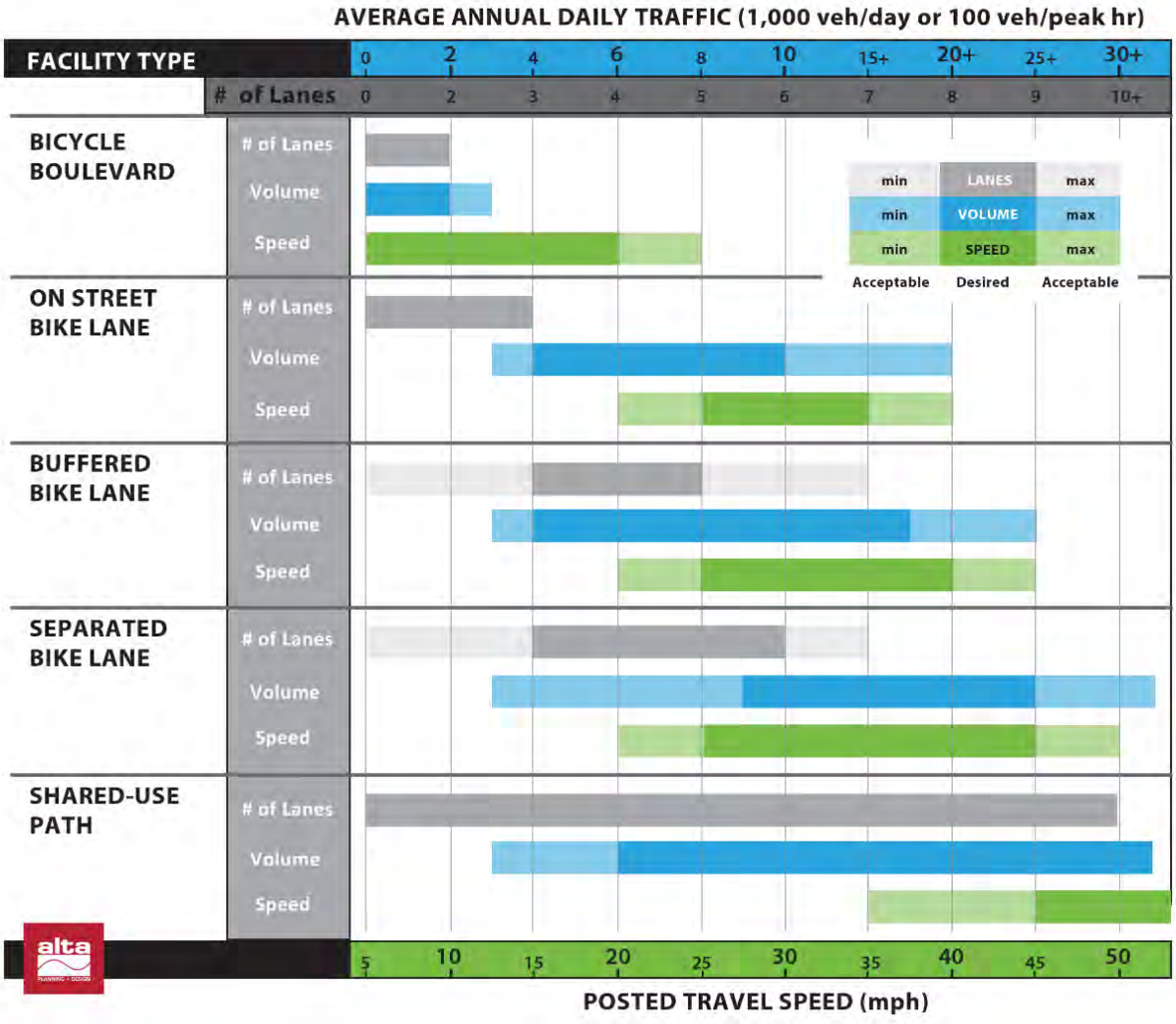


Figure 22. Bicycle Facility Selection Matrix

Retrofitting Streets for Pedestrian and Bicycle Facilities

In some cases, public right-of-way can be reallocated to increase the safety, comfort, and convenience for people walking or biking. These "retrofits" typically occur when lanes are narrowed or eliminated to increase the visual or physical buffer between high speed vehicles and slower moving pedestrians and bicyclists. Simple retrofit strategies are typically less expensive than more extensive retrofit strategies and require reconstructing curbs and drainage. Retrofit strategies, illustrated in **Figures 23** and **24**, include creating dedicated space for walkways and bikeways separated from travel lanes by a landscape buffer, narrowing the width of travel lanes and medians to created dedicated space for on-street bikeways, and moving the location of the curb to create or expand space for bikeways or walkways. Specific strategies and practical configurations will be developed as each corridor moves forward into implementation.

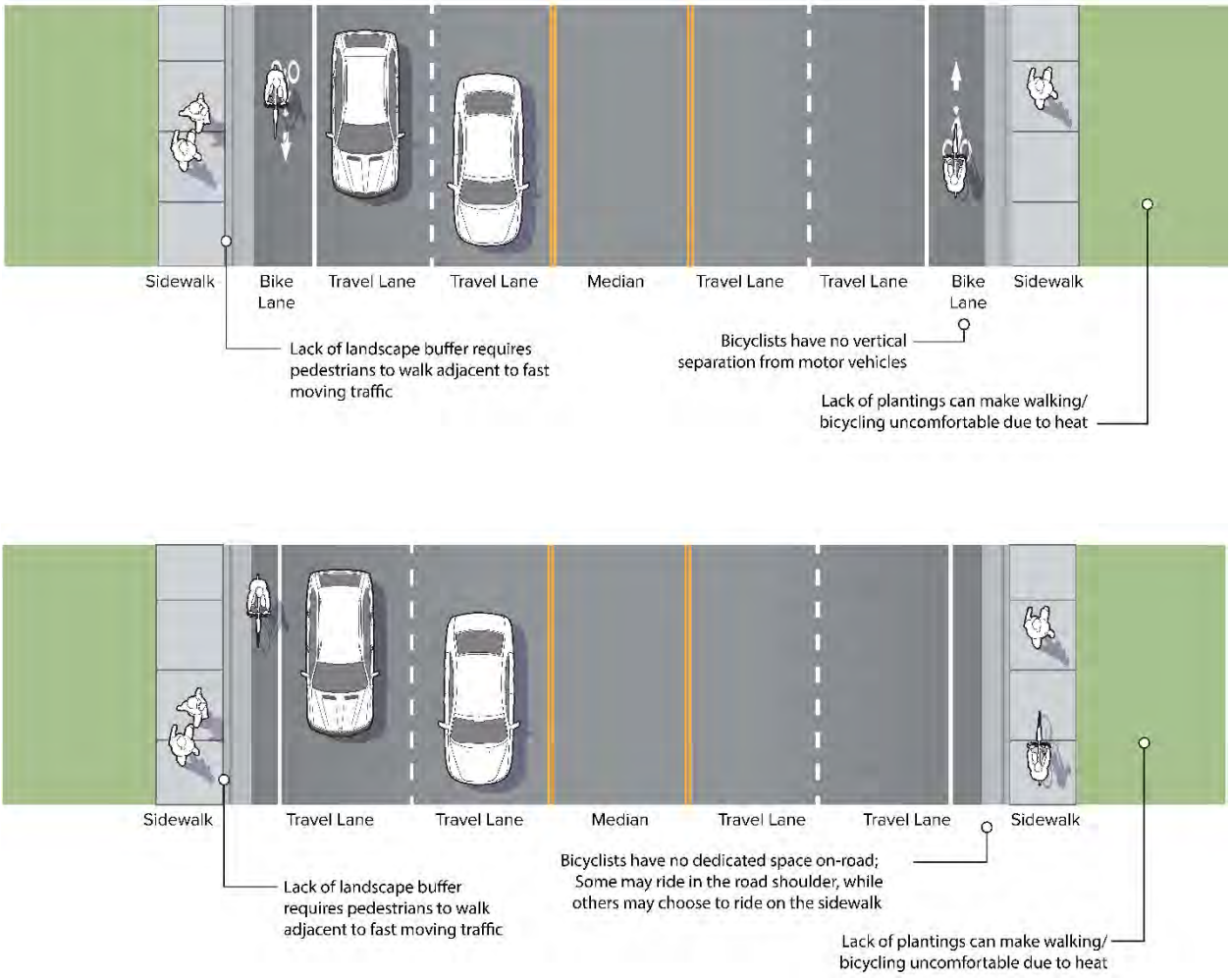


Figure 23. Typical Major Roadway Existing Conditions, with bike lanes (top) and without bike lanes (bottom)

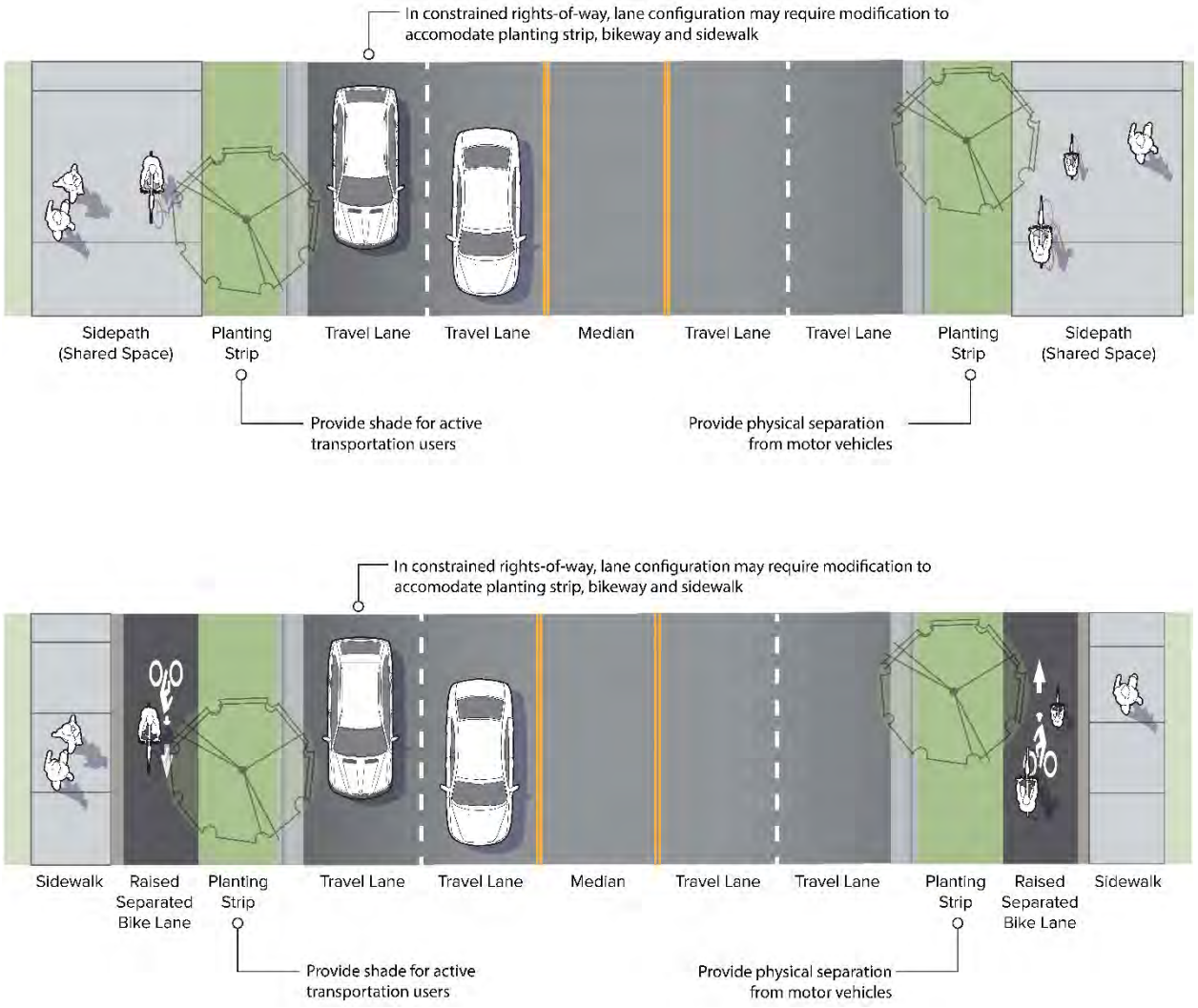


Figure 24. Optional Retrofit Strategies

Program Guidance

Walking and biking programs are an effective tool to encourage more people to walk and bike for transportation and recreation. Programs empower people with information and skills to be confident in their biking and walking ability. In Florida, many different institutions implement such programs to encourage safe walking and biking habits and provide education on the legal and safe use of facilities, the benefits of walking and biking, and enforcement to influence travel behavior.

This memo summarizes the existing programs available in the Village of Estero, key programs by stakeholders in the area, and recommended programs to consider for implementation.

Existing Programs in the Area

The Village is fortunate to be in an area with existing programs. These programs are well coordinated efforts between many institutions and through public-private partnerships. Some of the existing programs in the Village area are:

Bike Walk Lee is a bicycle advocacy organization that organizes rides, attends public meetings, and provides input to planning efforts. They primarily focus on creating complete streets in Lee County, but also volunteer at bike and walk campaign events and host training sessions.

A ***Critical Mass Bicycle Ride*** is an informally organized ride held throughout different areas of Lee County to highlight that people bike on the road for many reasons. The bicycle ride in Estero, FL was cancelled due to safety concerns.

The ***Lee County MPO*** is home to several Bicycle and Pedestrian Programs which support municipal staff trainings, infrastructure development, and wayfinding and safety initiatives. The MPO staff has been instrumental in funding bicycle and pedestrian plans, and other related efforts which include:

- Safe Routes to Schools Programs
- Bicycle and Pedestrian Safety Action Plan Training Sessions
- Complete Streets Initiatives
- Wayfinding Program as part of the Tiger IV Project

FDOT also provides programming through District 1 offices throughout Southwest Florida. Programs by FDOT include:

- The Florida School Crossing Guards Training Program
- The Florida Safe Routes to Schools Program, administered by Johns Hopkins All Children's Hospital, Fort Myers, FL
- Community Traffic Safety Teams
- The Alert Today, Alive Tomorrow campaign
- Other campaign materials related to enforcement, education, and engineering

Recommended Programs

Wayfinding. Lee County MPO and Lee County have implemented signage along some key bicycle routes in the area. The expanding of the existing program into Estero with wayfinding would provide people walking and people biking to destinations with the confidence that they're traveling in the right direction and how much longer it will take to reach a destination. A signage program does not need to be an immediate capital improvement from the outset, but could include low-costs, interim signs to test alignments and community needs. The Village should consider permanent signage as a long-term solution after temporary tests have been completed and longer routes have been identified.

Figure 25. Interim, low-cost wayfinding solutions are vital to temporarily orient people to destinations.

The cornerstone of this master plan is acknowledging that safer walking and biking routes can best be accomplished through a combination of infrastructure and non-infrastructure projects and programs. These are known collectively as the "5 Es": Education, Encouragement, Engineering, Enforcement, and Evaluation.

Figure 26. Example Road Safety Audit Team (Photo Credit: FHWA)

Engineering. Engineering and retrofitting streets to create safe, comfortable and convenient routes for people biking and walking is necessary to ensure people feel that they true transportation options. Some programs provide trainings to staff in Public Works or Engineering Departments on how to enhance bikeway and walkway design. Road Safety Audits are typically used to provide better and walking facilities in future capital improvement projects. Corkscrew Road and Williams Road should be considered for road safety audits by Village Staff.

Education. Education programs empower people with the information to feel safe, confident, and knowledgeable when walking or riding in public rights-of-way. They also can help people understand how to safely operate bicycles. Education programs such as Bike Rodeos (focused on kids) and Bike Safety Courses (focused on adults) provide such training to different audiences. In addition to courses, distributing Bike Facility Maps from Lee County MPO may help riders unfamiliar with local bike routes understand what facilities are available to them to reach their destination.

Figure 27. Example of a Bike Rodeo

Encouragement. People behave differently when incentivized; this is especially true when providing rewards for safe behavior. Encouragement programs provide all users of the road, including drivers, with benefits for obeying laws and regulations. Encouragement programs can vary from location to location and depend on the desired outcome. As an example, one encouragement program led by FDOT provided local restaurant gift certificates to drivers who properly yielded to pedestrians and

bicyclists at specified locations. Similar Partnership Programs should be investigated and deployed locally in the Village.

Enforcement. Law Enforcement Campaigns use data to identify areas with poor traffic law compliance and then provide enforcement in these areas to create positive behavior change among roadway users. This can be helpful in educating motorists as a first step with written warnings. Additional campaigns may consider the use of written tickets, but this strategy should be careful not to disproportionately affect economically disadvantaged or minority populations.

Evaluation. A successful plan requires frequent monitoring and evaluation. Evaluation includes oversight of implementation as well as benchmarks, quantifiable performance measures, surveys, and reports. Many communities provide annual updates related to the miles of walkways and bikeways implemented that year. Other items to track include funding allocation, program activities conducted, and other measures that document work towards achieving the goals of this plan

Funding

With the assistance of the Village and MPO staff, the project staff evaluated the recent history of funding and potential future project implementation funding sources. Each of the bikeway and walking projects were matched with project funding types based on their eligibility with a variety of criteria such as cost, feasibility, location on the functional classification, connectivity to schools and parks, and whether the projects are on the SUN Trail Network. The goal is to identify funding for the short-term bicycling and walking projects. The plan identifies possible infrastructure and non-infrastructure (educational and enforcement) grant funding opportunities such as Tourist Development Tax for executing educational programs and high visibility enforcement funds that can fund enforcement programs.

The current non-local funding opportunities to pay for bicycle and pedestrian projects identified in the plan include a mix of federal, state, and county sources, which are summarized in **Table 8**. The sources are competitive and require careful consideration from the community on how to apply towards bicycle and pedestrian projects within the Village limits. Those sources are summarized in the following sections.

Table 8: Potential Funding Sources for Bicycle and Pedestrian Projects

Funding	Source	Description	Eligible Projects
Shared-Use, Nonmotorized Trails (SUN Trails)	State	State law requires that $25 million is budgeted annually from the motor vehicle tax to build a statewide multi-use trail system that will ultimately run through Florida's Gulf Coast, Central Florida, and the East Coast. The Lee County MPO, working with local municipalities such as City of Fort Myers and City of Cape Coral, have successfully used this funding source.	Projects identified on the SUN Trails Network either for project feasibility, design, or construction.
FDOT Safety Office Sub-Grants	State	The sub-grants are awarded to state and local safety-related agencies to help develop and implement the programs.	Safety campaigns and programs
MPO Allocated Federal Funds	Lee County MPO	FHWA allocates the Lee County MPO with Surface Transportation Block Grant Program, Urban Areas (SU) and Transportation Alternatives (TA) funds, of which the MPO sets aside funds for bicycle and pedestrian projects. The amount varies each year but the amount allocated for bike/ped projects averages around $2 million per year.	Capital projects such as sidewalks and shared-use paths as well as bicycle pedestrian master plans, feasibility studies
Tourism Development Tax	Lee County	Lee County collects a five percent tourist development tax (TDT) for rental properties leased for a period of six months or less, raising more than $50 million annually. Some of the money has paid for beach access projects. boardwalks, and marketing campaigns for bicycle and pedestrian projects.	Bicycle and pedestrian marketing campaigns, capital projects that improve beach access
Gas Tax	Lee County	Gas taxes are levied on each gallon of gas sold in the county limits and allocated to the cities.	Maintenance and resurfacing projects

Construction costs to implement the infrastructure recommendations in the plan are approximately $63.5 million. Cost estimates are developed using two basic approaches: “bottom up” and “top down”. The bottom up approach is best applied to developing unit costs where quantities are defined based on engineering data. Unit costs are developed and work item components are combined using typical sections to estimate costs for each category of work, Costs includes information obtained from Lee County Annual Minor Paving and Drainage Database Unit Cost (dated 2018), FDOT Statewide Average Unit Cost and FDOT Area 10 Average Unit Cost.

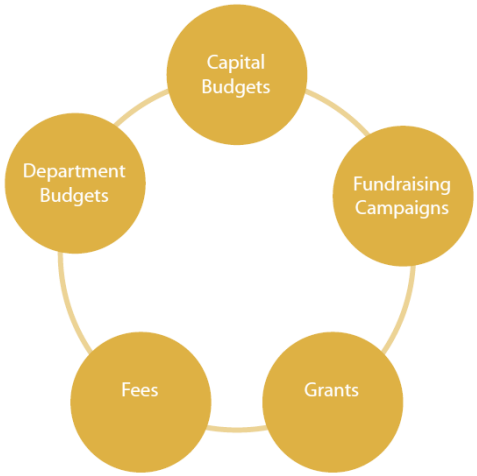
Cost estimates used multiple resources, including information obtained from Lee County Annual Minor Paving and Drainage Database Unit Cost (dated 2018), FDOT Statewide Average Unit Cost and FDOT Area 10 Average Unit Cost. All projects identified as future recommendations have a total construction cost based on a per mile estimate for each type of bicycle and/or pedestrian improvements. Cost estimates require the use of typical sections, preliminary concept plans, existing as-built plans, if available, and the use of aerial photography to identify the infrastructure elements needed to prepare the preliminary and final cost estimates. All projects identified as future recommendations have a total construction cost based on a per mile estimate for each type of bicycle and/or pedestrian improvements.

Historically the Village has not earmarked funds directly in its Capital Improvement Program for bicycle and pedestrian infrastructure improvements. Instead it has benefited from sidewalk and bicycle lanes funded through roadway construction projects. The projects have been funded from either FDOT, Lee County, private development, or the Village of Estero. For example, the roadway improvements on Estero Parkway, a state road, will include bicycling and walking infrastructure improvements such as a shared-use path and bicycle lanes.

In order to achieve the goals of this Plan, the Village of Estero and its partners will need to fund improvements from a variety of funding sources and partners. The Village will need to be opportunistic and consistent in sourcing funding for this plan. Particularly when dealing with federal funding for transportation projects, the planning and construction process can take years.

Five primary sources of funding make up the core funding strategy for this Plan:

- Capital Budgets - The Village can use the concepts and policies presented in this Plan to implement this Plan through regularly scheduled capital projects, such as streetscape projects, street resurfacing, or new public or private property construction.
- Department Budgets - Departments like Public Works or Parks and Recreation can use their maintenance resources and staff to support programs and infrastructure maintenance.
- Fees - User fees or development impact fees provide an opportunity to generate revenue to fund infrastructure projects, such as sidewalk construction, and programs, such as bicycle education classes.
- Grants - Competitive grants through public agencies or through private or non-profit foundations can generate additional resources for projects and programs.
- Fundraising Campaigns – Fundraising through neighborhood groups, advocacy groups, or even crowd-funding can help generate additional resources for projects and programs.



Given the constant change in funding availability at the state and federal levels, it is difficult to know what financial resources will be available at different time frames during the implementation of this plan. For planning and implementation purposes it is recommended that the Village establish an annual set aside from Village funds to implement this plan. Local funding sources include: Estero's capital improvement plan, department budgets, and user-fees. It is recommended that Village Administration and staff use the existing capital improvement program process and work with Village Council to identify and fund the top walking and biking project priorities identified in this plan. Even small amounts of local funding can be very useful and beneficial when matched with outside resources. Peer cities have established dedicated funding for capital improvements as well as a dedicated maintenance funding source.

A successful plan requires frequent monitoring and evaluation. Evaluation includes oversight of implementation and the top priorities as well as bench marks, quantifiable performance measures, surveys, and reports. Many communities provide annual updates related to the miles of walkways, bikeways, and intersection and crossing improvements implemented each year. Other items to monitor include funding allocation, program activities implemented or conducted, and other measures that document work towards achieving the goals of this plan.

Table 9 through **11** identify the biking and walking projects recommended in this plan; the project numbers in the tables specify a potential funding scenario and annual outlay of funds needed to implement this plan over the next 20 years. This provides a guide to develop annual budgets, grant applications, and the Village's ongoing implementation strategy for this plan.

Draft Walkway Funding Table

#	STREET NAME	FROM	TO	PROJECT RECOMMENDATIONS	APPROX LENGTH (MI)	ESTIMATED COST	FUNDING SOURCE	PRIORITY YEAR
1	River Ranch Road	Williams Road	Corkscrew Road (CR 850)	• Shared Use Path on west side of road • Complete sidewalk connection on East side of road	1.50	$588,484	Village of Estero / Gas Tax / Other	2020 - 2025
2	Estero Community Park	Access Via Coconut Point & Corkscrew Road	Internal loop	• Shared Use Path on one side of entrance • Sidewalk connection on the other side of entrance • Create connection to existing path to Williams Road	1.75	$747,889	Village of Estero / Gas Tax / Other	2020 - 2025
3	Williams Road	Kings Road	Three Oaks Parkway	• Protected Bike Lanes on both sides of road • Sidewalk connection on both sides of road	4.25	$1,343,264	Village of Estero / Lee County MPO (State Funds)	2020 - 2025
4	Broadway W	Estero Bay Preserve State Park Entrance	Sandy Lane	• Shared Use Path on south side of road • Sidewalk connection on north side of road	4.00	$1,599,988	Village of Estero / Lee County MPO (State Funds)	2020 - 2030
5	Broadway E	Sandy Lane	U.S. 41 (Tamiami Trl)	• Shared Use Path on south side of road • Sidewalk connection on north side of road • Shared Use Path extension to Three Oaks Parkway • Shared Use Path extension north from Broadway E to Estero Parkway	3.00	$1,273,424	Village of Estero / Lee County MPO (State Funds)	2020 - 2030
6	Sandy Lane	Corkscrew Road (CR 850)	Broadway E	• Shared Use Path on east side of road	0.75	$355,908	Village of Estero / Gas Tax / Other	2020 - 2040
7	Via Coconut Point	Coconut Road	Corkscrew Road (CR 850)	• Reduce travel lanes by 1 foot each • Install 2-foot buffered bike lanes on both sides of road • Improve connections through roundabout • Add landscaping	See Bikeway Table			
8	Corkscrew Road (CR 850)	Koreshan State Park Entrance	U.S. 41 (Tamiami Trl)	• Shared Use Path no north side of road • Sidewalk on south side of road (6 or 8 feet wide)	0.50	$189,598	Lee County / Lee County MPO (State Funds)	2030 - 2040
9	Corkscrew Road (CR 850)	U.S. 41 (Tamiami Trl)	Northeast Village of Estero Limit	• Buffered Bike Lanes on both sides of road • Shared Use Path on both sides of road	10.75	$5,131,382	Lee County / Lee County MPO (State Funds)	2030 - 2040
10	Three Oaks Parkway	South Village of Estero Limit	North Village of Estero Limit	• Reduce travel lanes by 1 foot each • Install 2-foot buffered bike lanes on both sides of road	See Bikeway Table			
11	Coconut Road	Three Oaks Parkway	U.S. 41 (Tamiami Trl)	• Shared Use Path on south side of road • Narrow travel lanes by 2 feet and install a buffered bike lanes in both directions • Complete sidewalk connections on north side of road	0.75	$232,524	Village of Estero / Development Funds	2030 - 2040
12	Coconut Road	U.S. 41 (Tamiami Trl)	Tuscany Way	• Complete sidewalk connections • Shared Use Path on one side	1.25	$656,356	Village of Estero / Development Funds	2030 - 2040
13	Utility Corridor	Southern Village of Estero Limit	Northern Village of Estero Limit	• Shared Use Path	See Bikeway Table			
14	SUN Trail Rail Corridor	Southern Village of Estero Limit	Northern Village of Estero Limit	• Shared Use Path	See Bikeway Table			
15	Floirda Power Utility Line	Southern Village of Estero Limit (East of I-75)	Northern Village of Estero Limit (East of I-75)	• Shared Use Path	2.00	$961,735	Village of Estero	2040
16	Estero Parkway Extension	Ben Hill Griffin Parkway	Florida Power Utility Line	• Shared Use Path	1.25	$551,788	Village of Estero / Lee County	2040
17	Sandy Lane North Extension	Brodway E	Northern Village Boundary	• Shared Use Path	1.50	$713,302	Village of Estero	2040
Total					33.25	$14,345,642		

Table 9. Walkway Project Recommendations, Potential Funding Sources, and Time Frame

Draft Bikeway Funding Table

#	STREET NAME	FROM	TO	PROJECT RECOMMENDATIONS	APPROX LENGTH (MI)	ESTIMATED COST	FUNDING SOURCE	PRIORITY YEAR
1	River Ranch Road	Williams Road	Corkscrew Road (CR 850)	• Shared Use Path on west side of road • Complete sidewalk connection on East side of road	See Walkway Table			
2	Estero Community Park	Access Via Coconut Point & Corkscrew Road	Internal loop	• Shared Use Path on one side of entrance • Sidewalk connection on the other side of entrance • Create connection to existing path to Williams Road	See Walkway Table			
3	Williams Road	Kings Road	Three Oaks Parkway	• Protected Bike Lanes on both sides of road • Sidewalk connection on both sides of road	4.50	$12,663,706	Lee County MPO / State	2020 - 2030
4	Broadway W	Estero Bay Preserve State Park Entrance	Sandy Lane	• Shared Use Path on south side of road • Sidewalk connection on north side of road	See Walkway Table			
5	Broadway E	Sandy Lane	U.S. 41 (Tamiami Trl)	• Shared Use Path on south side of road • Sidewalk connection on north side of road • Shared Use Path extension to Three Oaks Parkway • Shared Use Path extension north from Broadway E to Estero Parkway	See Walkway Table			
6	Sandy Lane	Corkscrew Road (CR 850)	Broadway E	• Shared Use Path on east side of road	See Walkway Table			
7	Via Coconut Point	Coconut Road	Corkscrew Road (CR 850)	• Reduce travel lanes by 1 foot each • Install 2-foot buffered bike lanes on both sides of road • Improve connections through roundabout • Add landscaping	4.75	$5,622,761	Village of Estero / Gas Tax / Other	2030 - 2040
8	Corkscrew Road (CR 850)	Koreshan State Park Entrance	U.S. 41 (Tamiami Trl)	• Shared Use Path no north side of road • Sidewalk on south side of road (6 or 8 feet wide)	See Walkway Table			
9	Corkscrew Road (CR 850)	U.S. 41 (Tamiami Trl)	Northeast Village of Estero Limit	• Buffered Bike Lanes on both sides of road • Shared Use Path on both sides of road	9.00	$10,202,697	Lee County / Lee MPO (State Funds)	2025 - 2040
10	Three Oaks Parkway	South Village of Estero Limit	North Village of Estero Limit	• Reduce travel lanes by 1 foot each • Install 2-foot buffered bike lanes on both sides of road	9.50	$11,182,671	Lee County / Lee MPO	2025 - 2040
11	Coconut Road	Three Oaks Parkway	U.S. 41 (Tamiami Trl)	• Shared Use Path on south side of road • Narrow travel lanes by 2 feet and install a buffered bike lanes in both directions • Complete sidewalk connections on north side of road	3.50	$4,137,867	Village of Estero / Gas Tax / Develeoper Funds	2030 - 2040
12	Coconut Road	U.S. 41 (Tamiami Trl)	Tuscany Way	• Complete sidewalk connections • Shared Use Path on one side	See Walkway Table			
13	Utility Corridor	Southern Village of Estero Limit	Northern Village of Estero Limit	• Shared Use Path	4.00	$2,311,433	Village of Estero / Gas Tax / Developer Funds / Lee County MPO / State Funds	2030 - 2040
14	SUN Trail Rail Corridor	Southern Village of Estero Limit	Northern Village of Estero Limit	• Shared Use Path	5.25	$3,079,562	FDOT / SUN Trail / Village of Estero / Local Match	2025 - 2040
15	Floirda Power Utility Line	Southern Village of Estero Limit (East of I-75)	Northern Village of Estero Limit (East of I-75)	• Shared Use Path	See Walkway Table			
16	Estero Parkway Extension	Ben Hill Griffin Parkway	Florida Power Utility Line	• Shared Use Path	See Walkway Table			
17	Sandy Lane North Extension	Brodway E	Northern Village Boundary	• Shared Use Path	See Walkway Table			
	Total				40.50	$49,200,697		

Table 10. Bikeway Project Recommendations, Potential Funding Sources, and Time Frame

Draft Combined Funding Table

#	STREET NAME	FROM	TO	PROJECT RECOMMENDATIONS	APPROX LENGTH (MI)	ESTIMATED COST	FUNDING SOURCE	PRIORITY YEAR
1	River Ranch Road	Williams Road	Corkscrew Road (CR 850)	• Shared Use Path on west side of road • Complete sidewalk connection on East side of road	1.50	$588,484	Village of Estero / Gas Tax / Other	2020 - 2025
2	Estero Community Park	Access Via Coconut Point & Corkscrew Road	Internal loop	• Shared Use Path on one side of entrance • Sidewalk connection on the other side of entrance • Create connection to existing path to Williams Road	1.75	$747,889	Village of Estero / Gas Tax / Other	2020 - 2025
3	Williams Road	Kings Road	Three Oaks Parkway	• Protected Bike Lanes on both sides of road • Sidewalk connection on both sides of road	8.75	$14,006,970	Lee County MPO / State	2020 - 2030
4	Broadway W	Estero Bay Preserve State Park Entrance	Sandy Lane	• Shared Use Path on south side of road • Sidewalk connection on north side of road	4.00	$1,599,988	Village of Estero / Gas Tax / Other	2020 - 2025
5	Broadway E	Sandy Lane	U.S. 41 (Tamiami Trl)	• Shared Use Path on south side of road • Sidewalk connection on north side of road • Shared Use Path extension to Three Oaks Parkway • Shared Use Path extension north from Broadway E to Estero Parkway	3.00	$1,273,424	Village of Estero / Gas Tax / Other	2020 - 2030
6	Sandy Lane	Corkscrew Road (CR 850)	Broadway E	• Shared Use Path on east side of road	0.75	$355,908	Village of Estero / Gas Tax / Other	2020 - 2025
7	Via Coconut Point	Coconut Road	Corkscrew Road (CR 850)	• Reduce travel lanes by 1 foot each • Install 2-foot buffered bike lanes on both sides of road • Improve connections through roundabout • Add landscaping	4.75	$5,622,761	Village of Estero / Gas Tax / Other	2030 - 2040
8	Corkscrew Road (CR 850)	Koreshan State Park Entrance	U.S. 41 (Tamiami Trl)	• Shared Use Path no north side of road • Sidewalk on south side of road (6 or 8 feet wide)	0.5	$189,598	Lee County / Lee MPO (State Funds)	2030 - 2040
9	Corkscrew Road (CR 850)	U.S. 41 (Tamiami Trl)	Northeast Village of Estero Limit	• Buffered Bike Lanes on both sides of road • Shared Use Path on both sides of road	19.75	$15,334,079	Lee County / Lee MPO (State Funds)	2025 - 2040
10	Three Oaks Parkway	South Village of Estero Limit	North Village of Estero Limit	• Reduce travel lanes by 1 foot each • Install 2-foot buffered bike lanes on both sides of road	9.50	$11,182,671	Lee County / Lee MPO	2025 - 2040
11	Coconut Road	Three Oaks Parkway	U.S. 41 (Tamiami Trl)	• Shared Use Path on south side of road • Narrow travel lanes by 2 feet and install a buffered bike lanes in both directions • Complete sidewalk connections on north side of road	4.25	$4,370,391	Village of Estero / Gas Tax / Develeoper Funds	2030 - 2040
12	Coconut Road	U.S. 41 (Tamiami Trl)	Tuscany Way	• Complete sidewalk connections • Shared Use Path on one side	1.25	$656,356	Village of Estero / Gas Tax / Develeoper Funds	2030 - 2040
13	Utility Corridor	Southern Village of Estero Limit	Northern Village of Estero Limit	• Shared Use Path	4.00	$2,311,433	Village of Estero / Gas Tax / Developer Funds / Lee County MPO / State Funds	2030 - 2040
14	SUN Trail Rail Corridor	Southern Village of Estero Limit	Northern Village of Estero Limit	• Shared Use Path	5.25	$3,079,562	FDOT / SUN Trail / Village of Estero / Local Match	2025 - 2040
15	Floirda Power Utility Line	Southern Village of Estero Limit (East of I-75)	Northern Village of Estero Limit (East of I-75)	• Shared Use Path	2.00	$961,735	Village of Estero	2040
16	Estero Parkway Extension	Ben Hill Griffin Parkway	Florida Power Utility Line	• Shared Use Path	1.25	$551,788	Village of Estero / Lee County	2040
17	Sandy Lane North Extension	Brodway E	Northern Village Boundary	• Shared Use Path	1.50	$713,302	Village of Estero	2040
	Total				73.75	$63,546,339		

Table 11. All Project Recommendations, Potential Funding Sources, and Time Frame

Local Funding Sources

Gas Taxes

Florida law authorizes county governments to levy up to 12 cents per gallon fuel through three local option gas taxes:

- Ninth-Cent Gas Tax (one cent per gallon of gasoline and diesel)
- First Local Option Gas Tax (up to six cents per gallon of gasoline and diesel)
- Second Local Option Gas Tax (up to five cents per gallon of gasoline)

Lee County imposes all three gas taxes at their maximum allowable rates and uses them to fund transportation projects. It is difficult to pinpoint exactly how much Lee County funds bicycle and pedestrian facilities. Some road projects may include a multimodal facility as a part of the project, but the cost of the facility (e.g., bicycle lanes or shared-use paths) may not be itemized. The gas tax generates an average of $750,000 per year for the Village of Estero. The Village of Estero uses a portion of these funds to help pay to maintain roads, bridges, street lighting, sidewalks, stormwater, traffic lights; and to fund traffic control, resurfacing projects, and stormwater capital projects.

Tourist Development Tax

The Lee County Visitor and Convention Bureau (VCB), in partnership with the Southwest Florida Community Foundation, accepts, reviews, and processes funding requests from tourism-related, non-profit organizations on behalf of the Tourism Development Council (as qualified per Florida State Statute 125.0104). The VCB supports tourism product development through three funding programs, which includes Beach and Shoreline, Events Marketing, and Arts and Attractions Marketing. In determining which projects to fund, priority is given to those that protect Lee County's unique coastal attributes, generate off-season room nights, and/or enhance the visitor experience. As part of these funding programs, the VCB continually encourages developing niche markets by communicating the criteria for not-for-profit event organizers and arts and culture venues to secure marketing funds to promote their summer and fall events. The VCB also continues to work with area agencies to guide them in using the programs to bring enhancements to the destination, including assisting them in completing successful funding request applications. For each funded project, measurable criteria are implemented for room-night generation and to ensure any new products we fund are consistent with our destination brand.

Attractions and Marketing Grants. The program provides financial assistance to not-for-profit arts, local government and attractions organizations that enhance tourism opportunities in Lee County such as the production and placement of print, television, radio and billboard ads. Digital marketing efforts such as online advertising, social media campaigns, search optimization and e-marketing. The design and construction of a new website or enhancements to an existing website. These site-based attractions such as walking and bicycling Trails provide a different level of service to visitors than events, and by the nature of their existence, attract visitation to the region or offer reasons for visitors to extend their stay in the destination. funding from the former program has been allocated for bicycle and pedestrian marketing and safety campaigns. For example, the City of Sanibel received $4,000 to produce a video that featured bicycle safety messaging and promoted the island as a bike-friendly community. The City of Cape Coral received $4,000 to create a bicycle marketing brochure showcasing the city's 90 miles of bike routes. It is the responsibility of the applicant to show proof of eligibility. Applications should also show how the organization brings visitors to Lee County throughout the year. Organizations must be able to show results of grant dollars spent (e.g. Increased out-of-town visitation, increased website traffic, etc.) with specific data.

Beach Maintenance, Beach Nourishment, and Beach Park Facility Grants. Between 2010 and 2016, more than $115 million has funded a variety of countywide projects through the TDC. TDC members review the requests and evaluate each project on criteria to determine if they are eligible for funding. Once the projects receive TDC approval, they are forwarded to the Lee County Board of County Commissioners for inclusion in their annual capital improvement budget (CIP) process. A portion of the TDT is allocated by the Lee County Tourist Development Council, which awards grant funding through two programs: Attractions Marketing and Beach and Shoreline. The Beach and Shoreline Program generally funds beach maintenance, nourishment, and beach park facility development and improvements, such as boardwalks. For example, in FY 2016 and FY 2017 Lee County received an allocation of $185,000 for boardwalks at Matanzas Pass Preserve. Projects that receive TDT funding are eligible under the Florida State Statute and county ordinance that governs how the TDT is spent. TDT funding is contingent upon approval from the Lee County Attorney's office. Eligibility is based on State Statute 124.0104 and County Ordinance 16-18.

State and Federal Funding Sources

Lee County Metropolitan Planning Organization Funds

As a metropolitan area with a population over 200,000, the Lee County MPO receives two types of federal funds - Surface Transportation Block Grant Program Urban Area (SU) funds and Transportation Alternative (TA) funds. The MPO uses both to fund bicycle and pedestrian projects. In addition, the MPO has access to the state portion of TA funds which FDOT traditionally uses to supplement MPO TA funds when programming bicycle and pedestrian projects.

State Grant Funds

In Florida, transportation funding is generally generated from vehicle and truck fuel taxes, motor vehicle fees, aviation fuel taxes, documentary stamp tax, and rental car fees. The revenue is deposited into the State Transportation Trust Fund (STTF), where it is distributed to FDOT districts, which further distribute funding to local projects. The fuel tax accounts for the majority, or 30.8 percent, of the transportation revenues in 2017, and federal aid reimbursements accounts for another 30.4 percent of revenue. Authorized under 206.46 (3), F.S., the FDOT must commit at least 15 percent of the revenues deposited into the STTF to public transportation projects. FDOT must also dedicate funding from the motor vehicle tax to build the Shared-Use Non-motorized (SUN) Trails network.

While state programs budget specifically for bicycle and pedestrian projects as new roads (especially regional roads) are built, there should be opportunities to incorporate bicycle and pedestrian facilities into the design and costs through different funding sources, such as the Transportation Regional Incentive Program (TRIP). FDOT also provides grant funding to programs that target improving safety on roads through its transportation safety sub-grant program.

The following section describes the SUN Trail program, TRIP funding, FDOT Safety Sub-Grant program, TA, RTP, SRTS, HSIP and Build Grant.

SUN Trail. Passed into law in 2015, 339.81, F.S. created the Shared-Use Path Non-Motorized System funding (SUN Trail) network with dedicated annual funding. It requires the Florida Department of Transportation (FDOT) to include SUN Trail projects in its work program, spending approximately $25 million annually from the motor vehicle tax to build a statewide multi-use trail system that will ultimately run through the Gulf Coast, Central Florida, and the East Coast. Florida Greenways and Trails Council (FGTC) makes a recommendation on which eligible projects receive priority for funding based on selection criteria. SUN Trail funding will not pay for trail amenities, such as benches, bicycle racks,

restrooms, landscaping, parking areas, artwork, and water fountains. The process for funding includes project identification, project prioritization, and project selection.

The Lee County Metropolitan Planning Organization (MPO) has led the SUN Trail application process successfully winning Sun Trail applications for the City of Fort Myers and the City of Cape Coral. The little-used Seminole Gulf Tail line through the Village of Estero. That extension is part of the Southwest Florida Gulf Coast Trail connecting Naples with the Tampa area. A SUN Trail application for a Rails to Trails Feasibility Study along the Seminole Gulf Rail Corridor was submitted during the last funding cycle, but it did not get funded.

To be eligible for SUN Trail funding, projects must meet the following four criteria:

- Be a part of the SUN Trail Network; this is the portion of the FGTS Priority Land Trails Network planned as paved trails
- Be a Metropolitan Planning Organization (MPO) priority, if the project is located inside the MPO boundary; ***or*** be a county and where applicable city, tribal government, or federal state managing agency priority, if the project is located outside the MPO boundary
- Have a formal commitment from an entity to maintain the project
- Be consistent with the applicable comprehensive or long-term management plan

Individual projects that are eligible and compete for SUN Trail funding are *ranked* based on the following criteria:

- Enhances safety for bicyclists, pedestrians, and motorists
- Is recognized as having regional significance
- Will receive additional, committed funding from another source
- Improves mobility by completing, improving, or enhancing existing facilities
- Is shovel-ready
- Is supported by the public
- Improves economic opportunities and serves key destinations
- Enhances or preserves environmental resources
- Closes a gap in the SUN Trail Network
- Includes cost-saving elements

A handful of grants are offered for trail projects through the Office of Greenways and Trails (OGT), a Division of Recreation and Parks within the Florida Department of Transportation (DEP). OGT is responsible for fulfilling the Florida Greenways and Trails Act of 1995, which established the Florida Greenways and Trails System Plan. Those grants range from public and private funding and include the Recreational Trails Program funded by federal highway excise taxes and SUN Trail funding. A comprehensive list can be found on the OGT website.

Transportation Regional Incentive Program (TRIP) Funds. In 2005, the Florida Legislation created the Transportation Regional Incentive Program (TRIP) with Senate Bill 360. TRIP funds are used to match up to 50 percent of local or regional funding, which can include federal funding, private money, and in-kind matches from right-of-way donations. Revenue from TRIP funding is from the Documentary Stamps Tax. The first $60 million of the funds were allocated to Florida Rail Enterprise. Generally, TRIP funding pays for projects that are considered regionally significant on the Strategic Intermodal System.

Florida Department of Transportation Safety Sub-Grants. The FDOT Safety Office awards start-up sub-grants to programs that address traffic safety in the following priority areas from the 2012 Strategic Highway Safety Plan and Pedestrian and Bicycle Strategic Safety Plan:

- Aging Road Users
- Community Traffic Safety
- Impaired Driving
- Motorcycle Safety
- Occupant Protection and Child Passenger Safety
- Pedestrian and Bicycle Safety
- Police Traffic Services
- Speed and Aggressive Driving
- Teen Driver Safety
- Traffic Records
- Traffic Record Coordinating Committee

Countermeasures, which are outlined in the Countermeasures that Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices (Eighth Edition, 2015), are eligible for sub-grant funding. Those countermeasures generally target prevention through education and enforcement programs, not capital infrastructure and maintenance projects. For example, countermeasures education programs to children, outreach to the community about pedestrian safety, clinics on bicycle and pedestrian safety, and driver training. Different types of organizations can apply for funding, including state, county, and city governments; law enforcement agencies; state colleges and universities; schools; fire departments; and non-profits.

Organizations seeking project funding are required to turn in a concept paper that describes the project between January 1 and the last day of February for the next fiscal year beginning October 1. Sub-grants are not guaranteed to continue beyond the first year, and they are generally limited to three consecutive years. The concept papers are evaluated on how well a project will target safety issues in areas with a high number of crashes, fatalities, and injuries; therefore, applicants need to provide data on a minimum three-year history for crashes, fatalities, injuries, and police citations to demonstrate need. Funding comes from the National Highway Traffic Safety Administration (NHTSA) and is allocated to states annually based on the state population and the state's road miles.

Federal Funding through the Years

Most of the federal funding for bicycle and pedestrian projects is budgeted through the major transportation bills passed through the years. In 1991, the Intermodal Surface Transportation Efficiency Act (ISTEA) created the Congestion Mitigation and Air Quality (CMAQ) Improvement Program, which funds transportation projects that improve air quality and reduce congestion in non-attainment areas, or regions that do not comply with federal air quality standards. Bicycle and pedestrian projects are eligible for CMAQ funds; however, all of Florida is an attainment area. In 2005, the Safe Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) increased the number of programs that fund bicycle and pedestrian projects, thus increasing funding. The SAFETEA-LU provided approximately $1.2 billion annually to bicycle and pedestrian projects through three programs: Transportation Enhancements (TE), Safe Routes to School (SRTS), and the Recreational Trails Program (RTP).

Subsequent legislation consolidated the TE, SRTS, and RTP programs and reduced overall funding. In 2012, Moving Ahead for Progress in the 21st Century (MAP-21) combined the three programs under one Transportation Alternatives Program (TAP). Congress reduced funding by as much as 42 percent, depending on the fiscal year. MAP-21 also allowed states to re-allocate up to 50 percent of TAP funding on projects unrelated to biking and walking, which would reduce available funding by as much as 70 percent if states opted to do this. Competition for funding increased because Congress expanded the

types of eligible projects to include environmental mitigation and boulevard projects. Annual funding for bicycle and pedestrian projects increased slightly under the Fixing America's Surface Transportation (FAST) Act in 2015, but The FAST Act also further consolidated funding for bicycle and pedestrian projects by placing the Transportation Alternatives (TA) program under the Surface Transportation Block Grant Program (STBGP).

Transportation Alternatives

The TA program pays for projects that are defined as transportation other than driving alone. Eligible projects include bicycle and pedestrian facilities, recreational trails, and safe routes to school (SRTS) projects. Each state receives the same proportion that it received in Fiscal Year 2009 through the Transportation Enhancements program. The Florida Department of Transportation (FDOT) manages TA funds for Florida. FDOT replaced the 20 percent local match requirement with toll credits. The funding is given to the FDOT, which distributes money to the districts to award to eligible projects through a competitive selection process administered by the Metropolitan Planning Organization (MPO).

TA funding in Florida is divided into three parts. Half of the money is distributed to areas based on population through the TALU and TALL programs. TALU funding is dedicated to areas with a population greater than 200,000; TALL funding is dedicated areas with a population between 5,000 to less than 200,000. The remaining half of TA funding is dedicated to the TALT program and can be used anywhere in the state.

Recreational Trails Program

Reauthorized with The FAST Act, the Recreational Trails Program (RTP) pays for the development and maintenance of recreational trails through 2020. Non-motorized and motorized trail projects are eligible; e.g., walking, biking, in-line skating, equestrian use, snowmobiling, off-road motorcycling, etc. It is part of the TA set aside, and each state manages its own program. The Florida Department of Environmental Protection (DEP) manages the RTP for Florida.

Between 1993 and 2015, the RTP has provided more than $1 billion for 21,358 trail projects in all 50 states; more than 200 have been in Florida.[1] In 2016, 19 projects were awarded nearly $1 million in funding.

Agencies can ask for up to $200,000 for multiple or one non-motorized trail project and up to $500,000 for a motorized trail project. A local match of cash or in-kind services of 20 percent, 40 percent, or 50 percent is required. Projects are also scored on the amount of the match. A 50 percent match earns 5 points, a 40 percent match earns 3 points, and a 20 percent match earns 1 point.

Safe Routes to School

Under SAFETEA-LU, Safe Routes to School (SRTS) began to fund projects that will make it safer for children to bike and walk to school and back home. Between 2005 and 2012, the Federal government provided more than $1 billion to projects that were capital infrastructure projects within a two-mile radius of a school and programs that encouraged and educated families about walking and biking. MAP-21 eliminated SRTS as a guaranteed stand-alone funding program and reduced the overall amount dedicated to bicycle and pedestrian projects. In other words, it allowed states to opt out of a SRTS program, making those projects compete with other bicycle and pedestrian projects for funding. For

[1] 2016 Recreational Trails Annual Report. https://www.fhwa.dot.gov/environment/recreational_trails/overview/report/2016/report_2016.pdf

states that opted to maintain a separate program, MAP-21 required a 20 percent local or state match. Those changes have continued under The FAST Act.[2,3]

The State of Florida dedicates TA funding to SRTS projects; the program is managed by FDOT. Eligible projects compete for funding through an application process. For the Fiscal Year 2018 funding cycle, $7 million is available through a competitive application process.

To receive sate routes to school funding, projects need to:

- Benefit public, private, and tribal school's school
- Be supported by a local agency that is Local Area Program (LAP) certified
- Enter a legal agreement with FDOT
- Comply with all federal requirements for project design and/or construction
- Have a local agency committed to the project after it is finished

Eligible projects include (but are not necessarily limited to):

- Pedestrian facilities: new sidewalks on public right-of-way that meet requirements from the American with Disabilities Act
- Bicycle facilities: bicycle racks, shelters, and lockers on school grounds on public school property; special cases can be made for private schools
- Traffic control devices: New or improved crosswalks, pavement markings, traffic signs and signals, flashing beacons, bicycle-sensitive signal devices, pedestrian countdown signals, pedestrian-activated signal upgrades, and other related traffic control devices.

Highway Safety Improvement Program

Reauthorized under the FAST Act, the Highway Safety Improvement Program (HSIP) funds safety projects designed to reduce the number of traffic fatalities and serious injuries on all public roads. Eligible bicycle and pedestrian related projects must be consistent with the state's Strategic Highway Safety Plan (SHSP) can include hybrid beacons and road projects that separate pedestrians from vehicles (e.g., medians and pedestrian crossing islands). The SHSP uses a data driven process in conjunction with stakeholder engagement which provides a comprehensive approach to traffic safety through engineering, education, enforcement, and emergency services. The SHSP process identified 13 different emphasis areas to traffic safety improvement efforts. These emphasis areas include:

- Pedestrians and bicyclists
- Lane departure
- Impaired driving
- Intersections
- Occupant protection
- Motorcyclists
- Aging road users
- Speeding and aggressive driving
- Teen drivers
- Commercial motor vehicles
- Distracted driving
- Work zones

[2] America Bikes' Side-By-Side Comparison of Bicycle and Pedestrian Programs: SAFETEA LU vs. MAP-21. http://transportation.ky.gov/bike-walk/documents/SAFETEA-LU_vs_MAP-21.pdf

[3] Funding History of Safe Routes to School. http://www.saferoutespartnership.org/healthy-communities/101/history

- Traffic records and information systems

FDOT received an allocation of about $117 million in HSIP funds during the 2017 fiscal year. FDOT used HSIP funds to complete 287 projects. The Intersection program completed 76 projects with about $30 million. The Lane Departure program completed 51 projects with about $38 million. The Pedestrian and Bicyclist Safety program completed 90 projects with about $15 million. Multiple programs and SHSP emphasis areas including data were addressed by 70 projects with about $33 million[4].

Better Utilizing Investments to Leverage Development

Better Utilizing Investments to Leverage Development (BUILD) is federal grant program that has provided $5.1 billion to 421 projects across the United States since it began in 2009; approximately $1.5 billion of BUILD grant funding is available through Fiscal Year 2020.[5] The funding is authorized by the Consolidated Appropriations Act (2017). Local and state governments apply through a competitive process to receive federal funding for eligible transportation projects. Congress had directed the DOT to use the merit criteria from the past- Safety, economic competitiveness, and quality of life. BUILD was previously referred to as to as the **Transportation Investment Generating Economy Recovery (TIGER)** discretionary grants,

BUILD grants are distributed geographically across the United States, and no more than one grant will be awarded to projects in the same state during the same award period. Projects are judged on how well they improve the condition of existing infrastructure, address public health and safety, promote regional connectivity, and support/encourage economic growth. BUILD grants will not pay for more than 70 percent of a project located in an urban area, but it may pay 100 percent for rural projects. Complete Streets projects have been successful winning previous TIGER grants. The City of Mobile, AL, was awarded $14.5 million to reduce lane widths to slow travel speeds and add bicycle lanes and sidewalks.

The Lee County Metropolitan Planning Organization (MPO) was awarded in 2011 $10.5 million in TIGER grant funds to build a series of multimodal pathway projects that fill gaps in the County's bicycle and pedestrian network. Collier County was awarded a $13 million-dollar TIGER grant for sidewalks and complete streets in the community of Immokalee in early 2018.

Other Federal Grant Opportunities

- Americans with Disabilities Act/Section 504 of the Rehabilitation act of 1973
- Associated Transit Improvement
- Federal Lands and Tribal Transportation Programs
- Federal Transit Administration Capital Funds
- National Highway Performance Program
- National Priority Safety Programs (Non-motorized)
- State and Community Highway Safety Grant Program
- Statewide Planning and Research or Metropolitan Planning funds
- Transportation Infrastructure Finance and Innovation Act

Funding Case Studies

To identify potential local financing methods to fund bicycle and pedestrian projects, seven communities in Florida were identified for case study research. As a part of the case study research, agency websites,

[4] Source: Executive Summary the HSIP Annual Report
[5] About Tiger Grants. September 6, 2017. https://www.transportation.gov/tiger/about

transportation plans, capital improvement programs, and annual budgets were reviewed to learn how the funds are spent and approximately how much of the funding pays for bicycle and pedestrian projects. Two counties and four cities in the Tampa Bay region were selected to represent urban, rural, and suburban geographies. The City of Jacksonville was selected because the city developed a new model that has been praised for funding multimodal projects and integrating land use and transportation planning.[6]

The communities and their respective funding sources reviewed include:

- City of Dunedin: Tax Increment Financing (Community Redevelopment Agency District)
- City of Jacksonville: Mobility Fee
- City of Sarasota: Diversified Sources, including a multimodal Impact Fee
- City of Tampa: Multimodal Impact Fee
- Pasco County: Mobility Fee
- Pinellas County: Penny for Pinellas (1 percent sales tax)
- City of St. Petersburg: Penny for Pinellas (city share)

Takeaways

Overall, all communities work within the same framework: a limited amount of funding to pay for a growing list of needs. Communities that are successful funding projects have used a mix of funding sources. Sales taxes that have community support do not fund transportation exclusively, and user fees generally do not get widespread support. Port Orange, originally considered for review, was removed because the Florida Supreme Court ruled the City's transportation utility fee unconstitutional in 1994 in a legal challenge by the State of Florida. Pinellas County and the City of St. Petersburg have been successful leveraging Penny for Pinellas funds to pay for bicycle and pedestrian projects. Projections for Pasco County's Mobility Fee show promise, but it is too soon to say how successful the County will be funding projects. Jacksonville's Mobility Fee has not produced the desired results because of two moratoriums before finally being implemented; the City of Tampa's Multimodal Impact Fee primarily funds road projects.

Takeaways from these communities include:

- Diverse funding sources are important to successfully build bicycle and pedestrian projects
- One cent sales tax that have widespread community support are spent on different types of projects, such as education, emergency services, and other types of transportation projects such as the nationally recognized Pinellas County Trail. The recently passed (November 2018) one cent sales tax passed for transportation purposes in Hillsborough County will allocate most funds for walking, bicycling, and traffic safety improvements in Hillsborough County.
- While Pasco County's Mobility Fee is expected to be an integral revenue source for multiuse trails, sidewalks, and bicycle facilities, mobility fees and/or transportation impact fees generally have not consistently produced significant revenue for bicycle and pedestrian projects
- Tax Increment Financing (TIF) can be a good tool used to fund redevelopment for downtown areas and improve bicycle and pedestrian facilities, but it is limited to the geography of the CRA
- Bicycle and pedestrian funding originate primarily from two sources at the MPO-level, the MPO's receive millions of dollars annually from a variety of federal and state sources. Of this funding, bicycle and pedestrian projects must share with traffic operations, congestion

[6] City Receives Award for 2030 Mobility Plan. http://www.coj.net/departments/public-affairs/headlines/city-receives-state-award-for-2030-mobility-plan

management, and transit projects. In other words, competition is fierce but each MPO in Florida prioritizes federal and state funds for bicycle and pedestrian projects

- Florida Department of Transportation spending on state-owned roads is a growing source for bicycle and walking improvements and has funded numerous bicycle lanes and shared-use path's, crossing improvements and Trail overpasses in Sarasota and Pinellas Counties.

Appendix A. Plans review

The following existing plans, organized alphabetically, were reviewed and the relevant information regarding a bicycle and pedestrian master plan is documented below.

Coconut Road Traffic Study

Date: March 2016

Summary: The main objective of this traffic study was to evaluate existing and future traffic conditions and to determine needs for Coconut Road. The first step of the study process determined the existing roadway Level of Service (LOS) and estimated future travel demand to evaluate the existing roadway LOS in the future (**Table 1**). The second step evaluated corridor improvement needs and potential conceptual alternative improvements. A safety review of the roadway was conducted, and conclusions and recommendations were included.

TABLE 12 EXISTING ROADWAY CONDITIONS

Roadway Link Name	Lee County Link No.	Lee County Roadway Link Location	Exist Roadway[1]	Standard LOS	Standard Volume[2]	2014 100th Highest Hour LOS	2014 100th Highest Hour Volume[2]
Coconut Road	05000	Spring Creek Road to US 41	2LN	E	860	C	366
Coconut Road	05030	US 41 to Three Oaks Parkway	4LD	E	1,790	C	588

Note(s): [1] 2LN = 2-narrow lanes roadway; 4LD =4-lane divided roadway, respectively;
[2] Peak Hour, Peak Season, Peak Direction.

US 41 (SR 45) is a principal arterial which runs generally north-south and provides connections to Naples to the south and Fort Myers to the north. At this location, its typical cross section is a suburban six-lane divided road with dedicated bicycle lanes, curbed medians, and a paved shoulder (not curbed). The posted speed limit is 50 mph near the intersection. The north approach has three through lanes, one right-turn lane and double dedicated left turn lanes. The south approach has three through lanes, one dedicated left-turn lane and one right turn lane. Sidewalks are on both sides of the road. There are overhead power lines along the west side of the road. Intersection street lighting is provided.

Coconut Road is a major collector. The west approach is a curb and gutter facility with a closed drainage system and no dedicated bicycle lanes. The posted speed limit for this approach is 40 mph near the intersection of Coconut Road and US 41. The east approach typical cross section is a four-lane divided road with dedicated bicycle lanes, curb and gutter, and a closed drainage system. The posted speed limit for this approach is 45 mph near the intersection. The west approach has one through lane, one right-turn lane, and double dedicated left-turn lanes. The east approach has one through lane, one right-turn lane, and double dedicated left-turn lanes. Sidewalks are on both sides of the roadway on the west approach, and on the south side for the east approach. There are overhead power lines along the south side of the roadway on the west approach.

Crash data for Coconut Road: East of US 41

Accident data was supplied by Lee County Transportation staff for the corridor between US 41, east to Three Oaks Parkway. The data covers a three-year period (1/1/2013 through 12/30/2015) of accident reports from the Lee County Sheriff's office and Florida Highway Patrol.

- During this time period, there were fifty crashes reported, which is nearly six times more than the west section of the corridor for the same period.
- None were fatal.
- One crash involved a bicycle.
- Two crashes involved pedestrians.
- Eight of the crashes occurred at night.
- Weather conditions were clear for 29 of the 50 crashes.
- Six of the 50 crashes involved possible injuries.
- Two crashes involved a motorcycle.
- Fives crashes involved speeding or driving too fast for conditions.
- None of the accidents involved intoxication or loss of control.
- Sixteen of the crashes involved aggressive driving, six involved distracted driving.
- Eleven were angle collisions, ten were left turn crashes, two a head on, three involved a heavy truck, and ten involved a teen.

Corkscrew Road Study (Environmental Enhancement & Preservation Communities Overlay Study)

Date: March 2018

Summary: In 2015, the Lee County Board of County Commissioners created the Environmental Enhancement & Preservation Communities Overlay (Overlay) for a limited area within the Southeast Lee County Density Reduction/ Groundwater Recharge (DR/GR) land use category along Corkscrew Road east of the Village of Estero. The Overlay encompassed properties that were deemed critical to providing regional benefits such as re-establishing wetlands, flowways, hydrology and wildlife corridors within Southeast Lee County. Most of the properties had agricultural operations or were previously mined. The anticipated infrastructure needs from the developments within the Overlay led the County Commission to include a comprehensive plan policy calling for a cumulative traffic analysis of the proposed developments to understand the overall transportation needs and costs. This approach, known as the Corkscrew Road Study, looks at the cumulative impacts of development within the Overlay in-lieu of an analysis on an individual case-by-case basis. Lee County is working to establish the proportionate share of infrastructure improvement costs that new development within the overlay will pay. This will be an important funding source – one of many – for the infrastructure improvements for this area. The project has a "story map" (**Figure 1**) that communicates development data such as dwelling units scheduled to be built in a subdivision and needed improvements.

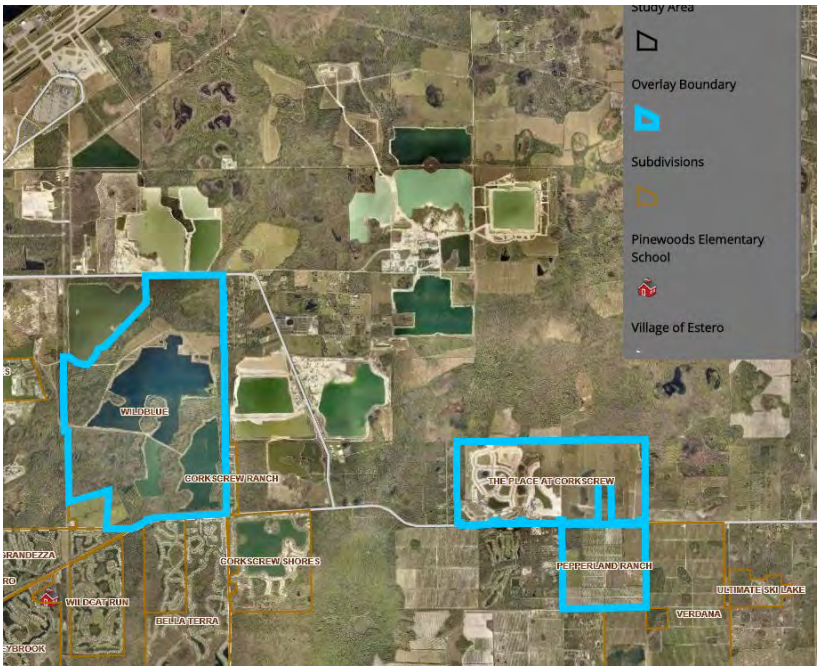


FIGURE 28. EEPCO OVERLAY STUDY STORY MAP

The following pages summarize each project task and its status. Figures are included where the information is relevant to the bicycle and pedestrian master plan.

Task 1 Existing Traffic Data Collection: Complete

Task 1 includes: Vehicle counts, adjustment factors, area development approvals, road capacities, and programmed improvements. (Completed May 2017) Vehicle count stations measured the annual average daily vehicle counts along a roadway and include both directions of traffic (**Figure 2**). Through the story map, one can click on each station to see the vehicle counts. Not all stations are measured every year. Major roads are colored based on these measured counts.

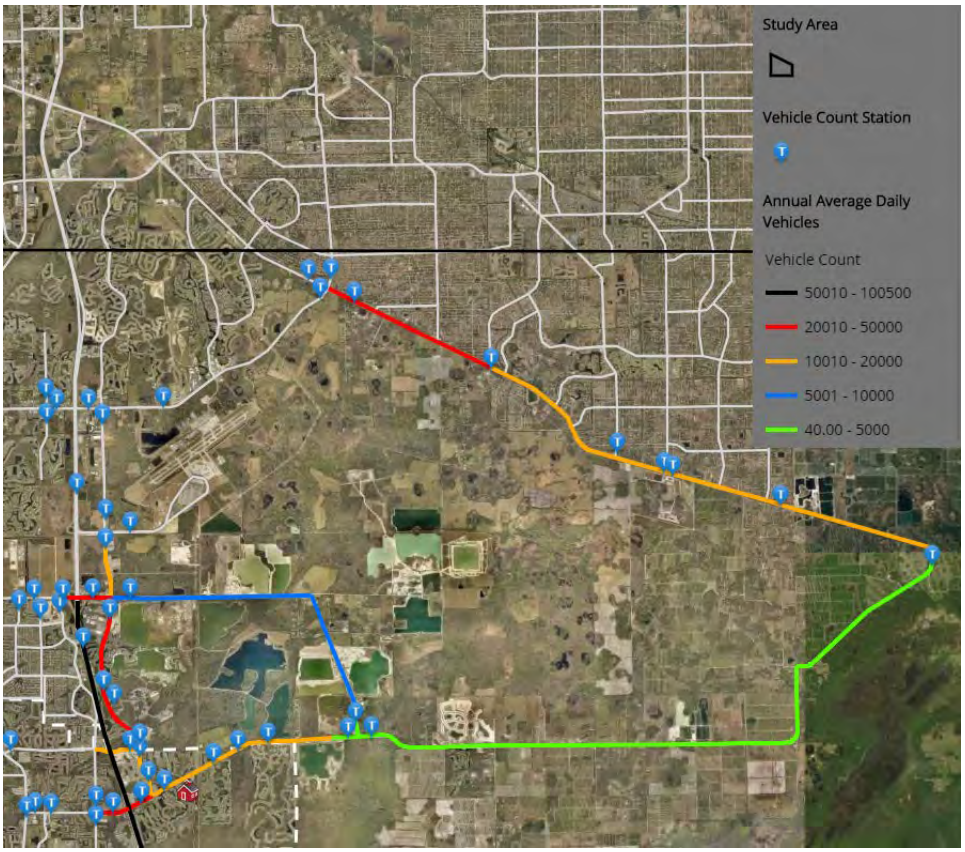


FIGURE 29. EXISTING VEHICLE DATA

Task 2 Existing Conditions Level of Service Analysis: Complete

Task 2 includes comparison of traffic counts to roadway capacity (**Figure 3**). Existing Level of Service is found in the 2017 Public Facilities LOS Concurrency Report (which includes counts for this study). (Completed May 2017) Level of Service (LOS) is used to analyze highways by categorizing traffic flow and assigning quality levels of traffic based on performance measures like speed, density, etc. LOS is based on converting the average daily traffic count numbers to peak season, peak hour numbers (represented as the 100th highest volume hour of the year)

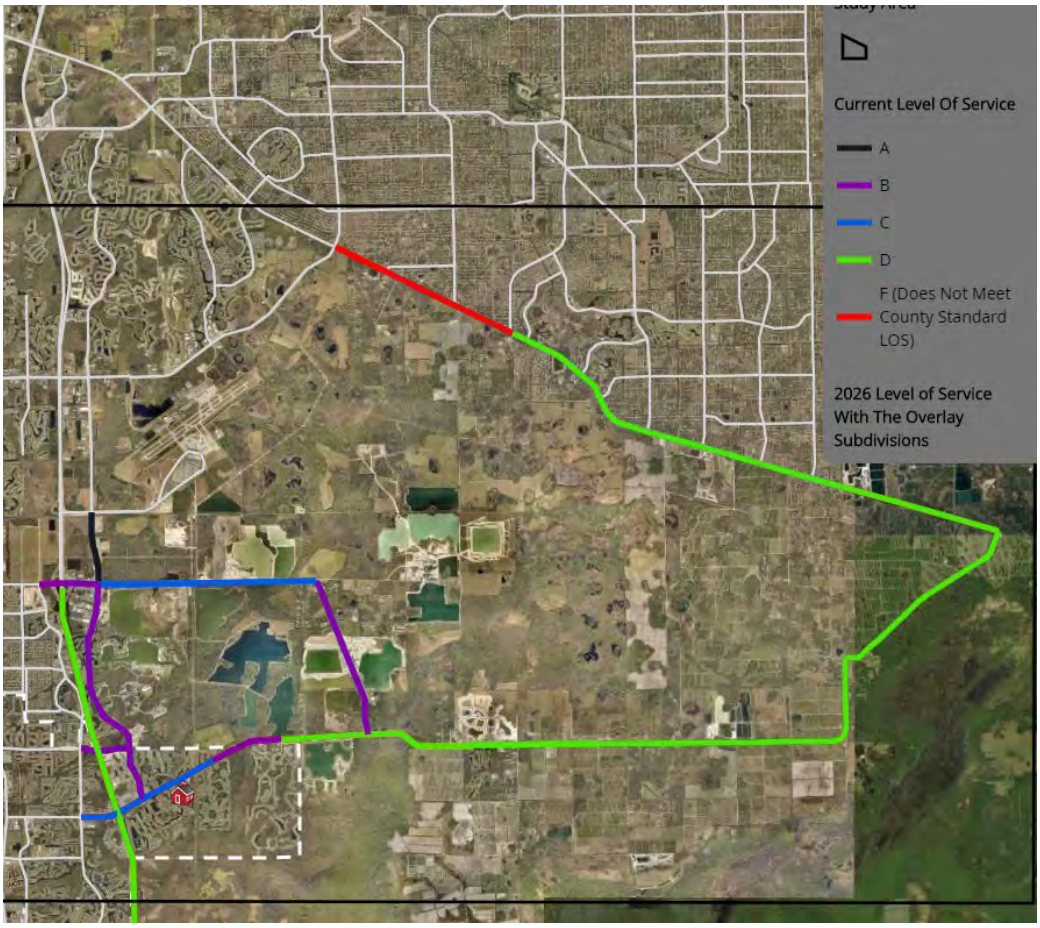


FIGURE 30. LEVEL OF SERVICE ANALYSIS FOR EXISTING CONDITIONS

Task 3 Base Year Model Subarea Review and Modifications: Complete

This task is unrelated to the Bicycle and Pedestrian Master Plan.

Task 4 Future Year Projections: Complete

This task is unrelated to the Bicycle and Pedestrian Master Plan.

Task 5 Future Conditions Level of Service Analysis: Complete

The work completed to date identified roadway improvements needed within the study area by the presumed buildout date of the four developments of 2026 (**Figure 4**). Those improvements are needed even without the four developments moving forward and are listed below. The balance of roadway segments in the transportation study area are projected to operate at an acceptable LOS in 2026.

- I-75 8-laning from Bonita Beach Road to Alico Road (FDOT is programming a PD&E study)
- Corkscrew Road 6-laning from Three Oaks Parkway to Ben Hill Griffin Parkway
- Corkscrew Road 4-laning from Ben Hill Griffin Parkway to Grande Oak Way (Grandezza entrance)
- Alico Road 8-laning from Three Oaks Parkway to I-75
- SR 82 8-laning from Daniels Parkway to SW 40th Street

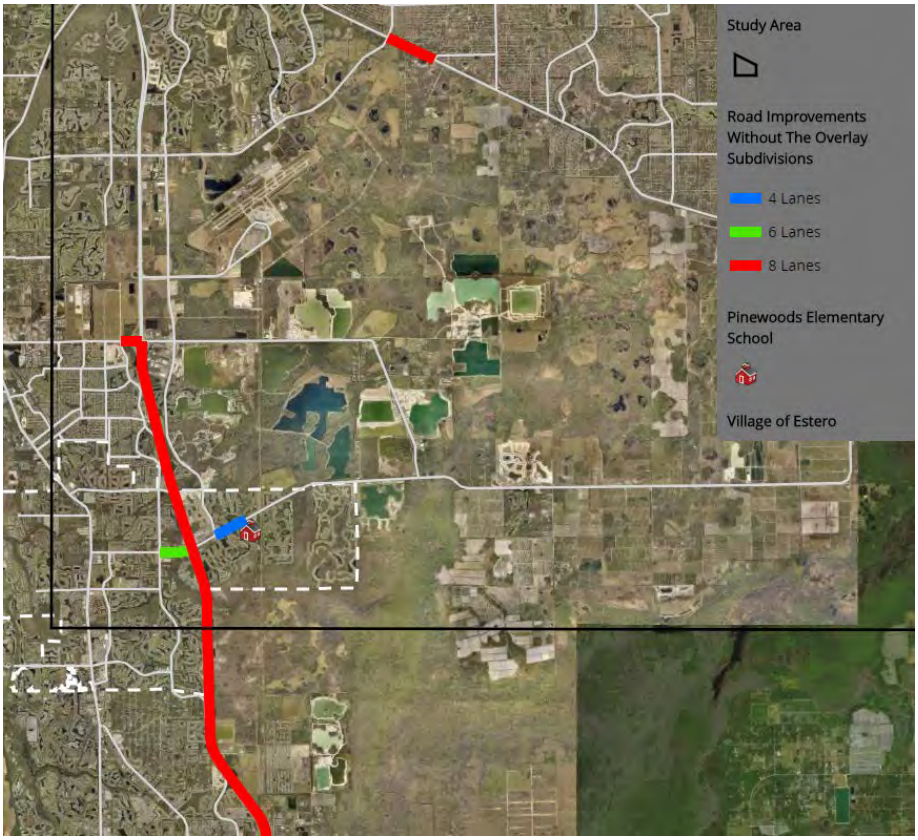


FIGURE 31. FUTURE NEEDED IMPROVEMENTS WITHOUT THE OVERLAY SUBDIVISIONS

The work completed to date has identified a set of roadway improvements needed within the study area by the presumed buildout date of the four developments of 2026 (**Figure 5**). Improvements will be needed with the added traffic from those developments. These become the basis for calculating the proportionate share obligation of the four developments toward road improvements. These improvements are listed below. The balance of roadway segments in the transportation study area are projected to operate at an acceptable LOS in 2026 with the WildBlue, The Place at Corkscrew, Pepperland Ranch, and Verdana developments.

- Alico Road 4-laning from Airport Haul Road to Wildblue Entrance
- Corkscrew Road 6-laning from I-75 to Ben Hill Griffin Parkway
- Corkscrew Road 4-laning from Grande Oak Way to Alico Road

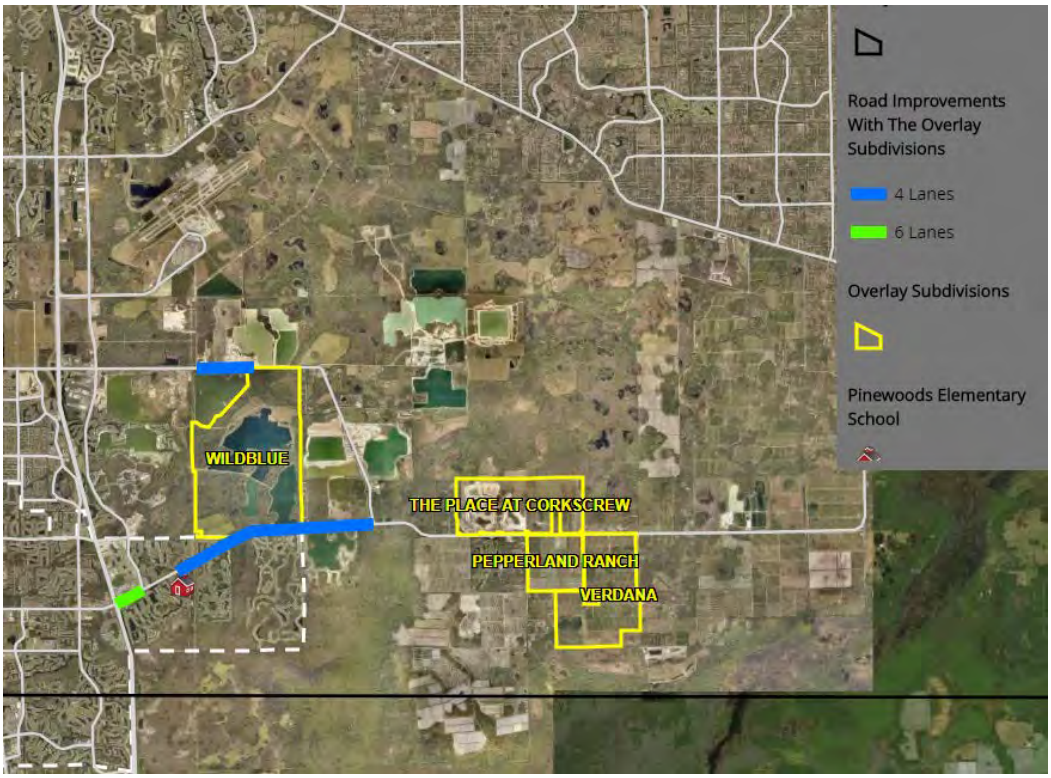


FIGURE 32. FUTURE NEEDED IMPROVEMENTS WITH THE OVERLAY SUBDIVISIONS

Task 6 Transportation Improvement Cost Estimates: In progress

Task 7 Environmental Support: In progress

Task 8 Proportionate Share Analysis: In progress

Task 9 Public Involvement: Ongoing

The first Steering Committee Meeting is scheduled for December 18, 2018.

Estero Parkway Improvement Plan

Date: 2017-2018

Summary:

Estero Parkway was originally built by Lee County. The roadway is classified as a 4-lane suburban section roadway with a curbed median and outside shoulders that are not curbed (rural). Its functional classification is an Urban major Collector. It currently has a 22-foot median and 12-foot travel and turn lanes and a 4 foot paved shoulder.. The Village of Estero has taken over much of its maintenance (not including the bridge over I-75 and its extension further east). The Village wants to improve the physical condition and configuration of Estero Parkway from Three Oaks to Ben Hill Griffin, including the bridge over I-75 and has decided to make significant improvements, mostly at its own expense.

This project is moving very quickly; Estero Parkway has been on the Village of Estero council agendas:
First presentation by LA on November 7, 2018. Second presentation by LA on December 5. Approval of project budget on December 12.

From a news story from about the council's decision to proceed in December: "For the Estero Parkway Budget, the village of Estero voted on two separate actions on Wednesday, with separate costs associated with both. For the Estero Parkway project's construction budget, the city voted to approve $8,090,000 for mill and overlay, curbing, conduit, roadway signage, sidewalk, drainage and swales, landscaping, irrigation, pavement widening, and access management improvements. "The village council was then prepared to table a second budget of $1,200,000 for the installation of street lights along Estero Parkway. But in public comments, the vested interests of Estero residents implored the council to approve it, bringing the total budgeted cost of the project to $9,290,000. "But with Estero Parkway being a county-maintained road [sic], Lee County's contribution to the improvements along Estero Parkway are limited to its sidewalks and repaving. In a report, Lee County agreed to share the cost of the repaving and sidewalk cost, bringing the county's total contribution to the project at $1,098,107."

The Estero Parkway Consultant has completed several of the studies driving the design of Estero Parkway. A Consultant analyzed the findings of Speed Study and Design Criteria Report. The results of these studies have changed the consultant's recommendations for driving lanes widths and roadside curbing. The consultant is now recommending 11.0 ft driving lanes (increased from 10.5 ft) and recommends eliminating the flow through curb and replacing it with a standard Type F curb with a trench drain. The curb and trench drain would only be used near intersections and a few select locations along the roadway, to provide additional landscaping near the roadway.

The cross-section varies for bicycle and pedestrian improvements, typically adding 7-ft buffered bike lanes plus a 3-foot grass shoulder on both sides of Estero Parkway and sidewalks on both sides of the road (5-ft where they are existing and 6-ft where new is proposed). There is no shared use path. This is because there isn't adequate right-of-way. Green bike lanes will be provided at intersections.

There are concerns in the community about the safety of Estero Parkway, particularly concerning speed and accessibility (turns out of Cypress View Drive). Options to increase safety but were rejected by the Village Council included constructing roundabouts at three locations: Cypress View Drive /Rookery Dr. (**Figure 6**); Cascades Isles Blvd./ Reserve Estero Tract Ct., and Caladesi Dr.

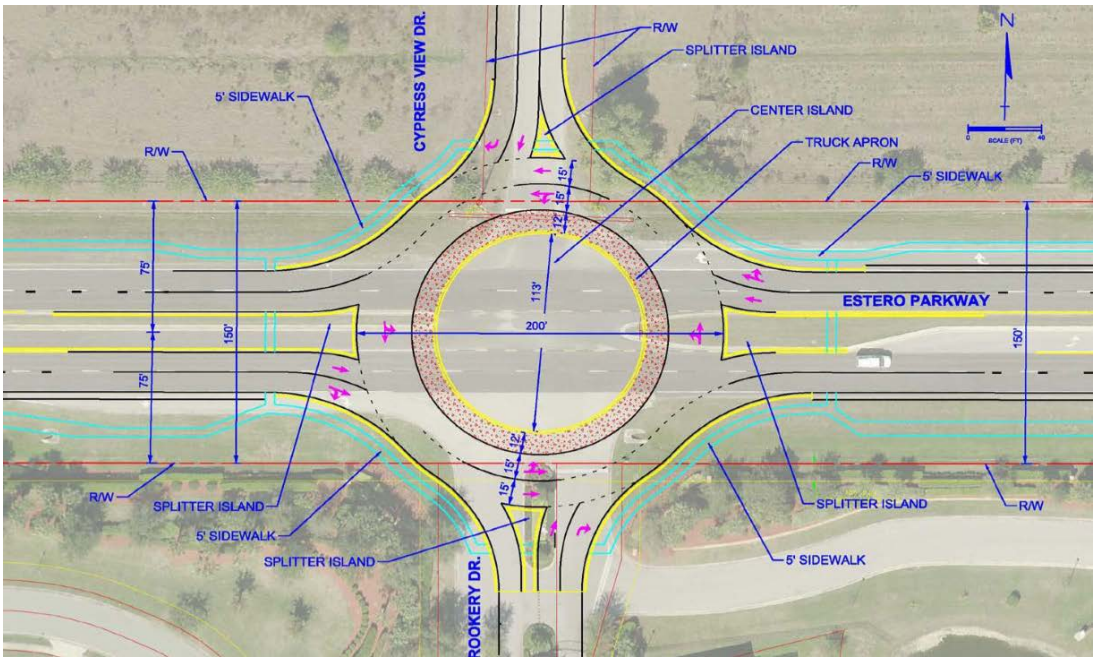


FIGURE 33. EXAMPLE OF A ROUNDABOUT (REJECTED BY ESTERO COUNCIL) PROPOSED AT CYPRESS VIEW DRIVE AND ROOKERY

Estero Comprehensive Plan

Date: June 2018

Summary: The Lee County Comprehensive Plan became the Estero Transitional Plan when the Village incorporated. Over the past year, staff and a consultant have worked to prepare the Village's first Comprehensive Plan of its own. Numerous public meetings and workshops have been conducted with the Planning and Zoning Board and Village Council.

The new Comprehensive Plan was transmitted by Council's vote to the State Department of Economic Opportunity on January 10, 2018. State agencies such as the Department of Education, the Department of Transportation, the Department of Environmental Protection, and Historic Preservation as well we the Regional Planning Agency, South Florida Water Management District, Lee County, and Bonita Springs had the opportunity to review and comment on the draft plan through spring of 2018. The comment period was followed by a public hearing, and the comprehensive plan was ultimately approved by the Village Council.

The currently adopted vision for Estero is to establish a community that embraces its historic heritage and protects the environment while carefully planning for future development, offering a high quality of life, expanding economic opportunities, and proximity to Florida Gulf Coast University and the Southwest Florida International Airport.

Estero's growth will be planned with strong neighborhoods, diverse economic generators, interconnected mixed-use centers, varied parks, public spaces, recreational facilities, and unique natural environments that foster a sense of belonging that creates a sense of place. Estero will be a highly valued place to live, work, and visit because of development standards and design guidelines that promote:

- Desirable neighborhoods and public amenities;

- Vibrant economic centers;
- Attractive landscaping, streetscaping, lighting, signage, and architectural features; and
- An interconnected transportation networks.

The Comprehensive Plan's transportation element, future land use element, community design sub-element, and recreation and open space element all contain policies that are relevant to the Estero bicycle and pedestrian master plan. For example, Section 1.9 addresses traffic calming, transportation options, and pedestrian enhancements; and Section 1.12 addresses transportation corridors. The transportation element includes data and analysis addressing existing and future conditions.

Another relevant example is in the recreation and open space element which includes how the Village supports the expansion of recreational opportunities and their connections which may include bicycle and pedestrian connections, including but not limited to the following:

- Upgrade the canoe and kayak launch at Koreshan, and develop additional canoe and kayak shore facilities in the Estero Bay Preserve Park
- Add separate boat launch facilities at both Parks
- Add, with parking, boat transport options for residents to reach Lover's Key and other beach locations directly from Estero and as part of this enhancement consider electric boat launches to maintain the quiet and natural setting of the Estero River
- Add interpretive tours of Mound Key
- Add a nature walk, boardwalk, and floating walkway along the entire length of the Estero River to connect the State Parks, as well as connecting the State Parks to other community recreational assets,
- Add a pedestrian bridge from the Koreshan Park to the state-owned Florida Forever property northwest of the Boomer property

The following is the content of a Naples Daily News article from June 2018[7]: The Village of Estero adopted its first comprehensive plan Wednesday. The document, which has been in the works for over a year, provides guidelines for future development in Estero. It has been reviewed by the state's Department of Economic Opportunity as well as Lee County, the South Florida Water Management District and other agencies. Estero's Village Council voted unanimously to adopt the comprehensive plan. Councilors Wednesday said it was a big accomplishment for the Estero, village staff and consultants that worked on the project. "It is a document that all can be proud of here," said Estero Mayor Jim Boesch. The plan covers village goals, objectives and policies in nine areas including transportation, housing, infrastructure and conservation and coastal management. Here are four things to know about the new comprehensive plan.

1. Transportation goals highlight desire for safety, traffic improvements. Estero's comprehensive plan includes policies that aim to ease safety and traffic problems that plague village residents. This involves reducing traffic in areas identified by the village's 2017 traffic study and considers public safety improvements, such as roundabouts, for all upcoming road projects. The plan specifically targets safety and traffic on Corkscrew Road by aiming to reduce truck traffic, improve vehicle flow along Interstate 75 and discouraging additional development in the DR/GR area — a low-density area set aside by the county for flood and drinking water protection — located east of Interstate 75. In addition, the plan expresses a desire for Estero's major roads (U.S. 41, Corkscrew Road, Estero Parkway and Three Oaks Parkway) and minor roads (Via Coconut Point, Sandy Lane, Broadway, Coconut Road and Williams Road) to follow models from Complete Streets, which is a national program that encourages governments to create roads for all forms of transportation.

[7] https://www.naplesnews.com/story/news/local/communities/the-banner/2018/06/14/four-things-know-esteros-future-growth-plan/693877002/

2. Plans outlined for future land use of Estero village center. Estero's goal for a thriving social downtown for residents and businesses in the heart of the village is outlined in the comprehensive plan. The village center is planned for a land near U.S. 41. and includes some of the last larger undeveloped areas in Estero. The comprehensive plan indicates the village center is expected to be a walkable, mixed use area of higher density residential and commercial buildings. The plan outlines what is allowed on that land for future downtown, including housing, employment, a hospital, shopping, office space, hotels and recreation.

3. Housing objectives, policies show village open to affordable housing. A 2015 study commissioned by the Estero Council of Community Leaders found that Estero needs more affordable housing to attract younger residents. Since then, the village has seen some projects come to fruition, but the comprehensive plan includes goals and policies that indicate Estero aims to maintain current affordable housing and work with the private sector to provide more cost-effective choices. This includes a village policy in the comprehensive plan that allows a mix of housing types and densities, which would provide more options to those in the workforce and with low to moderate incomes, the plan states. Desire to protect wildlife, trees and natural resources. As more development continues in and around Estero, the village's comprehensive plan highlights the need to protect environmental resources. The plan includes conservation policies, such as the protection of wetlands and the habitats of endangered and threatened species. The village plans to protect native plantings and create an inventory of heritage, historic and champion trees to be preserved in Estero, according to the comprehensive plan.

4. What's next? After the Village Council voted and approved, the comprehensive plan is sent back to the state. The Department of Economic Opportunity is expected to review the plan to see whether it follows the state laws. The document can also be challenged by outside groups, said Estero Community Development Director Mary Gibbs. If the department finds Estero's comprehensive plan is not in compliance, Estero would be allowed to make changes, said Estero and use lawyer Nancy Stroud. The village's plan becomes an effective policy once it is approved by the state, Gibbs said.

Estero Traffic Study

Date: August 2017

Summary: This report documents existing conditions and the anticipated future conditions of certain intersections and roadways within the Village of Estero. The existing conditions analysis includes observations of traffic conditions during peak times, existing operating characteristics, and existing volumes. The analysis of future (2027) conditions includes identifying future travel demand, evaluating future operating conditions, and future potential operational improvements. Within the Village of Estero, roadways are maintained privately or publicly by either the Village, Lee County, or FDOT. FDOT maintains I-75 and US 41 (South Tamiami Trail), and Lee County maintains Ben Hill Griffin Parkway, Corkscrew Road, Estero Parkway Extension, Imperial Parkway, and Three Oaks Parkway. The Village has recently taken over the management of several roadways from Lee County. The report included FDOT, Lee County, and the Village of Estero's major roadways and key intersections.

The intersection analysis for this study indicates several intersections within the Village of Estero are currently operating with approaches at an unacceptable level of service during the a.m. peak-hour and/or p.m. peak-hour. The following intersections may offer opportunities to increase or improve bicycle and pedestrian facilities in the Village of Estero as part of intersection improvements:

- Corkscrew Road & Bella Terra Boulevard
- Corkscrew Road & Cypress Shadows Boulevard
- Corkscrew Road & Ben Hill Griffin Parkway
- Corkscrew Road & I-75 Northbound Ramps
- Corkscrew Road & I-75 Southbound Ramps
- Corkscrew Road & Three Oaks Parkway
- Corkscrew Road & US 41
- US 41 & Estero Parkway
- US 41 & Broadway
- US 41 & Pelican Sound Drive
- US 41 & Williams Road
- US 41 & Fountain Lakes Boulevard

The following potential improvements were recommended to correct existing and future deficiencies (when warranted), for study area intersections to improve operations:

- Create median storage for the northbound left-turn at the intersection of Corkscrew Road & Cypress Shadows Boulevard
- Extend the southbound left-turn lane at Corkscrew Road & Ben Hill Griffin Parkway and re-time the intersection
- Provide interim safety improvements at the intersection of Corkscrew Road & Corkscrew Woodlands Boulevard
- Re-time intersection, extend the eastbound left-turn lane at Corkscrew Road & Three Oaks Parkway, and add an additional northbound right-turn lane (for dual northbound right-turn lanes), depending on available right-of way
- Re-time the intersection of US 41 & Corkscrew Road and add an additional westbound right-turn lane (for dual westbound right-turn lanes), depending on available right-of way
- Re-time the intersection of US 41 & Estero Parkway and explore the possibility of an additional westbound right-turn (for dual westbound right-turns)
- Add a right-turn lane at the intersection of US 41 & Williams Road and extend the eastbound left-turn lane (along with the closure of the driveway on the west leg of Williams Road)
- Signalize the intersection of US 41 & Fountain Lakes Boulevard (when warranted)
- Re-time the intersection of Three Oaks Parkway & Coconut Road including changing the signal cycle length

It is also recommended to consider lighting improvements at the intersection of Ben Hill Griffin Parkway & Estero Parkway and Three Oaks Parkway & Estero Parkway.

Estero Infrastructure Survey (Florida Gulf Coast University)

Date: January 2016

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, or to identify funding priorities for sidewalks, bike lanes, landscaping, and roadways in the Village. **This document**

contains a trove of good data, recommendations, and other information that can be used to inform and guide the Bicycle and Master Plan. The document recommended Estero undertake and adopt a Bicycle and Pedestrian Master Plan.

The pedestrian and bicycling data listed in **Table 2** were collected in the report.

TABLE 13. 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

The report included recommendations for roadways in poor paving condition (**Table 3**). Repaving presents an opportunity to include or improve biking and pedestrian facilities.

TABLE 14. 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.

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. Recommendations were based on the following 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.

Pedestrian analysis and recommendations

This analysis yielded the recommendations that appear in **Table 4**. The 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 15. 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		✓		✓

Figure 7 shows the location of existing sidewalks and sidewalk gaps. The most significant gaps are 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 bikeable 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.

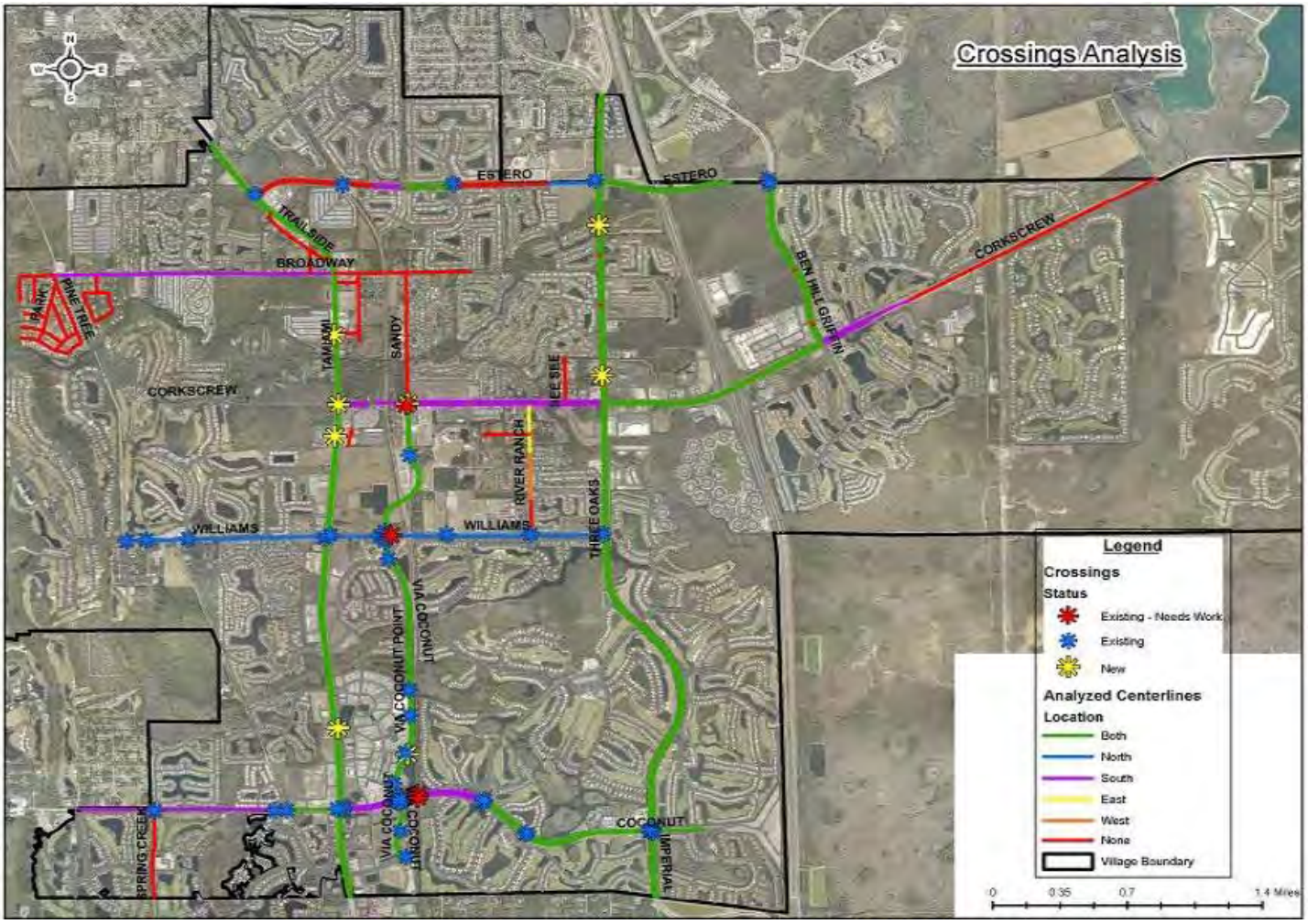


FIGURE 34. SIDEWALKS, INTERSECTIONS, AND CROSSINGS

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.

In addition to the sidewalks, the Team mapped many of the intersections in Estero in **Figure 7**. Intersections are particularly important from a safety standpoint because they represent conflicts between pedestrians/bicyclists and vehicles. The primary issue with the existing intersections in the Estero community is their speed. This analysis found four intersections of concern, and they are indicated on **Figure 7** as red asterisks. They are also listed below in **Table 5**.

The report included an analysis comparing Walk Scores to pedestrian infrastructure and is shown in **Figure 8**.

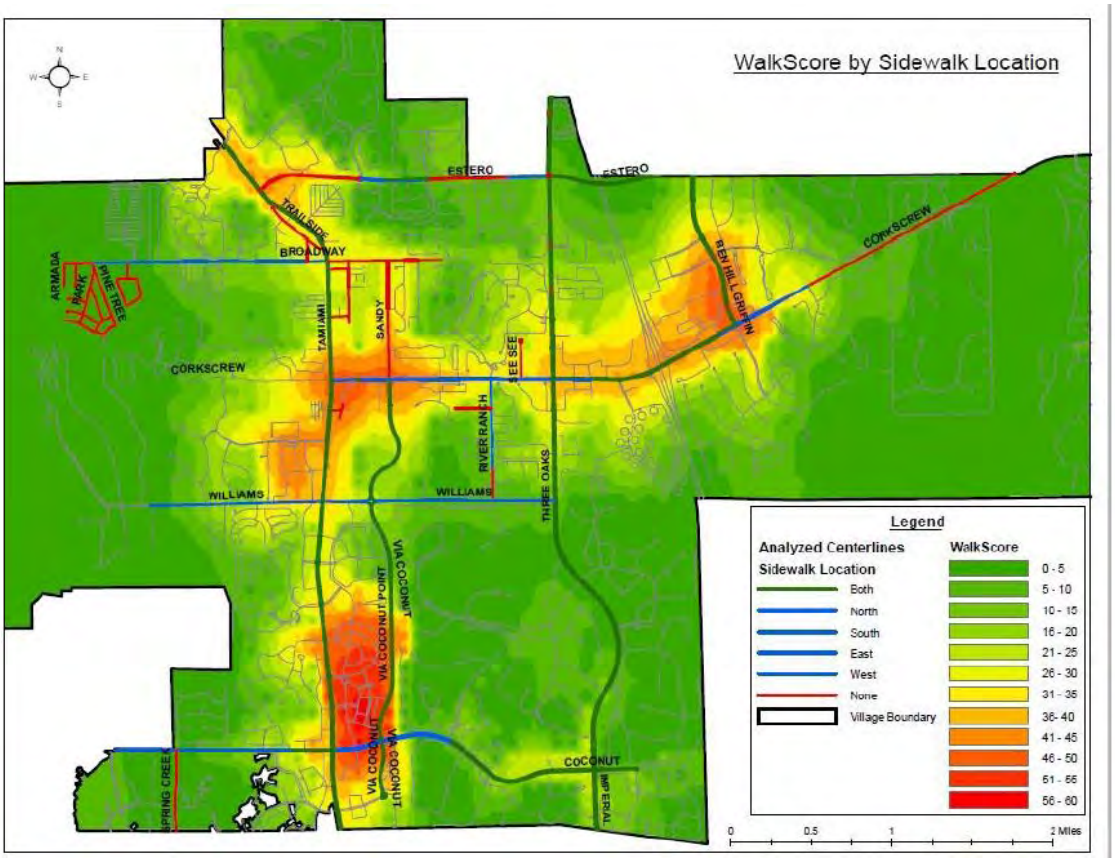


FIGURE 35. WALKSCORE COMPARED TO ESTERO'S SIDEWALK INVENTORY

TABLE 16. 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. Pedestrian islands are tools that induce traffic calming. They work to both reduce the turning radius and offer a refuge for pedestrians, should it be needed. **Figure 9** below is an example of one such island.

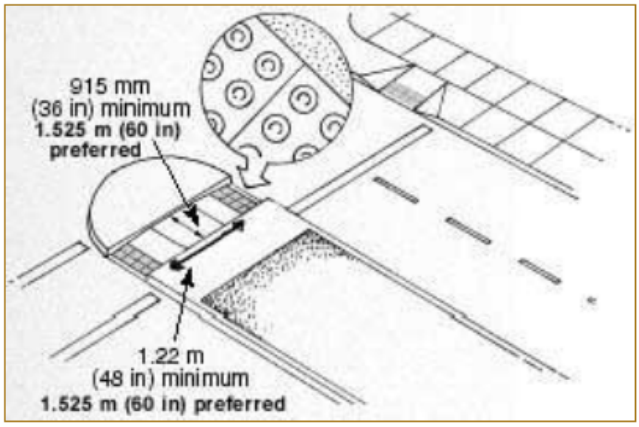


FIGURE 36. PEDESTRIAN ISLAND

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 6** as well as indicated in yellow asterisks on **Figure 7**. 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.

TABLE 17. 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 analysis and recommendations

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.

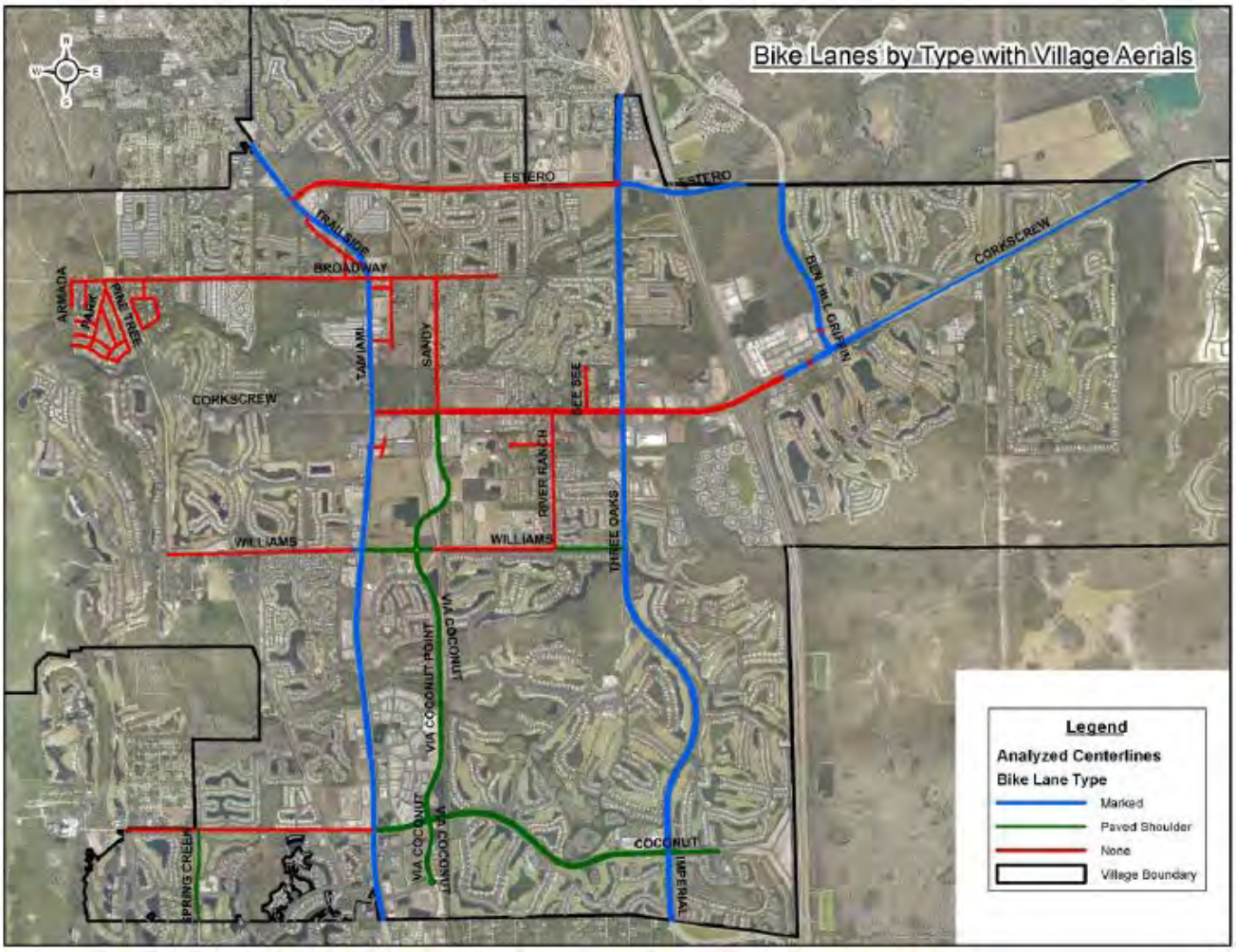


FIGURE 37. ESTERO BIKING FACILITIES

As shown in **Figure 10**, 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.

The report included an analysis comparing Walk Scores to pedestrian infrastructure and is shown in **Figure 11.** The WalkScore relies on the proximity of amenities. 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.

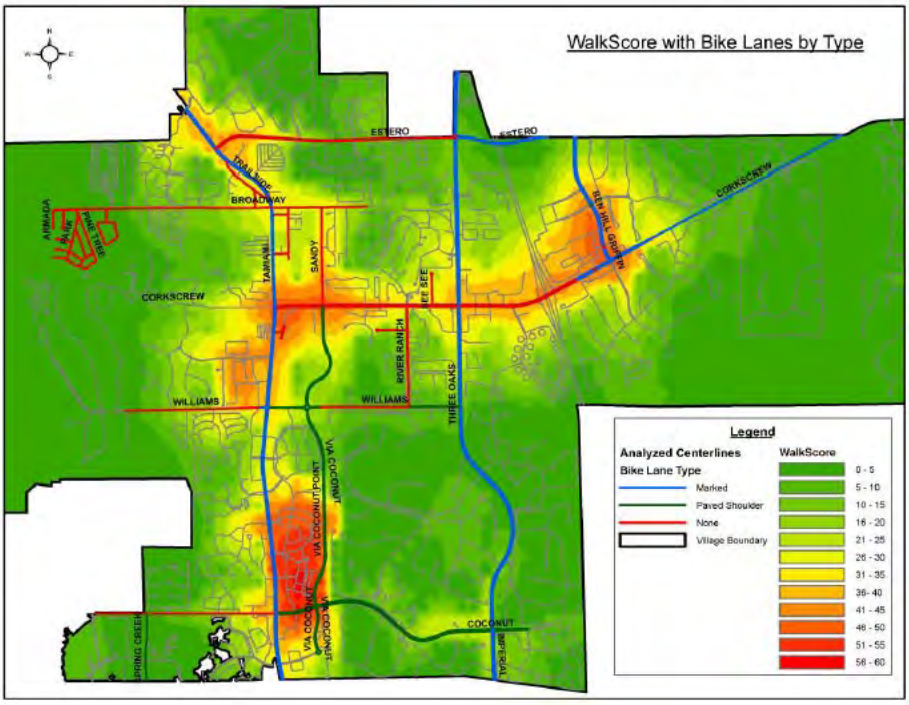


FIGURE 38. WALKSCORE COMPARED TO ESTERO'S BICYCLING INVENTORY

The analysis resulted in the recommendations shown in **Table 7**:

TABLE 18. BICYCLING FACILITY RECOMMENDATIONS

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 12** 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 39. POTENTIAL CONNECTION BETWEEN ESTERO PARKWAY AND 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 (**Figure 13**). 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.

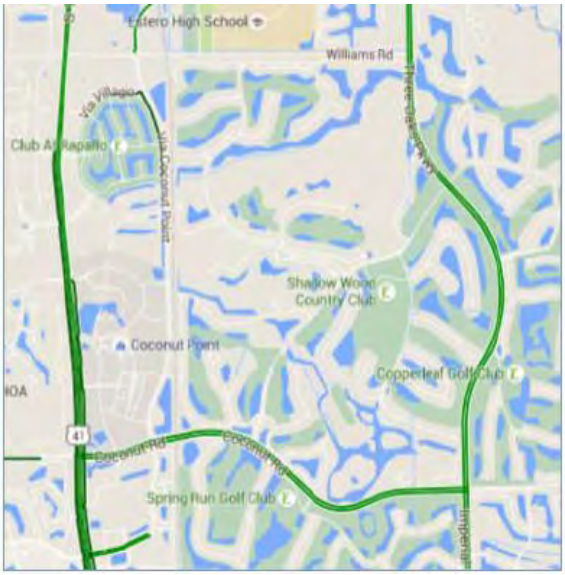


FIGURE 40. POTENTIAL WILLIAMS ROAD BIKE LOOP

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 able to share the road with vehicles. In addition, if street speeds are slow, it is possible to safely share the road.

Florida Department of Transportation Design Guidance

Date: 2018-2019

Summary: The Florida Department of Transportation (FDOT) offers comprehensive design guidance for bicycle and pedestrian infrastructure. The design manual, adopted in 2018, shows a commitment to a transportation network that moves people, not strictly vehicles.

The FDOT design guidance is applicable to roads on the state highway system, and more details are included as an appendix of this document. In general, FDOT provides the minimum criteria to be used for the design of bicycle facilities on the State Highway System (SHS). A bicycle facility should be provided on all roadways on the SHS, except where its establishment would be contrary to public safety; e.g., limited access facilities as defined by FDM 211. The various methods of providing bicycle facilities are discussed in FDM 223.2. A Design Variation should be processed when a bicycle facility cannot be provided or when criteria contained within this chapter are not met.

I-75 Interchange at Corkscrew

Date: ongoing

Summary:
FDOT study for interim operational design improvements to the existing interchange at Interstate 75 and Corkscrew Road located **near** the Village of Estero in Lee County. The project is an interim operational design improvement to increase intersection capacity along Corkscrew Road and provide ramp extensions along I-75 to improve freeway operations. The improvements will accommodate existing and projected traffic demand and extend the service life of the interchange to 2029. Improvements related to bicycling or walking are in **bold**.

The interim improvements include:

1. Constructing one additional left turn lane in each direction on Corkscrew Road, creating dual left turn lanes for the eastbound and westbound left turn movements accessing the I-75 on ramps.

2. **Buffered bicycle lanes along Corkscrew Road within the interchange area**.

3. Extending the I-75 on and off ramps approximately 1,500 feet in all four quadrants to improve acceleration and deceleration to and from I-75.

4. Replacing the existing signals at the ramp terminals with new signals.

5. Replacing the existing high mast lighting with new high mast lighting.

6. Retrofitting existing storm water management facilities within the ramp infield areas.

7. Replace existing bridge mounted signs with cantilever structure signs and other signing and marking upgrades, and

8. **Raising the existing sidewalk from the northbound ramps eastward where periodic flooding occurs**.

Design for this interim project began in August 2017 with expected construction in 2019. Since additional right-of-way is not needed, construction is expected to be completed in approximately 12 months. Throughout construction, the existing number of travel lanes will be maintained on both I-75 and Corkscrew Road. The Lee County MPO and Lee County investigated the potential to use green pavement markings for the bicycle lanes, but it was determined impractical since it may have delayed construction letting.

Village of Estero Capital Improvement Plan

Date: 2018/2019

Summary: The new Comprehensive Plan contains a "capital improvements element." And the annual budgets may have included line items for capital improvements. Village officials have approved funds to buy a major land purchase for developing a public park with water access west of US 41 that may present opportunities for bicycle and walking facilities.

Lee County MPO Rail Corridor Feasibility Study

Date: Adopted November 2013

Summary: A rail corridor feasibility study of the CSX/ Seminole Gulf Corridor was conducted for the Lee County MPO by a consulting team. This study assessed the long-term feasibility of implementing public multi-modal transportation options within the rail corridor through Lee and northern Collier County, while maintaining and possibly expanding freight service in the corridor. The multimodal options include running commuter rail transit, light rail transit, bus rapid transit, and/or a multi-use path from the Charlotte County line through Lee County into northern Collier County. This study also assessed existing and future freight issues, determined the preliminary value of the CSX/Seminole Gulf Lease and Leasehold, and looked into various options of preserving the corridor including purchasing rail interests (buying the underlying right of way and/or the SGL lease), negotiating new and/or existing agreements, and adopting supportive comprehensive plan and other preservation policies by local governments and MPOs along the rail corridor.

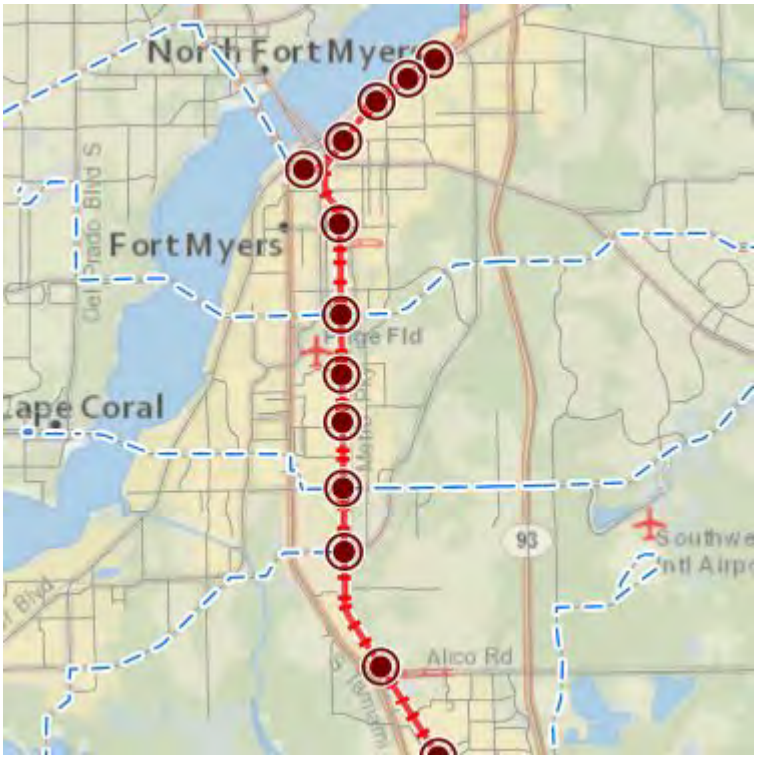


Figure 41. An image from the Rail Feasibility Study

The study was completed in October 2013. An executive summary highlights the findings, conclusions, and recommendations. A full report summarizes the twelve technical reports that document the complete findings of this study. On November 22, 2013, Lee County's MPO Board voted to approve the study's recommendations. Minutes of that meeting are available from the Lee County MPO website. The Village has already amended its comprehensive plan to support public acquisition of the rail corridor

– primarily for its potential for bike paths and trails that would link the gated communities within Estero and connect them north and south of the Village.

Lee County 2040 Long Range Transportation Plan

Date: Adopted December 2015

Summary: This Long Range Transportation Plan (LRTP) currently includes bicycle and pedestrian improvement projects planned on the principle roadway network that the Lee County MPO is responsible for future planning for Lee County. The plan does not currently identify projects specific to the geography of the Village of Estero. The MPO is updating the LRTP to the year 2045 in 2019 and 2020 with adoption scheduled for December 2020.

The Cost Feasible Plan includes nearly $50 million (YOE) for 33 bicycle, pedestrian, and multi-use trail facility projects identified in the existing Lee County MPO Bicycle and Pedestrian Plan and scheduled for funding and implementation through the current bicycle and pedestrian project prioritization process. This total cost includes only projects identified separately from road projects. Bicycle and pedestrian improvements to be built as part of road projects are included in the total cost for road/highway projects. The cost feasible projects reflect a ten-year plan as opposed to the road and transit projects that are planned for a future 25 year away. The resulting 33 bike and pedestrian projects are shown in **Figure 15** and listed in **Table 8**. This set of projects will make walking and biking in Lee County safer, more comfortable, and more convenient. Among the cost feasible projects, there are 18 shared use paths totaling 47 miles. Several of the shared use paths will add dedicated walking and biking facilities along arterials, such as Summerlin Road and North River Road. Without a separated facility, these corridors are often barriers between destinations for people on foot or bike. Completing these projects will fill in bicycle and pedestrian network gaps and provide important connections between cities, towns, and neighborhoods.

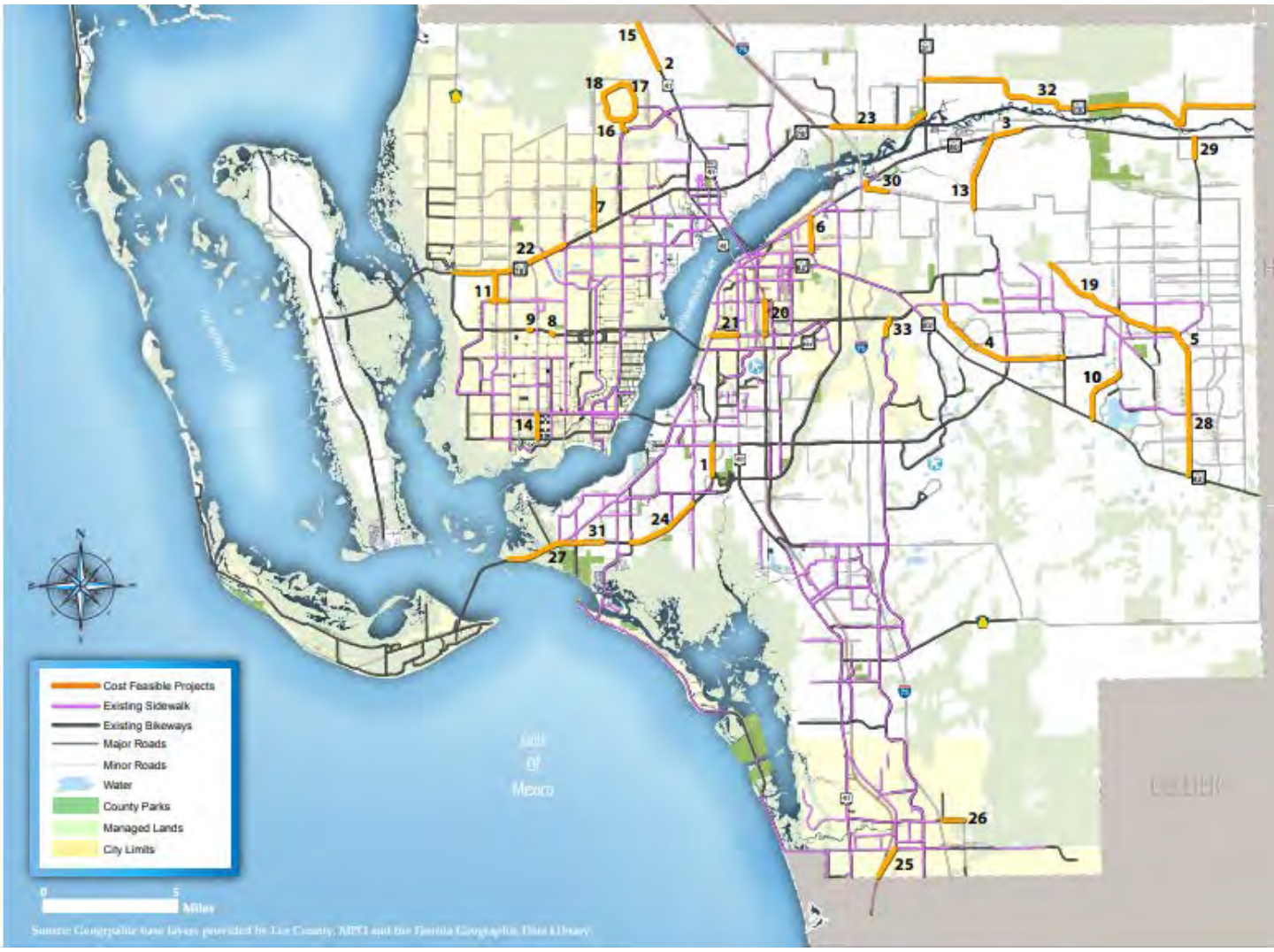


FIGURE 42. COST FEASIBLE BICYCLE AND PEDESTRIAN PROJECTS IN LEE COUNTY

TABLE 19. COST FEASIBLE BICYCLE AND PEDESTRIAN PROJECTS IN LEE COUNTY

ID	Road	Begin	End	Length (miles)	Facility Type	Project Cost
1	Summerlin Rd	Lakewood Blvd	Cypress Lake Blvd	1.1	Shared Use Path	$743,089
2	US 41	Tara Blvd	72.38 N of French Creek Lane	0.7	Sidewalk	$240,500
3	SR 80	Buckingham Rd	Linwood Ave	1.1	Shared Use Path	$504,216
4	Leonard/Westgate Blvd	Sunshine Blvd	Lee Blvd	5.4	Shared Use Path	$3,903,530
5	Bell Blvd	Sunrise Blvd	Joel Blvd	1.1	Sidewalk	$722,450
6	Marsh Ave	Michigan Ave	SR 80	1.3	Sidewalk	$1,046,785
7	Andalusia Blvd	Pine Island Rd	Diplomat Pkwy	1.5	Sidewalk	$820,463
8	Veterans Pkwy South Side	SW 10th Ave	Existing SUP west of Skyline	0.1	Shared Use Path	$301,375
9	Veterans Pkwy North Side	SW 3rd Place	SW 2nd Court	0.1	Shared Use Path	$-
10	Alabama Rd	SR 82	Paddock St	2.2	Sidewalk	$688,014
11	SW 20th Ave/Nott Rd	Trafalgar Pkwy	Pine Island Rd	1.0	Sidewalk	$-
12	Trafalgar Elementary and Middle Schools Trafalgar Pkwy	SW 16th	SW 22nd Pl	0.6	Sidewalk	$689,425
13	Buckingham Rd	Cemetary Rd	SR 80	2.8	Bike Lane	$852,237
14	Skyline Blvd	El Dorado Pkwy	Cape Coral Pkwy	0.9	Sidewalk	$606,719
15	US 41	72.38 N of French Creek Lane	Charlotte Co. line	1.1	Sidewalk	$672,750
16	Averill Blvd	Del Prado Ext	Gator Circle	0.4	Sidewalk	$879,594
17	Gator Circle East	Averill Blvd	Ramsey Blvd	1.9	Sidewalk	$-
18	Gator Circle North West	Averill Blvd	Ramsey Blvd	2.2	Sidewalk	$812,592
19	Abel Canal	Harnes Marsh	Joel Blvd	5.6	Shared Use Path	$3,111,000
20	John Yarborough	Colonial Blvd	Hanson Street	1.3	Shared Use Path	$538,254
21	Winkler Canal	US 41	McGgregor Blvd	1.0	Shared Use Path	$519,690
22	SW Pine Island	Veterans Pkwy	Santa Barbara Blvd	4.3	Shared Use Path	$2,308,699
23	Bayshore Rd	Park 78 Dr	Sr 31	3.6	Shared Use Path	$1,961,936
24	Summerlin Road	Pine Ridge Rd	Winkler Rd	2.7	Shared Use Path	$1,337,433
25	Old 41 Rd	Collier County Line	Bonita Beach Rd	1.2	Shared Use Path	$1,437,996
26	E Terry St	Morton Ave	Bonita Grande Dr	0.8	Shared Use Path	$407,603
27	Mcgregor Blvd (Sr 867)	Sanibel Causeway	Mcgregor Blvd	1.9	Shared Use Path	$943,580
28	Bell Blvd S	Joel Blvd	Sr 82	5.3	Sidewalk	$1,163,959
29	Joel Blvd	Palm Beach Blvd	Tuckahoe Rd	0.8	Bike Lane	$803,279
30	Orange River Blvd	Palm Beach Blvd	Ellis Rd	1.0	Shared Use Path	$1,085,772
31	Summerlin Rd/Mcgregor Blvd (Cr 867)	Shell Point Blvd	Kelly Cove Dr	1.9	Shared Use Path	$1,139,998
32	North River Rd	Sr 31	County Line	13.5	Shared Use Path	$6,426,000
33	Treeline Ave	Colonial Blvd	Pelican Preserve Blvd	0.6	Shared Use Path	$343,020
	Buffered Bike Lane	TBD	TBD	3.0	Bike Lane	$1,500,000

Lee County Land Development Code

Date: Adopted and used by the Village of Estero since incorporation with updates annually.

Summary: Beginning with its incorporation at the end of 2014, the Village used Lee County's Land Development Code (LDC) as its transitional LDC. Except where the Village amended portions of the LDC for its own use. However, with adoption of the new comprehensive plan in June 2018 and its effective date thereafter, the community's collective vision and land use policy direction for future growth and development will be established, and the Village is updating the Village's first LDC. The updated LDC will implement the policy direction in the new comprehensive plan. The update will also ensure the Village's development regulations are more user-friendly than the transitional LDC, modernized, and aligned with contemporary zoning best practices. The LDC update project is a significant undertaking. It is expected to take over a year to complete.

The current County Land Development Code defines biking and walking facilities and offers design guidance. The information is included here as a reference when offering design recommendations. It is potentially out of date, particularly the references to Lee Plan Maps.

Ordinance 2016-07: amended certain portions of the LDC, some parts of this ordinance are relevant to the bicycle and pedestrian master plan. For example in 33-502:

(c) Accessibility. The criteria implementing the Estero PD district for the Village Center Area are designed to make the public space accessible, both socially and physically, connected, and walkable. Such guidelines (a) are based on the primacy of the human scale over the automobile, (b) are designed to balance private property interests and property rights with public goals, and (c) enjoy simple, understandable, and physically determined methods to achieve these goals.

(d) Streets. In these criteria, the street becomes the key part of the public space. All streets must in some way become a part of a connected, continuous street network, which are designed to encourage the mixing of uses in the Village Center Area. A variety of different types of streets, which connect neighborhoods and destinations, will serve the public interest by minimizing the traffic load and the need for increased capacity on any one street. Except as specifically set forth in this Division 5, streets shall not end in dead ends, cul-de-sacs, hammerheads. or other forms which do not connect with other streets.

(e) Street Design. Distances between intersections of streets should favor the goals and objectives of enhancing walkability of streets and connectivity. The design of streets shall favor their proper use by pedestrians; where the guiding principle is to calm traffic and to specifically slow traffic at intersections to allow pedestrians to cross streets quickly and safely. Landscaped medians and two-way streets help to achieve these goals and objectives by reducing the apparent width of streets and providing safer crossings. On-street parking, where appropriate and feasible, protects pedestrians from the actual and perceived danger of moving traffic.

Definitions: Bicycle lane or bike lane means the portion of a roadway designated by signing and pavement markings for the preferential or exclusive use of bicyclists. Bikeway means and refers to the term used to describe the various types of facilities that are designed and constructed to accommodate bicycle travel. Shared use path means and refers to a facility eight to 12 feet wide, physically separated from motorized vehicular traffic that serves bicycles, pedestrians, hikers, skaters, wheel chair uses, joggers and other non-motorized uses. Undesignated bike lane means and refers to the configuration of a paved shoulder in typical sections that includes right turn lanes as depicted in Ch. 9, Bicycle Facilities, Figure 9-8 of the Florida Greenbook. The paved shoulder is continued to the left of the right turn lane, adjacent to the outer most travel lane. The minimum width is four feet and the lanes do not have signing or marking. Lee County unincorporated bikeways/walkways facilities plan means the network of existing and planned bicycle and pedestrian facilities adopted by the Board and depicted in Lee Plan Map 3D. Planned facilities are specifically defined in Exhibit I to Administrative Code 11-9.

As part of Chapter 10: Development Standards: Bicycle and pedestrian ways plan. There is hereby adopted as part of this chapter the official bikeways/walkways facilities plan map. The map identifies a network of roads which, if improved with bikeways and pedestrian ways, will meet present and anticipated bikeway and pedestrian way needs of the County. The official bikeways/walkways facilities plan map will be signed by the chairman of the Board of County Commissioners and placed on file with the County Departments of Transportation and Community Development. Reproductions of the map will be available to the public. The purpose of the official bikeways/walkways facilities plan map is to target certain arterial and collector roadways for improvements necessary to ensure County-wide continuity of the bicycle and pedestrian transportation system. Bikeways and pedestrian ways are necessary along the roadways depicted on the map for the benefit and protection of the health, safety, and welfare of the residents of Lee County because those facilities serve to: (a) lessen traffic congestion, (b) reduce conflicts between vehicular and pedestrian/cyclist movement, (c) provide safe pedestrian/cyclist circulation to community facilities, and (d) provide safe access to active and passive recreational activity. Unincorporated bikeways/walkways facilities plan. All development proposed along the arterial and collector roadways depicted on the unincorporated bikeways/walkways facilities plan (Lee Plan Maps 3D-1 and 3D-2) or the Greenways Multipurpose Recreational Trails Master Plan, (Lee Plan Map 22) must provide for bikeways and pedestrian ways. Construction of bicycle and pedestrian facilities shown on the plan along the frontage, or an acceptable alternate location approved by the Development Services Director, of subject property are deemed to be site-related improvements.

(b) All bikeway/walkways required by this section must be designed and constructed following the criteria set forth in this section, the plan, Administrative Code 11-9, the ADA accessibility guidelines, the Florida Greenbook (for County roads) and the Plans Preparation Manual (for state roads).
(c) Provision of bikeways and pedestrian ways for County and state-maintained roadways.

(1) General.

a. All new development along County and state-maintained roadways and redevelopment of existing property resulting in a 25 percent or greater increase in either:

1. Building size or floor area; or
2. Residential dwelling units;

are required to construct bikeways and pedestrian ways in accord with section 10-256(b).
b. When any portion of the property to be developed is located within one-quarter mile (as measured along the principal perimeter street) of a collector or arterial road shown on the plan as requiring either a bikeway or pedestrian way, or within a quarter mile (as measured along the principal perimeter street) of an existing facility, the developer must construct a similar facility within the existing road right-of-way from the subject property to the existing or proposed facility. This section will not require the purchase of right-of-way or easements by Lee County where none exist and will only apply where the required new facility can be constructed along a collector or arterial road.
c. When any portion of a proposed residential subdivision is located within one-quarter mile (as measured along the principal perimeter street) of an existing or proposed bicycle or pedestrian generator such as schools, parks, playgrounds, shopping centers or employment centers, or transit facilities, the developer must construct a bikeway or pedestrian way not less than eight feet in width within the existing road right-of-way connecting the subdivision to the pedestrian generator. This section will not require the purchase of right-of-way or easements by Lee County where none exist and will only apply where the required new facility can be constructed along a collector or arterial road.
d. In instances where a proposed development is within one-quarter mile of a collector or arterial road shown on the plan as requiring a bikeway or pedestrian way and is also within one-quarter mile of an existing facility in the opposite direction on the same principal perimeter street, only one connecting link will be required. The Director of Development Services will determine which link would be most beneficial to the intent and purpose of this code.

e. When any portion of the parcel located along an arterial or major collector is developed, bikeways and pedestrian ways are required. Material, width and type of facility will be determined by the standards outlined in section 10-256(b) and existing conditions within a quarter mile of the surrounding area of the proposed development. When any portion of a parcel along a minor collector or local street is developed with office or commercial uses, sidewalk is required.
f. Impact fee credit. Upon County acceptance of the required facility or a bond or other security assuring construction of the facility, the applicant will be entitled to road impact fee credits, park impact fee credits or both for facilities beyond the abutting subject property boundaries as noted in subsections 10-256(c)(1)b, c and d only. If the proposed development includes facilities extending beyond the requirements as outlined and described in administrative code 11-9, the applicant will be entitled to impact fee credits. This option is subject to approval through the development order process.

(2) Location.
a. The developer must construct a bikeway or pedestrian way within the boundaries of the public road right-of-way on County maintained roads unless an alternative location is approved by the Department of Transportation. The Department of Transportation may approve an alternate location that will allow a facility to be constructed outside the public road right-of-way on property owned or controlled by the developer of the project incurring the requirement to construct if:

1. The developer grants the County no less than an easement interest, meeting standard County title acquisition requirements, over the property deemed necessary to support the facility;
2. The proposed easement area abuts or closely parallels the existing County right-of-way;
3. The easement area is a minimum two feet wider than the width of the required bikeway or pedestrian way;
4. The easement area is perpetually open to the public; and
5. The easement is granted without cost to the County.

The County will accept maintenance of the constructed facility upon issuance of the certificate of compliance in accord with this section and section 10-256(c)(4).
b. The developer must construct bikeways or pedestrian ways on state roads within the boundaries of the state road right-of-way subject to approval and issuance of a general use permit by FDOT. Facilities along state road rights-of-way may not be constructed in easements abutting the state roadway unless approved by FDOT prior to local development order approval. A copy of the written FDOT approval must be submitted to the County.
c. Residential subdivisions with County maintained streets must construct pedestrian ways as follows:

1. A pedestrian way is required along one side of all County-maintained streets internal to a residential development where the proposed gross density exceeds four dwelling units per acre. The pedestrian way must extend from intersection to intersection; and
2. A pedestrian way is required along one side of all County maintained cul-de-sac streets that serve two dwelling units or more. The pedestrian way must extend from the intersection to the end of the cul-de-sac. Exceptions to this requirement are:
    i. Where the construction will encroach upon the required setback from a conservation or preservation area; or
    ii. Where the proposed street forms an exterior boundary to the subdivision.
3. Waiver of requirement to allow alternative plan. The Development Services Director may waive compliance with the provisions of section 10-256(c)(2)c. where the developer provides an alternative plan for an internal bikeway/pedestrian way circulation system that is functionally equivalent to the standards set forth in this section and connects with existing facilities in accord with the requirements set forth in 10-256(c)(2)a. and b. The alternative plan must be submitted and approved in conjunction with the development order supporting subdivision plat approval. The alternative plan must be drawn to a scale sufficient to depict and describe the following:
i. The location of all lots, along with the number and type of dwelling units on each lot; and

ii. The location, width and type of each proposed bikeway and pedestrian way including those facilities intended to connect to bikeways and pedestrian ways off-site.

Sec. 33-362. Pedestrian walkways/linkages.
The following requirements are in addition to the requirements of section 10-610(d):
(1) Pedestrian walkways must be provided for each public vehicular entrance to a project, excluding ingress and egress points intended primarily for service, delivery or employee vehicles.
(2) In order to accentuate and highlight pedestrian areas, wherever possible, materials must include specialty pavers, concrete, colored concrete or stamped concrete patterns.
(3) Pedestrian walkways/links must be incorporated into, within and through a project in a way that addresses both site security concerns and pedestrian safety. The following are examples of design techniques that should be applied:

a. Incorporate cross-site pedestrian connections within projects.

b. Define walkways with vertical plantings, such as trees or shrubs. Pedestrian walkways may be incorporated within a required landscape perimeter buffer, in compliance with section 10-416(d)(4), Note 11.

(4) Sidewalks or pedestrian ways must connect the on-site pedestrian systems to pedestrian systems on adjacent developments.
(5) Traffic calming devices, at the discretion of the developer, must be provided at points where conflicting pedestrian and vehicular movements exist.
(6) Sidewalks or bikeways must be installed along all project frontage roads, and whenever possible must be separated from the edge of pavement by a minimum four-foot wide planting strip. The property owner must provide for maintenance of the planting strips unless the County formally accepts responsibility for maintenance. Existing non-conforming sidewalks must be brought into compliance with this section.

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