



# Pasco County Greenways, Trails, and Blueways Master Plan

September 2023

# Pasco County

## Greenways, Trails, and Blueways Master Plan

September 2023

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## CHAPTER 1 – INTRODUCTION



## INTRODUCTION

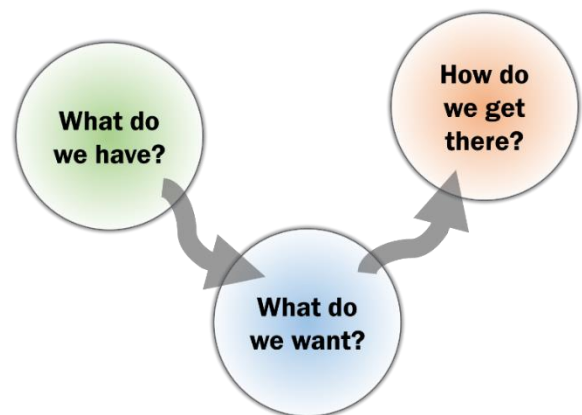
The past 50 years have been a time of significant growth for Pasco County. Between 1970 and 2020 the County’s population increased by nearly 486,000 residents. According to the latest U.S. Census Bureau estimates, the County has nearly 585,000<sup>1</sup> residents, and that growth isn’t projected to slow down with an estimated 250,000 more residents expected in the next 25 years. This growth and development have led to an expanding need for recreational opportunities and a plan to guide the development of a system of greenways, trails, and blueways throughout the County for years to come.

Today, the County has nearly 300 miles of paved and unpaved trails along with 80 miles of designated blueways. The Pasco County Greenways, Trails, and Blueways (GTB) Master Plan focuses on the system of trails and blueways that form the backbone of the County’s recreational trails system. The GTB Master Plan serves as a guide for enhancing the existing system while also identifying future opportunities and connections. The GTB Master Plan encourages investment in projects and initiatives that have an impact on enhancing connectivity, improving mobility, and providing a safe, comfortable, and inviting network of trails and blueways for all Pasco County residents and visitors.

## PLAN PURPOSE

The GTB Master Plan is the effort to holistically study and understand the current and future opportunities for recreation such as walking, bicycling, hiking, and paddling in Pasco County. At its most basic form, the Master Plan is an effort to answer three questions:

- What do we have?
- What do we want?
- How do we get there?



The Master Plan is a countywide document intended to guide the planning of enhancements to existing and development of new greenways, trails, and blueways to increase connectivity. The Master Plan is not a detailed design and engineering study of individual trails but rather a documentation of guidance and best practices designed to inform decisions on further developing the greenway, trail, and blueway system. The Master Plan offers recommendations for potential future trail opportunities and connections and provides strategies for implementation and regulatory actions.

Additionally, the GTB Master Plan, through its development efforts and publication, helps communicate to residents, visitors, and other stakeholders about the existing GTB network, helping increase usage and promote community engagement. It is anticipated that this Master Plan will periodically be updated to reflect current and ongoing projects throughout the County.

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<sup>1</sup> U.S. Census Bureau, July 1, 2021 Population Estimate

## DEFINING GREENWAYS, TRAILS, AND BLUEWAYS

### Greenways

According to Florida State Statutes (F.S. 206.013 (4)), Greenway means a linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridgeline, or over land along a railroad right-of-way converted to recreational use, a canal, a scenic road, or other route; any natural or landscaped course for pedestrian or bicycle passage; an open space connector linking parks, natural reserves, cultural features, or historic sites with each other and populated areas; or a local strip or linear park designated as a parkway or greenbelt.

For the Pasco County GTB Master Plan, Greenways are being defined as any linear facility intended to provide a range of recreational opportunities (active and passive) including, but not limited to, walking, running or jogging, bicycling, hiking, paddling, or equestrian uses. A greenway can be either paved or unpaved.

### Trails

Per Florida State Statutes (F.S. 206.013 (6)), Trails means linear corridors and any adjacent support parcels on land or water providing for recreation or authorized alternative modes of transportation. The GTB Master Plan identifies trails as either multi-use or single use trails, the definitions for these trail types are as follows.

**Multi-Use Trails** | Any wide, paved or natural surface trail, located in its own exclusive right-of-way, separate from a roadway, intended for the shared use of people walking, riding bicycles, or other related activities.

**Single Use Trails** | Any paved or natural surface trail, located in its own exclusive right-of-way separate from a roadway, intended for a single primary user type, i.e., hiking, off-road bicycling, equestrian, etc.

### Blueways

Blueways refer to a designated route (marked or unmarked) intended for use by non-motorized vessels propelled by paddles. They often include access points and facilities such as docks, ramps, and launches.

### Complementary Facilities

Facilities such as shared use paths, sidewalks, and bicycle lanes are essential to the overall active transportation network and in providing connections between recreational-based trails. While important to recognize and acknowledge, these facilities are generally planned and constructed through the County’s transportation efforts and are treated as complementary facilities to the GTB network.

**Shared Use Paths** | Any wide (8’ – 12’), paved surface, located within a roadway right-of-way, but separated from motorized traffic by open space or a barrier, intended for the shared use of people walking and riding bicycles or other related devices.

**Sidewalks** | A sidewalk is any paved surface, typically constructed of concrete, intended for the primary use of people walking.

**Bicycle Lanes** | A bicycle lane is any paved surface, located directly along a vehicular right-of-way, intended for the exclusive use of people riding bicycles or related devices.

## Trail and Blueway Typologies

The following provides a look at how the GTB Master Plan identifies and defines different trail and blueway types, this list is not intended to be an exhaustive list but identifies several of the more prevalent trail and blueway types discussed in the Master Plan.

### *Paved Multi-Use Trail*

Paved (asphalt or concrete) trail designed to accommodate a wide range of users and varying levels of ability.



### *Unpaved Multi-Use Trail*

A wide natural surface trail designed to accommodate a wide range of users and skill levels depending on specific trail surface material and conditions.



### *Nature/Hiking Trail*

Natural surface trail designed primarily for use by people walking/hiking. Some hiking/natural trails may accommodate other uses, such as bicycling and equestrian.



### *Off-Road/Mountain Bike Trail*

Natural surface trail designed to be used primarily by bicyclists. Actual trail design and type can vary from family friendly to challenging with any number of natural and man-made obstacles, jumps, climbs, and descents.



### ***Equestrian Trail***

A trail designed to be used primarily by equestrians, although they may also accommodate pedestrians, bicyclists, and other non-motorized users.



### ***Shared Use Path***

A wide paved pathway adjacent to a roadway, but physically separated from motorized vehicular traffic by an open space buffer or physical barrier.



### ***Gravel Trail***

A gravel trail is a specialized trail type for gravel cycling. Image courtesy Florida Hikes



### ***Coastal Blueway***

A designated water route along and within the coastal areas of the County. Typically include access facilities such as docks, boat ramps, and canoe/kayak launches.



### ***Inland Blueway***

A designated water route along an inland stretch of a river, stream, creek, or on a lake. Typically include access facilities such as docks, boat ramps, and canoe/kayak launches.





## **BENEFITS OF GREENWAYS, TRAILS, AND BLUEWAYS**

Greenways, trails, and blueways provide a wide range of value and benefit to the greater community beyond the direct recreational opportunities. Greenways, trails, and blueways are investments in the overall health and livability of a community, in transportation, and in economic development.

### ***Health and Quality of Life***

Providing people with safe and accessible places to walk, hike, jog, bike, skate, roll, ride, and paddle positively contributes to the overall health and well-being of residents. A system of greenways, trails, and blueways provides people with healthy outdoor opportunities to interact and enjoy various activities. A National Association of Homebuilders study found that trails are the second highest community amenity that potential homebuyers cite when choosing a new community, outranking other options including security, parks, and access to shopping or business centers. A recreational greenway system that is connected and integrated into the transportation system can connect neighborhoods and provide an essential thread that connects cultural, historical, social, and recreational facilities together.



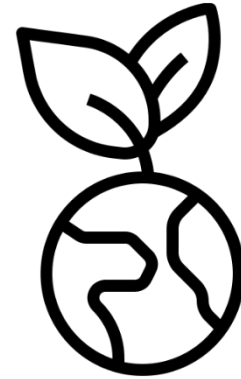
### ***Economic***

Greenways, trails, and blueways have been shown to enhance the economic health of a community. Greenways and trails have been shown to increase the values of adjacent properties, which benefits the property owners as well as local government agencies which could see an increase in tax revenue. Trails and blueways can be used to promote eco-tourism, which can attract businesses and stimulate job growth. A study by the University of Massachusetts found that every \$1 million spent on multi-use trails yields 9 jobs, compared to 7.8 jobs per \$1 million spent on road-only projects. Additionally, trails and blueways are generally less expensive to construct and maintain compared to roadways and provide residents with additional non-motorized travel options which can help reduce fuel and vehicle maintenance costs.



## **Environmental**

Greenways, trails, and blueways provide people with opportunities to connect with nature and a reprieve from the urban environment. They provide users an opportunity to experience, appreciate, and learn about their natural surroundings while helping to preserve natural ecosystems, wildlife corridors, and scenic landscapes. Greenways, trails, and blueways can be targeted as primary habitat for many species of plants and animals. Additionally, programs can be established to not only protect these valuable existing natural areas, but also function as conservation easements, wildlife corridors, water quality (stormwater) purifiers, air quality purifiers, scenic buffers, and natural lands to support higher quality habitat.



## **PLANS AND BEST PRACTICE REVIEW**

A review of local, statewide, and national plans and policies related to the planning and development of greenways, trails, and blueways was conducted; a comprehensive overview of this review can be found in Appendix A of this Plan. Many of the findings from the plans and best practice review were used to guide the development of this Plan, specifically on matters related to the following:

- Assistance in developing the definitions for greenways, trails, and blueways
- Identification and grouping of different greenway, trail, and blueway facilities
- Resource on developing facility and amenity design guidance
- Provided examples of how transportation facilities can be used to support and enhance connections between greenways and trails
- Resource for identifying potential funding sources
- Identification of local, regional, and state-wide greenway, trail, and blueway priorities and projects





## CHAPTER 2 – VISION, MISSION, GOALS AND OBJECTIVES



### **VISION STATEMENT**

*Develop a county-wide system of connected, recreational Greenways, Blueways, and Trails that link parks and natural areas with neighborhoods, schools, shopping, and other similar opportunities. The Greenways, Trails and Blueways system should serve a variety of users, with a focus on non-motorized users such as walkers, joggers, hikers, bicyclists, paddlers, and equestrians, while respecting sensitive natural areas.*

### **MISSION STATEMENT**

*Identify, develop, and implement a network of multiuse greenways, trails, and blueways with emphasis on a local system with links to a regional system, for the purpose of recreation, enhancing community quality of life, protecting natural resources, and promoting alternative transportation opportunities.*



## GOALS AND OBJECTIVES

### Protect and Enhance the Natural Environment

Promote a well-designed GTB network that simultaneously provides access to nature and environmental assets and promotes environmental and ecological programs with educations and environmental stewardship . Landscapes that pose a challenge to conventional development, such as wetlands, can be great opportunities for public open space and trails.

- Design and construct low impact trails that avoid environmentally sensitive areas while providing residents and visitors with controlled access to natural areas, for passive or active recreation, as appropriate.
- Foster environmental awareness and stewardship through educational materials and signage, especially at trailheads.
- Provide access points to natural resources and the numerous waterways across the County.

### Increase Awareness of Greenways, Trails, and Blueways

Increase awareness of trails and blueways by helping people understand where facilities are located and how to get to them. While many people are aware of the better-known trails, there is a vast network of lesser-known trails.

- Work with local partners to develop and implement a marketing campaign that includes maps, brochures, and educational materials to promote Pasco County’s GTB system.
- Implement programs and activities that encourage use of trails and blueways, such as group rides/paddles, exercise classes, pop-up events, and art programs.
- Encourage the use of branded signage and mile markers along facilities to help users navigate the system and understand how various trails are linked.

### Foster Healthy Behavior

Provide safe opportunities for residents and visitors to engage in physical activity for recreational purposes, with a goal of enhancing overall public health. Well planned trail and blueway systems are often cited as key opportunities for improved health conditions for residents.

- Create more safe opportunities for people to walk or bike.
- Provide opportunities for people to have easy access to facilities where they can recreate for health and exercise purposes.
- Expand opportunities for people to walk or bike to trails, rather than drive.

### Improve Connectivity

Establish a cohesive network that links existing trails and provides connections to communities and destinations, where feasible, throughout Pasco County.

- Fill gaps in the existing trail network, including in areas currently underserved by recreational opportunities.
- Maintain and enhance connections to regional trails, including those that provide access to regional attractions in adjacent communities.

## Improve Mobility and Accessibility

Provide people of all ages and abilities opportunities to walk, bike, and recreate as part of their daily life.

- Ensure a variety of users including pedestrians, joggers, bicyclists, skaters, wheelchair users, and other non-motorized recreational users can access the GTB network.
- Create opportunities for recreational GTB use throughout the County, with a focus on underserved areas.
- Incorporate signage and design elements that clearly communicate where trails are located, how to get to them, and that provide safe and accessible connections.

## Ensure Comfort and Safety

Identify design, infrastructure improvements, signage, and education programs that contribute to a safer and more comfortable system for all GTB users.

- Ensure that the GTB network is easy to navigate.
- Implement safety improvements where trails cross roadways.
- Provide a combination of facilities that are appropriate for users of all levels and abilities.
- Create a comfortable environment for all users through the use of landscape, canopy trees, wayfinding signage, places to rest, vegetative buffers, and other comfort amenities.

## Maintain a State of Good Repair

Ensure that greenways, trails, and blueways remain in a state of good repair by following guidelines and identifying potential funding sources for regular maintenance. Maintenance and upkeep are key to their longevity and sustaining the value of the County's investment in trail and blueway facilities. Well maintained trails can help reduce issues of liability, vandalism, litter, and other unwanted behavior. Promoting their continued use also helps to deter unwanted and criminal activity.

- Increase investment in ongoing repair and maintenance of greenways, trails, and blueways.
- Establish partnerships with public and private entities to improve maintenance.
- Leverage private development to assist with construction and ongoing maintenance of trails alongside new development projects.
- Consider community involvement programs and partnerships such as "Adopt a Trail" programs to assist with maintenance and upkeep.

## Support Economic Development

The facilities identified in the GTB Master Plan represent places where people should want to spend time, connecting these facilities to activity centers, business districts, employment centers, entertainment districts, and neighborhoods can serve as a catalyst for attracting and retaining business and economic development.

- Design and construct trails and blueways that may become destinations and attractors for residents and visitors.
- Encourage "trail-oriented development" that draws attention to GTBs as important components of great places with safe opportunities to recreate and enjoy nature.
- Promote key trails and blueways as destinations for residents and visitors.



## CHAPTER 3 – PUBLIC AND STAKEHOLDER OUTREACH

## **PUBLIC AND STAKEHOLDER OUTREACH**

Public and stakeholder outreach and engagement for the GTB Master Plan was multi-faceted. Engagement consisted of meetings with a Master Plan Working Group, public workshops and open houses, a dedicated project webpage, and two online surveys. The online survey and mapping tools were used to expand the opportunities for people to provide input and to gain additional feedback on items like current trail usage, desired amenities, prioritizing future GTB efforts, and locations where people would like to see new and improved trail and blueway connections.

This chapter provides an overview of the public and stakeholder outreach that was conducted during the development of the Master Plan, more details on the received input and feedback are provided in Appendix B.

### **Working Group**

A Working Group consisting of representatives from several County departments, partner agencies/organizations, and members of the public was convened several times during the Plan development to provide feedback and guidance. The Working Group met three times throughout the development of the Master Plan. The following is a summary of the three Working Group meetings. The Working Group then had an opportunity to review and provide comments on this document.

#### **Working Group Meeting #1 Summary**

Held on November 9, 2022, the first Working Group meeting served as an introduction to the GTB Master Plan, provided an overview of the Plan's objectives and timeline, defined the role of the Working Group, defined the different types of greenways, trails, and blueways, and workshopped ideas on developing the Plan's vision, mission, goals, and objectives.

#### **Working Group Meeting #2 Summary**

The Working Group met a second time on January 17, 2023, to provide an update on the development of the Master Plan including revisions to the Plan's vision statement and goals and objectives. The Working Group reviewed existing trails and blueways and discussed opportunities for new connections and expansion of the trails and blueways network. The group also discussed preferences related to various trail types, supporting infrastructure, and amenities.

#### **Working Group Meeting #3 Summary**

During the third meeting, held on March 28, 2023, the Working Group was provided with an overview of the feedback received during the first public workshop and the first online survey. Additionally, general design standards/guidelines for various trail types were presented to the group for discussion and comments.



## Public Workshops and Open Houses

In-person engagement conducted through two-rounds of public workshops and open houses where people were presented with updates to the Master Plan, provided opportunities to ask questions, and provide input/feedback.

### Workshop and Open House #1

The first public workshop was held on Tuesday, January 24, 2023, at the Land O’ Lakes Recreation Complex between 5:00 pm and 7:00 pm. The workshop consisted of a brief presentation that highlighted the goals and objectives of the Master Plan, the context of the Plan, and direction on the type of input that was being sought. The remainder of the workshop provided people with opportunities to view information, ask questions, engage in conversation, and provide input on where they would like to see future GTB connections, what type of trails and blueways they prefer and would like to see more of, and what amenities they think would enhance the overall trail and blueway experience.



The display boards that were presented during the Workshop were available throughout the week of the Workshop (Monday, January 23, 2023, to Friday, January 27, 2023) for people to view and provide input via interactive display boards and table-top map.

The following provides a brief overview of some of the obtained input, a more detailed account of the feedback from the Workshop and Open House is summarized in Appendix B.

The Workshop and Open House participants indicated that their desired trail types are paved multi-use trails, unpaved multi-use trails, and hiking/nature trails. The most preferred amenities were shade, restrooms, and waste disposal. Participants identified potential connections on a table-top map, the feedback largely showed a desire for east-west connections and for closing gaps between existing parks and trails.



### **Workshop and Open House #2**

The second Workshop was held on Tuesday, May 2, 2023, from 5:30 pm to 7:30 pm. The workshop consisted of an introduction presentation that provided an update on the Master Plan development, including input from the first round of public engagement and then an opportunity for participants to engage with County staff, ask questions, and provide input. Workshop participants discussed topics like identifying opportunities to purchase and secure land for future greenways that could support recreational trails, opportunities for additional hiking/nature trails, and potential funding for expansion of the trail system.

The Open House for the second round of engagement was conducted at several locations throughout the month of May. The Open House provided information on display boards and encouraged people to participate in an online survey. The Open Houses for the second round of engagement were held at the following locations during the following dates:

- Land O’ Lakes Recreation Center, May 1, 2023 – May 8, 2023
- Wesley Chapel District Park, May 8, 2023 – May 13, 2023
- Veterans Memorial Park (Hudson), May 15, 2023 – May 18, 2023
- J. Ben Harrill Recreation Complex (Holiday) – May 18, 2023 – May 22, 2023
- Starkey Ranch Theatre Library Cultural Center, May 26, 2023 – June 5, 2023



## Online Survey

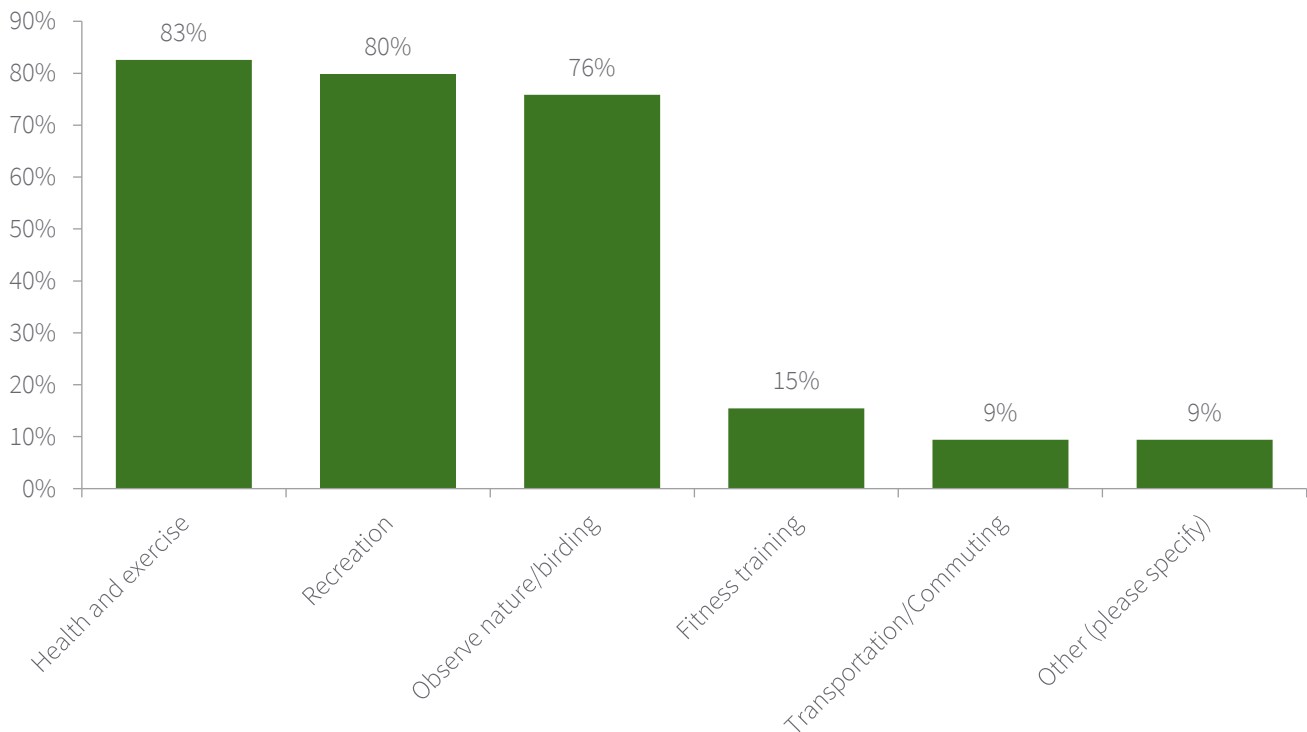
Two online surveys were conducted as part of the GTB Master Plan development to help engage a wider audience and gather input from people who may have been unable to attend one of the workshops or are generally unlikely to attend an in-person event. The following highlights some of the results and comments from the surveys, a detailed summary of the survey results is provided in Appendix B.

### Online Survey #1 Results

Conducted online from January 23, 2023, to February 17, 2023, the first online survey provided people with an opportunity to provide feedback on their current usage of the GTB system and their preferences for future improvement and expansion of the GTB system. There were 149 responses to the survey.

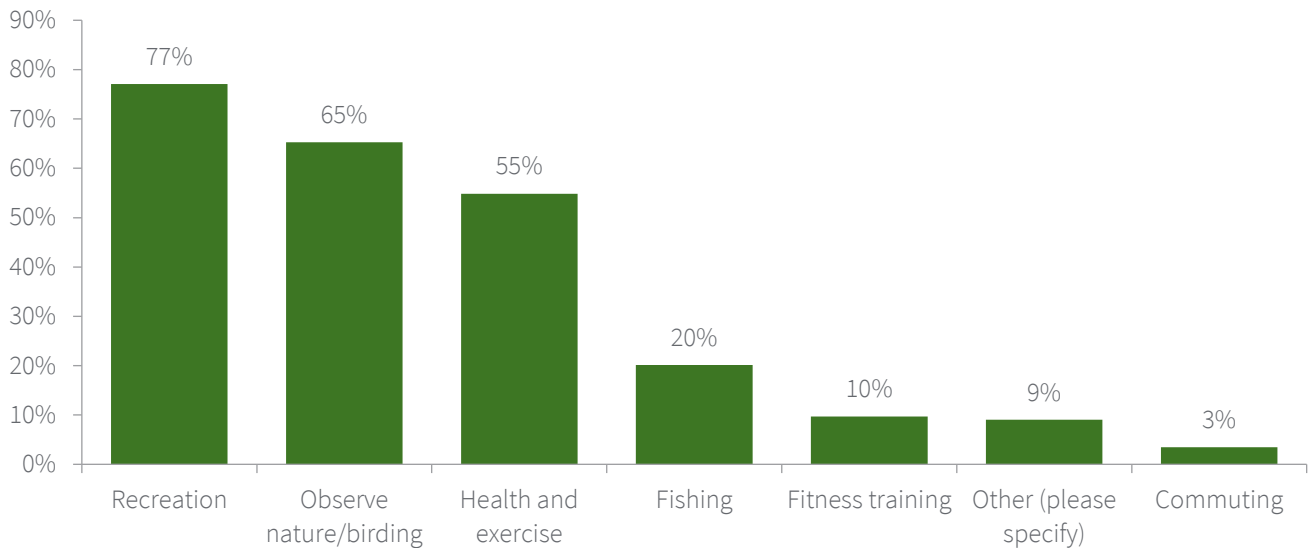
The survey asked participants to indicate the reasons that they currently use trails. Health and exercise, recreation, and observing nature/birding were the most frequent responses. Figure 1 shows the full survey results for the question.

Similarly, respondents were asked to indicate their top reasons for using blueways. While the order shifted, the top three responses for using blueways were recreation, observing nature/birding, and health and exercise. Figure 2 shows the full results of the survey question.



**Figure 1: Reasons for Using Trails**

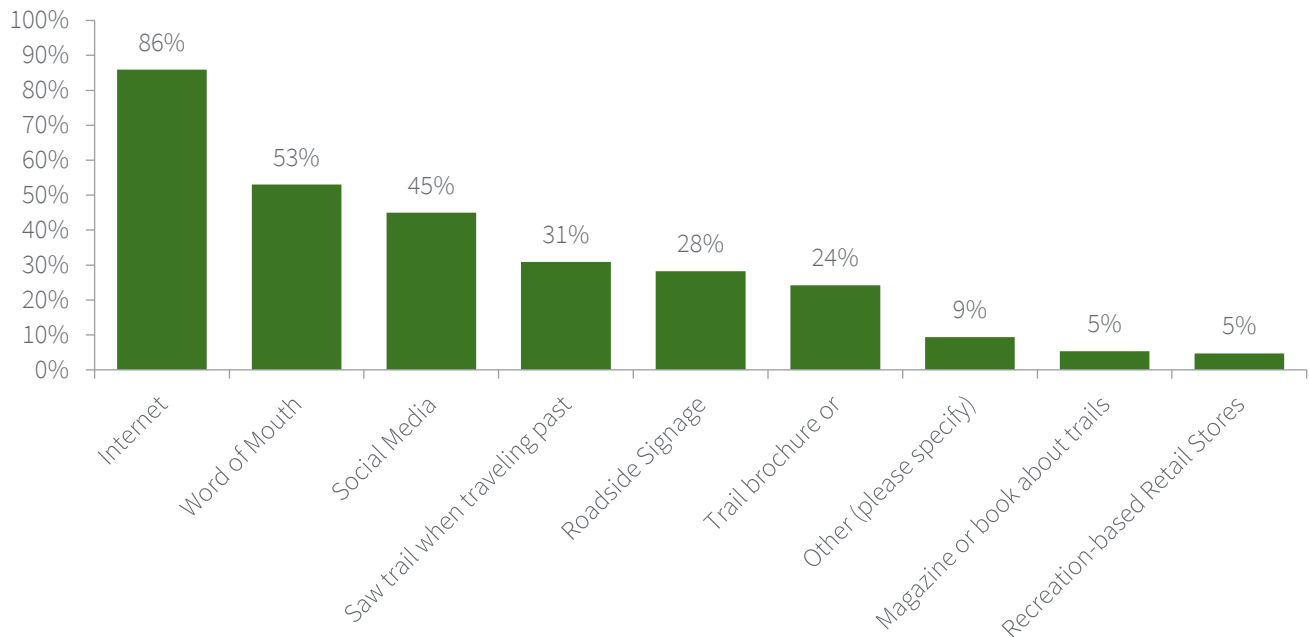




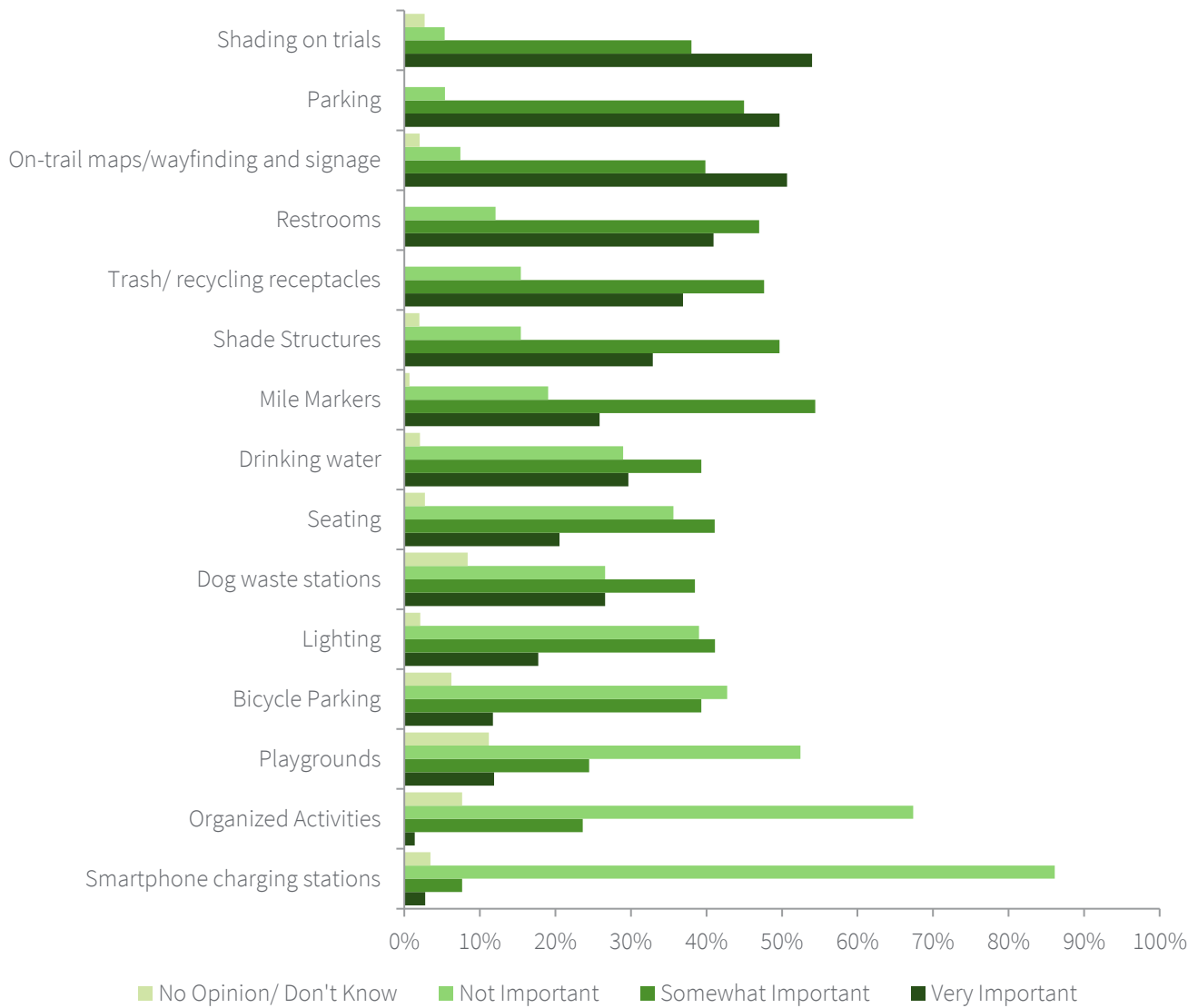
**Figure 2: Reasons for Using Blueways**

One of the survey questions asked people how they obtain information on greenways, trails, and blueways. 86% of respondents selected the internet, 53% word of mouth, and 45% social media. Figure 3 shows the full survey question response.

Respondents were asked to rate how important various trail amenities were to them based on a rating of “Very Important”, “Somewhat Important”, “Not Important”, and “No Opinion/Don’t Know.” Shading on trails, maps/wayfinding and signage, and parking were the most frequent “Very Important” responses. Figure 4 shows the full survey question results.



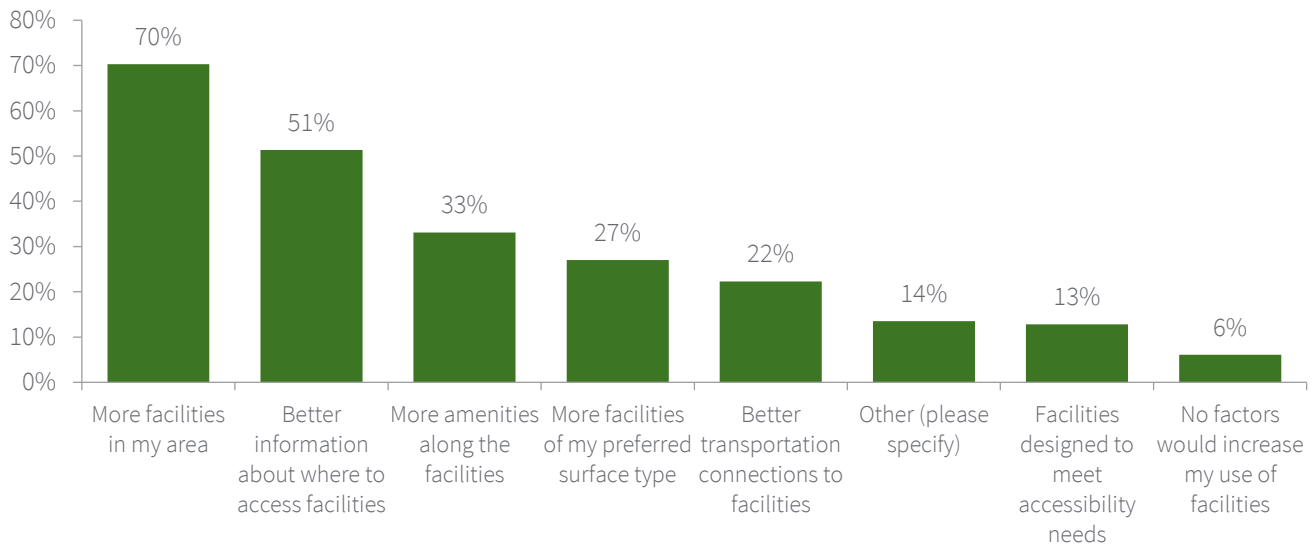
**Figure 3: How People Obtain Information on Trails and Blueways**



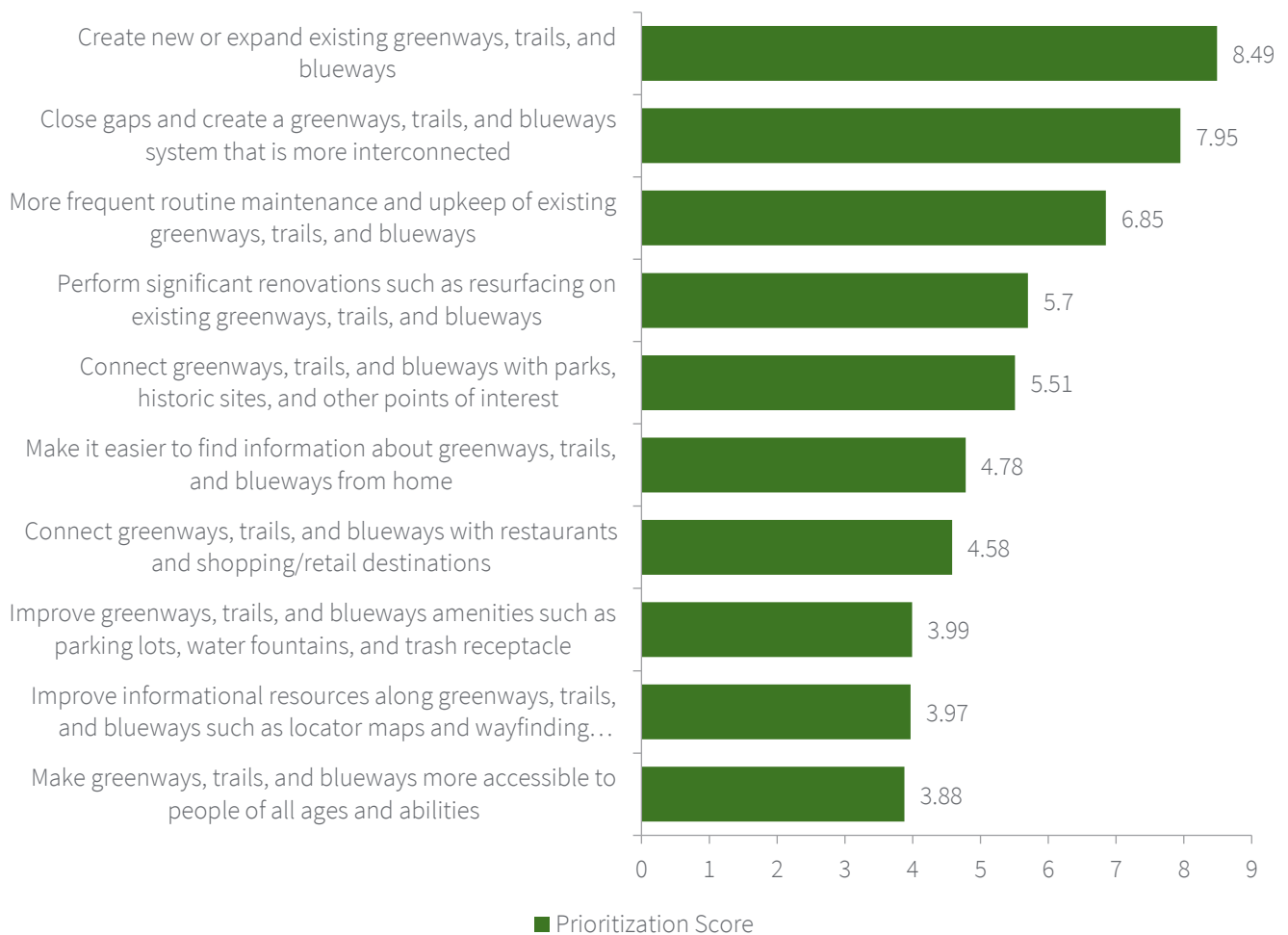
**Figure 4: Importance of Amenities Along Trails**

When asked what factors would increase their usage of trails and blueways, respondents selected having more facilities in their area as the most important factor, with over 70%. Better information about facilities and where to access them came in as the second most important factor and more amenities along facilities came in as the third most selected factor. Figure 5 shows the full survey question results.

Survey respondents were asked to prioritize several various efforts related to future greenway, trail, and blueway actions/improvements. The most preferred option from the respondents was to create new or expand existing facilities, closing system gaps and more frequent routine maintenance came in as the next highest ranked preferences. The full results of the survey question are shown in Figure 6.



**Figure 5: Factors That Would Increase Usage**



**Figure 6: Prioritizing Greenway, Trail, and Blueway Efforts**



## Public Survey #2

A second public survey was conducted from May 1, 2023, to June 4, 2023. This survey asked participants to identify locations where they would like to see future connections and improvements to the GTB system and provided people with an opportunity to provide general comments about trails and blueways and what they would like to see the County focus on in the future. Many of the responses to the survey focused on transportation connections via shared use paths and sidewalks along roadways. There was one comment that discussed a need for trash receptacles along existing trails. A detailed account of the received input from Survey #2 is provided in Appendix B.

### Pasco County Greenways, Trails, and Blueways Master Plan

We would like to invite you to participate in a survey to give us feedback on our current progress in developing the Master Plan as well as your suggestions on where and how the County should improve the existing Greenways, Trails, and Blueways system.

You can access the project information at FOUR separate open houses throughout Pasco County:

- Land O'Lakes Recreation Complex | Activity Room 5 | May 1 to May 6
- Wesley Chapel Recreation Center Lobby | May 8 to May 13
- Veterans Memorial Park Rooms 3 & 4 | May 15 to 17
- J. Ben Harrill Recreation Complex Activity Room 5 | May 18 to 20

Alternatively, you can go to [the project website](#) to download the slides after May 2.

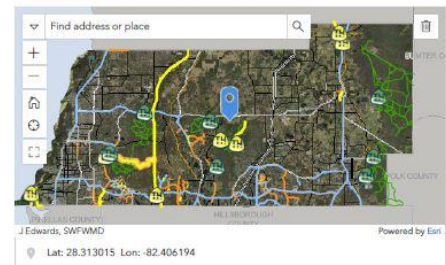
#### Input and Feedback Wanted!

If you have any comments or feedback after reviewing the project progress, please enter them below.

#### Mapping Activity

Where do you use our trails facilities? Where are the places you like to visit? And what improvements would you like to see within the County?

Whether you want see some amenities provided at a facility or would like to have more opportunities to access trails in your neighborhood, you can use the interactive map to show us your desired improvements/connections.



#### Location

Please describe the location identified.

#### Suggestions/Ideas

Please describe what you would like to see at this location.

If you would like to remain informed about the Pasco County GTB Master Plan, please leave your contact information here.

Pasco County greatly appreciates your input! For more information or to stay updated on the Pasco County Greenways, Trails, and Blueways Master Plan project, please visit the following webpage or contact the Pasco County Parks, Recreation, & Natural Resources Department at

[PRN@questions@mypasco.net](mailto:PRN@questions@mypasco.net)

[Pasco County Parks, Recreation, and Natural Resources Department](#)

[Pasco County Greenways, Trails, and Blueways \(GTB\) Master Plan Project Website](#)

Submit

Screenshot of Survey #2



## CHAPTER 4 – EXISTING CONDITIONS



## **EXISTING GREENWAY, TRAIL, AND BLUEWAY NETWORK**

Establishing existing conditions and an understanding of where existing GTB facilities are located is a critical element of the Master Plan process in that it answers the “what do we have” question. This chapter identifies existing and planned greenways, trails, and blueways, including descriptions of the County’s more prominent facilities.

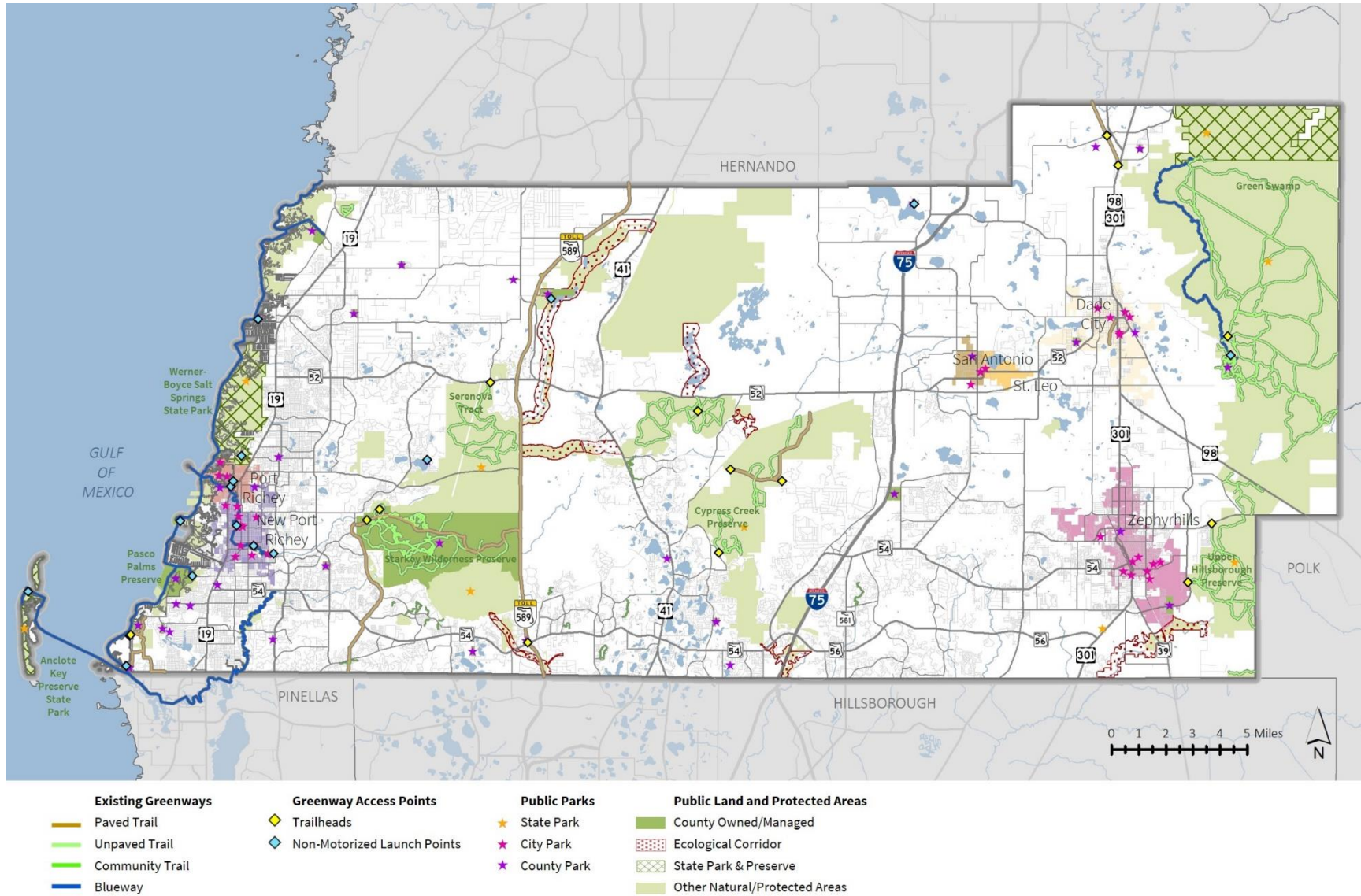
Pasco County currently has nearly 300 miles of trails (paved and unpaved) and almost 60 miles of dedicated blueways (Figure 7). Most of the County’s recreational trails are located within parks and preserves dedicated to recreation and preserving natural areas. While located within Pasco County, many of the trails are located within state parks and Southwest Florida Water Management District (SWFWMD) properties and are not owned and maintained by Pasco County; state and SWFWMD maintained trails are being included as existing trails and blueways in this Plan. The trail and blueway network is made up of various facility types that range from longer trails in natural environments to smaller trails located within community parks. The existing system caters to a wide variety of uses including but not limited to hiking, bicycling (paved and unpaved), equestrian, and paddling.

Figure 8 shows the existing GTB network from a regional context, with connections outside of Pasco County that include facilities like the Suncoast Trail, Pinellas Trail, Upper Tampa Bay Trail, and Withlacoochee State Trail. Portions of the Suncoast Trail, Starkey Wilderness Trail, and Starkey Gap Trail are part of the Florida Coast-to-Coast Trail. Once complete the Coast-to-Coast Trail will span approximately 250 miles and connect communities between St Petersburg and Titusville. The Starkey Gap Trail, completed in November 2020, closed the final gap of the Coast-to-Coast Trail within Pasco County.

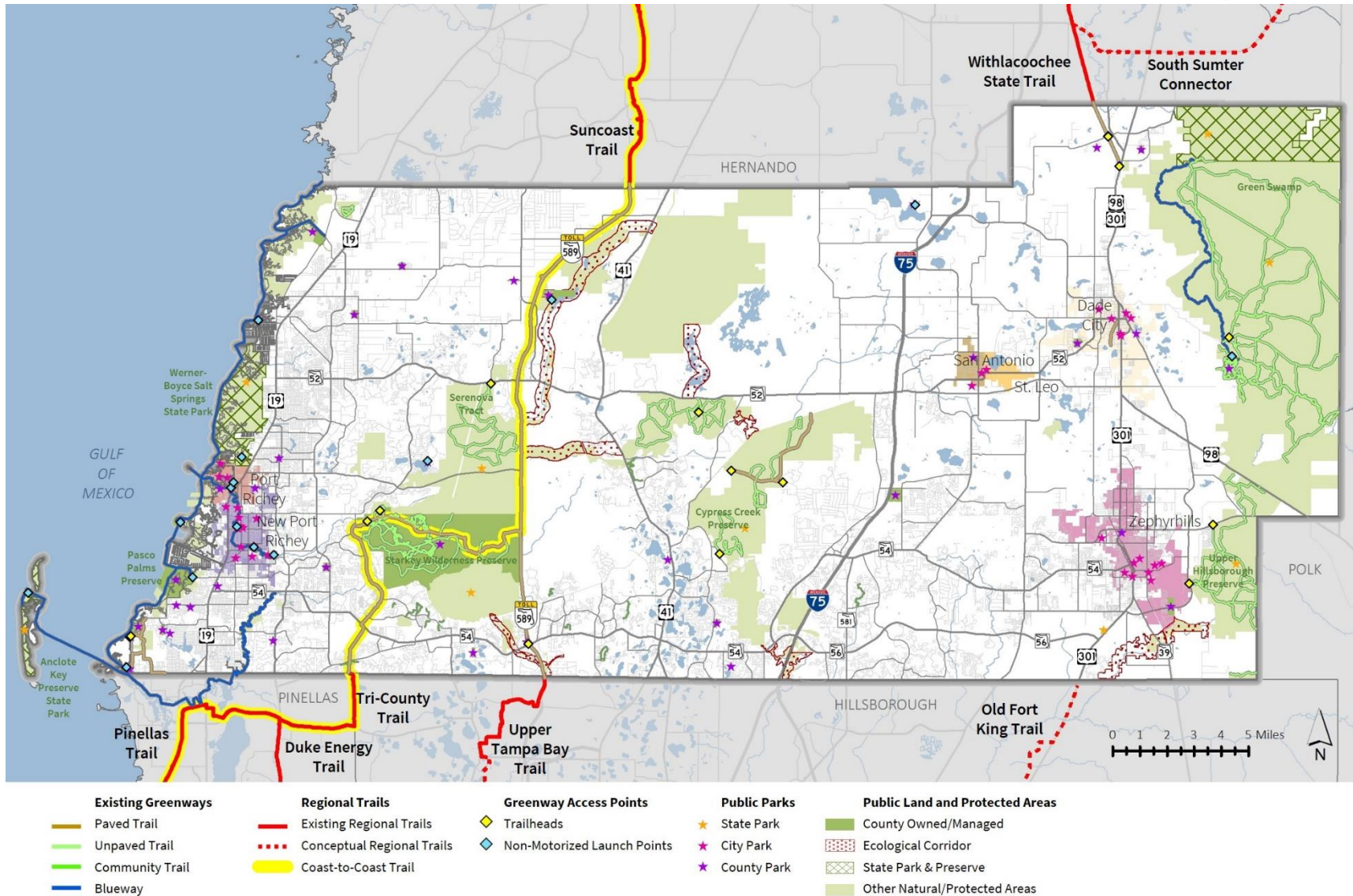
### **Greenway, Trail, and Blueway Ownership**

As previously mentioned, many of the greenways, trails, and blueways throughout the county are located within, maintained, and accessed in properties that are not owned, maintained, or operated by Pasco County. The Starkey Wilderness Trail and portions of the Coastal Anclote Trail are located within county-owned parks, facilities like the Suncoast Trail and Starkey Gap Trail, which make up portions of the State’s Coast-to-Coast Trail, are maintained by the County but are located within State and utility owned properties. The portions of the Coastal Anclote Trail not in county-owned parks is located within right-of-way adjacent to county-maintained roadways. Most of the remaining paved trails are in areas owned by the State, SWFWMD, or land in planned development communities like Long Lake Ranch, Starkey Ranch, Bexley, Connerton, Estancia, and Ballantrae to name a few. Other than Starkey Wilderness Park, Withlacoochee River Park, and some County-maintained preserves, most of the unpaved trails are located within State and SWFWMD properties.





**Figure 7: Existing Greenway, Trail, and Blueway Network**



**Figure 8: Existing Regional Trail Context**



## Paved Trails

There are approximately 65 miles of paved multi-use trails in Pasco County. While some portions of these trails may run parallel to roadways, most are located within their own right-of-way and are either located within or provide connections to parks. The paved trails in Pasco County are grouped into three trail types:

- Regional Trails – Suncoast Trail, Coast-to-Coast Trail, and Withlacoochee State Trail
- County Trails – Starkey Wilderness Trail, Starkey Gap Trail, Coastal Anclote Trail, and Cypress Creek Preserve Trails
- Community Trail – shorter (typically less than two miles) and primarily located in larger planned development residential communities

Table 1 provides the mileage for the three paved trail types, as shown, most of the paved trail network is in the Regional and County trail categories. Note the trails mentioned here do not include the shared use paths, which will be discussed in Supporting Transportation Facilities later in this chapter.

**Table 1: Paved Trail Type Mileage**

| Trail Type       | Mileage |
|------------------|---------|
| Regional Trails  | 26.6    |
| County Trails    | 27.7    |
| Community Trails | 10.7    |

### Featured Paved Trails

The following provides an overview of the more well-known and used paved trails in the County, also shown on Figure 9. These are regionally significant facilities that not only provide recreation opportunities within Pasco but also enhance connections to facilities in neighboring counties.

#### 1. Suncoast Trail

Located in Central Pasco, the Suncoast Trail parallels the Suncoast Parkway. The Suncoast Trail is part of the state’s Greenways and Trails System that connects Hillsborough, Pasco, Hernando, and Citrus counties and the portion north of the Starkey Wilderness Trail is part of the State’s Coast-to-Coast Trail.

##### Trail Profile:

|                     |                           |
|---------------------|---------------------------|
| Type:               | Paved Asphalt             |
| Width:              | 12’                       |
| Length:             | 21.6 Miles (within Pasco) |
| Maintaining Agency: | Pasco County              |
| Owned By:           | FDOT                      |



## 2. Starkey Wilderness Trail

Located within Jay B. Starkey Wilderness Park, the Starkey Wilderness Trail spans across a variety of landscapes including flatwood pine, wetlands, and palmetto scrub and is part of the Florida Coast-to-Coast Trail. The trail includes spaced-out shelters that provide shade for users.

### Trail Profile:

|                     |               |
|---------------------|---------------|
| Type:               | Paved Asphalt |
| Width:              | 12'           |
| Length:             | 7.3 Miles     |
| Maintaining Agency: | Pasco County  |
| Owned By:           | SWFWMD        |



## 3. Withlacoochee State Trail

Located in northeast Pasco County, the Withlacoochee State Trail, one of the state's longest trails at 46 miles in total length, connects Citrus, Hernando, and Pasco counties and offers a varied experience through small towns and natural landscapes. The Withlacoochee State Trail is part of the Florida Greenways and Trail System and is also designated as a National Recreation Trail.

### Trail Profile:

|                     |                          |
|---------------------|--------------------------|
| Type:               | Paved Asphalt            |
| Width:              | 12'                      |
| Length:             | 2.9 Miles (within Pasco) |
| Maintaining Agency: | FDEP                     |
| Owned By:           | FDEP                     |





#### 4. Coastal Anclote Trail

Located in southwest Pasco County, the Coastal Anclote Trail is a multi-use trail that connects three county parks, Key Vista Park, Anclote Gulf Park, and Anclote River Park. The Coastal Anclote Trail is adjacent to Anclote High School, Paul R Smith Middle School, and Gulfside Elementary School.

##### Trail Profile:

|                     |               |
|---------------------|---------------|
| Type:               | Paved Asphalt |
| Width:              | 12'           |
| Length:             | 4.5 Miles     |
| Maintaining Agency: | Pasco County  |
| Owned By:           | Pasco County  |



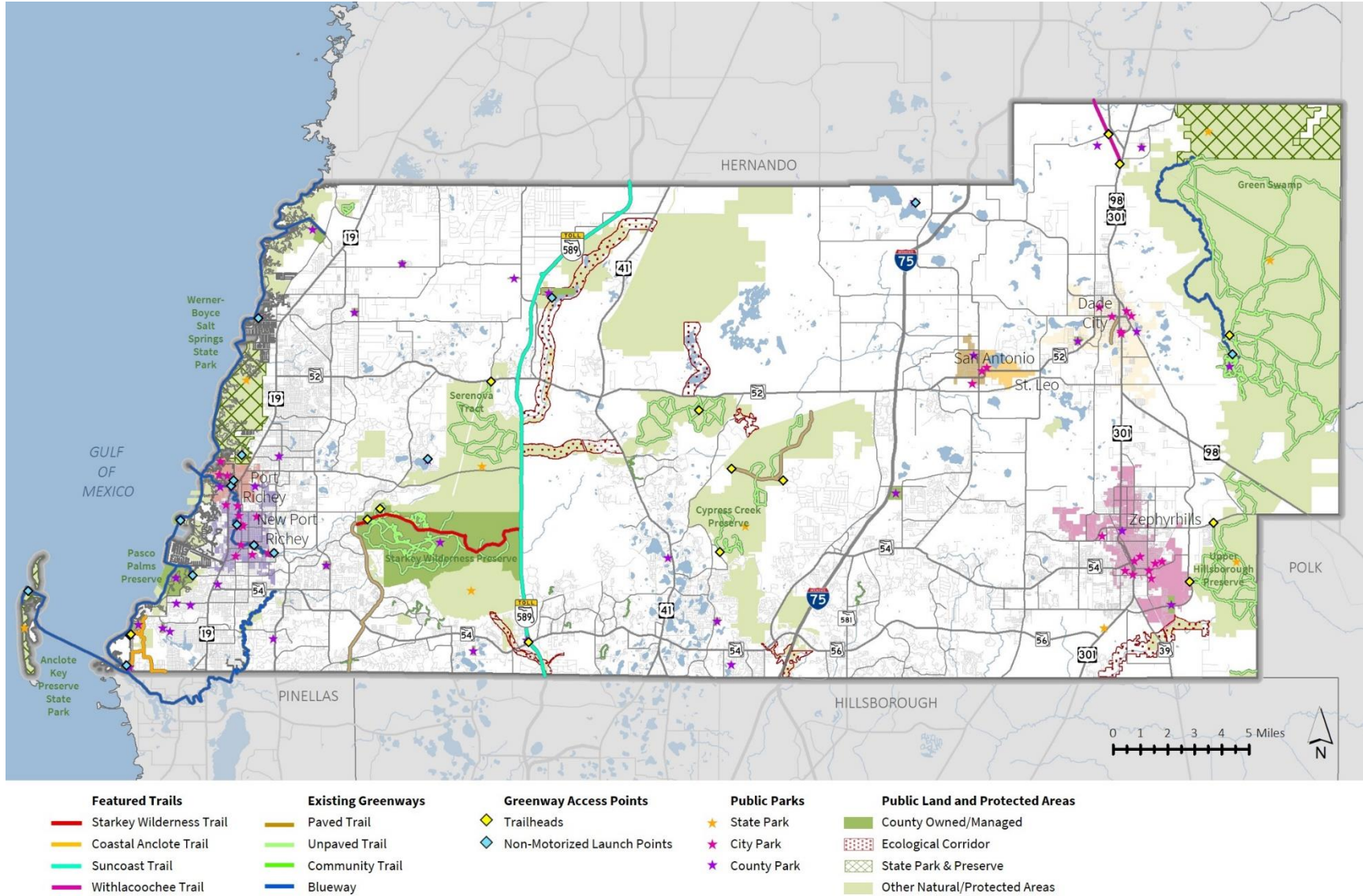
Source: Tampa Bay Times

#### Unpaved Trails

Unpaved trails comprise the largest share of Pasco County’s trails network, with almost 250 miles of dedicated trails. Located mostly within parks and dedicated nature preserves, the unpaved trails within the County serve a wide range of users and user types and offer a wide range of experiences. As previously mentioned, most of the unpaved trails throughout Pasco County are located within State and SWFWMD properties, with county-maintained unpaved trails mostly existing in Starkey Wilderness Park and Withlacoochee River Park, with others located within the County’s Environmental Lands Acquisition and Management Program properties. The partnership that the County has with the State and SWFWMD provides people with expanded opportunities to recreate. While most of the unpaved trails are designed primarily for foot traffic, trails such as Rudy’s Ramble, Twisted Pine, and Deliverance in Starkey Wilderness Park.



Starkey Wilderness Park, Source: Pasco County



**Figure 9: Featured Trails**

## Trailheads and Trail Access

Trailheads are generally official points of access to a trail or blueway. These are frequently provided at the beginning or end of trails, but they can also be mid-point locations where access is possible and desired. The purpose of trailheads is to provide the public access to trails and blueways, they can be both formal and informal, depending on the surrounding context and setting. Formal trailheads often provide public facilities, such as parking, drinking fountains, seating, trail signage, and restrooms where informal trailheads may consist of little more than a sign and an unpaved parking area.

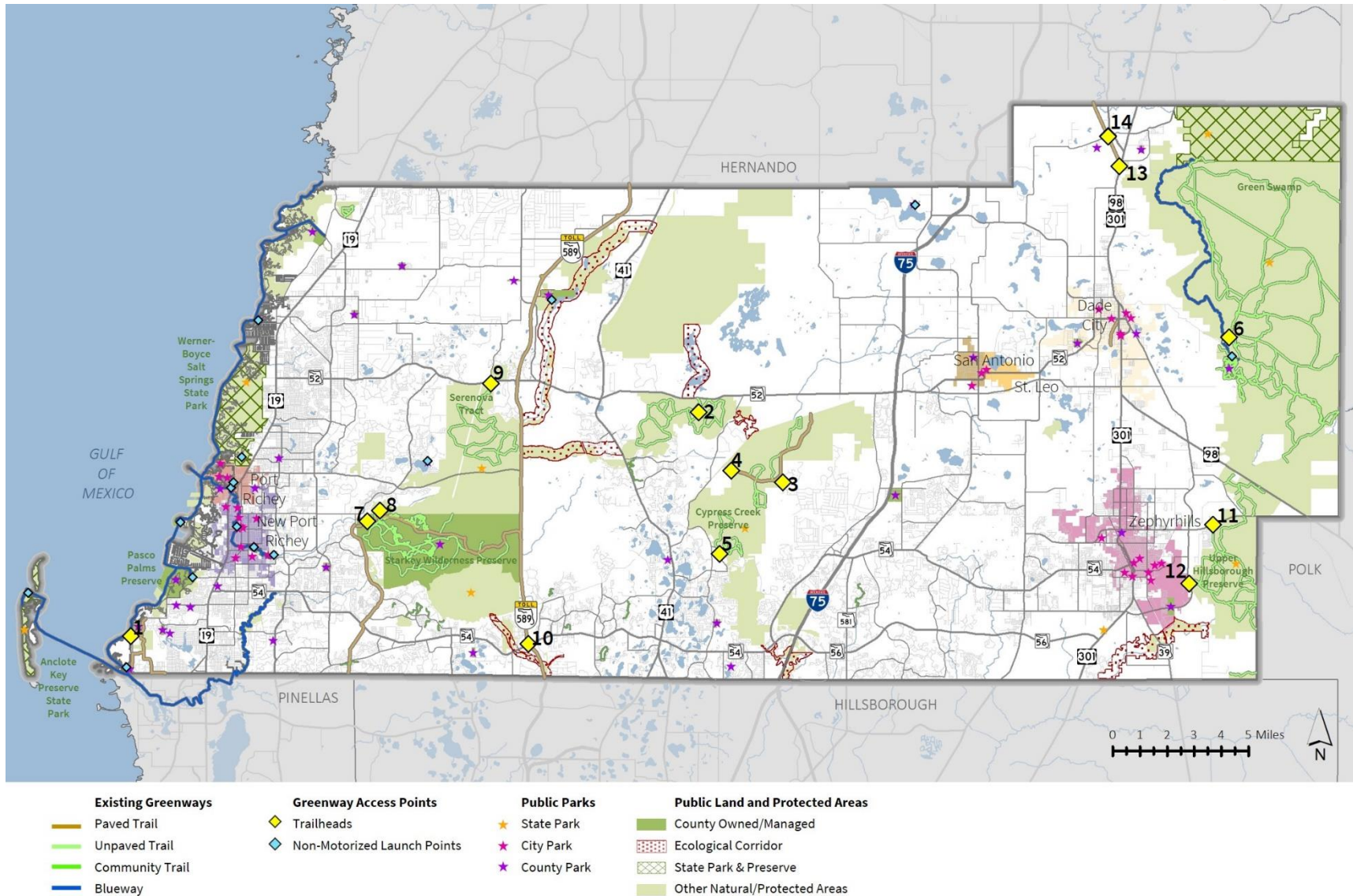
There are 14 officially recognized trailheads (following list and Figure 10) that serve the paved and unpaved trails in Pasco County. While not official trailheads, the Plan does recognize that there may be several locations where people may be able to informally access trails and blueway, some of these may be located within parks and preserves and others are where existing trails interact with other facilities or roadways. Trailheads that are located within parks often serve as a function of the park and provide access to not only the trail or blueway, but to the entire park.

1. Anclote Gulf Park
2. Conner Preserve
3. Cypress Creek Preserve – East
4. Cypress Creek Preserve – Northwest
5. Cypress Creek Preserve – Southwest
6. Green Swamp Wilderness Preserve – West Tract
7. Starkey Wilderness Preserve 1
8. Starkey Wilderness Preserve 2
9. Starkey Wilderness Preserve – Serenova Tract
10. Suncoast Trailhead
11. Upper Hillsborough Preserve – Central
12. Upper Hillsborough Preserve – South
13. Withlacoochee State Trail – Owensboro Trailhead
14. Withlacoochee State Trail – Trilby Trailhead



*Suncoast Trailhead, Source: Pasco County*





**Figure 10: Existing Trailheads**



## Blueways

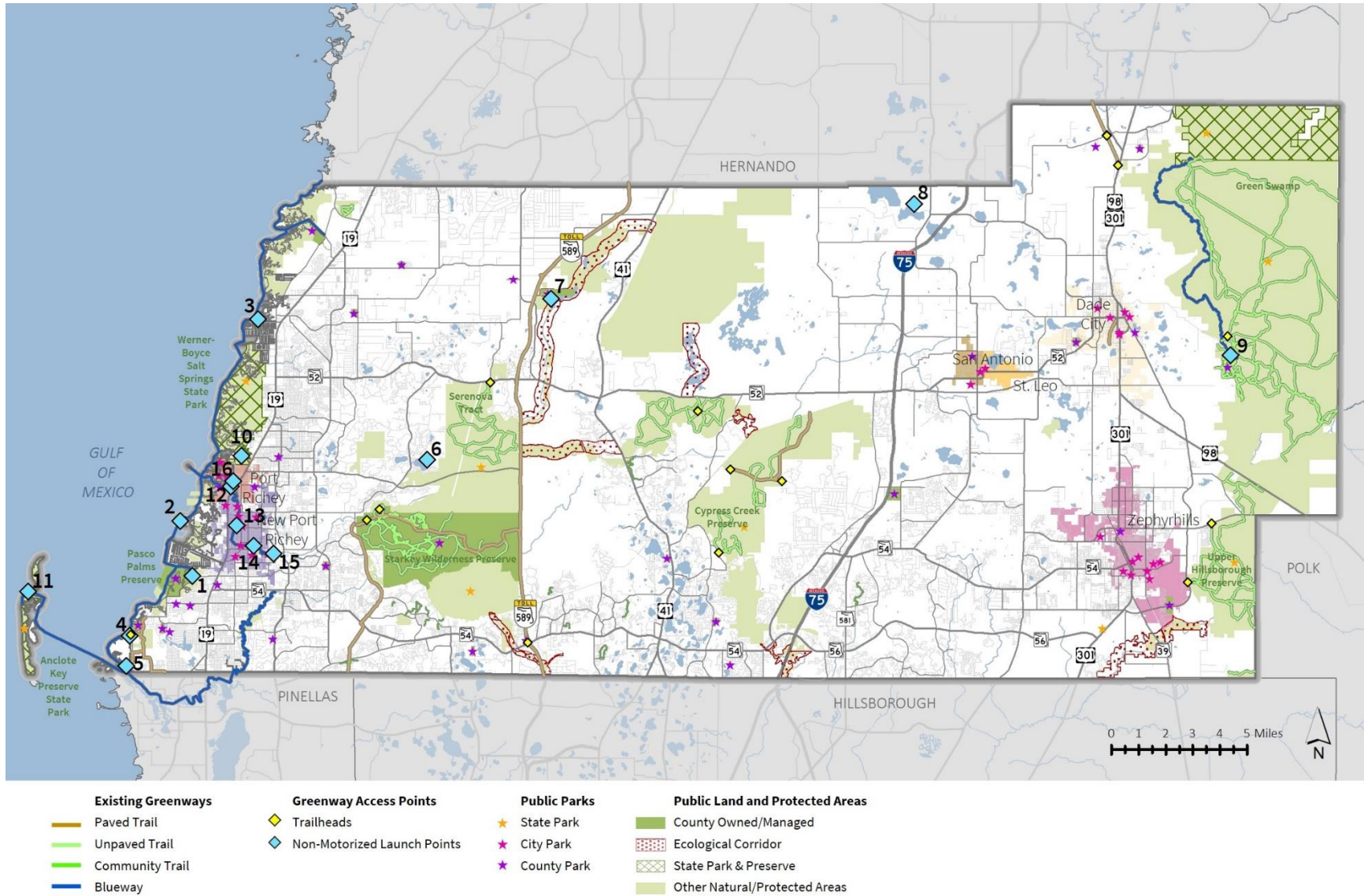
Pasco County’s blueways are a mix of coastal and inland blueways that offer a wide range of paddling experiences. Coastal blueways like those found in Werner-Boyce Salt Springs State Park, Anclote Key, and the Nature Coast segment of the Florida Circumnavigational Saltwater Paddling Trail provide users opportunities to experience wildlife and nature while visiting beaches, coastal marshes, mangrove forests, and tidal flats. Inland blueways along the Anclote River, Pithlachascotee River (commonly referred to as the Cotee River), and the Withlacoochee River provide unique paddling experiences along rivers that flow through a variety of habitats including cypress swamps, hardwood and pine forests, and more built-out areas.

There are 16 public blueway launch points in Pasco County. The facilities, including the types of ramps and amenities, vary from location to location, some launch points utilize boat ramps, while others are equipped with dedicated canoe/kayak ramps and/or launches that vary from soft launch facilities to facilities with built-out infrastructure. Figure 11 and the corresponding list identify the public blueway launch points throughout the County.

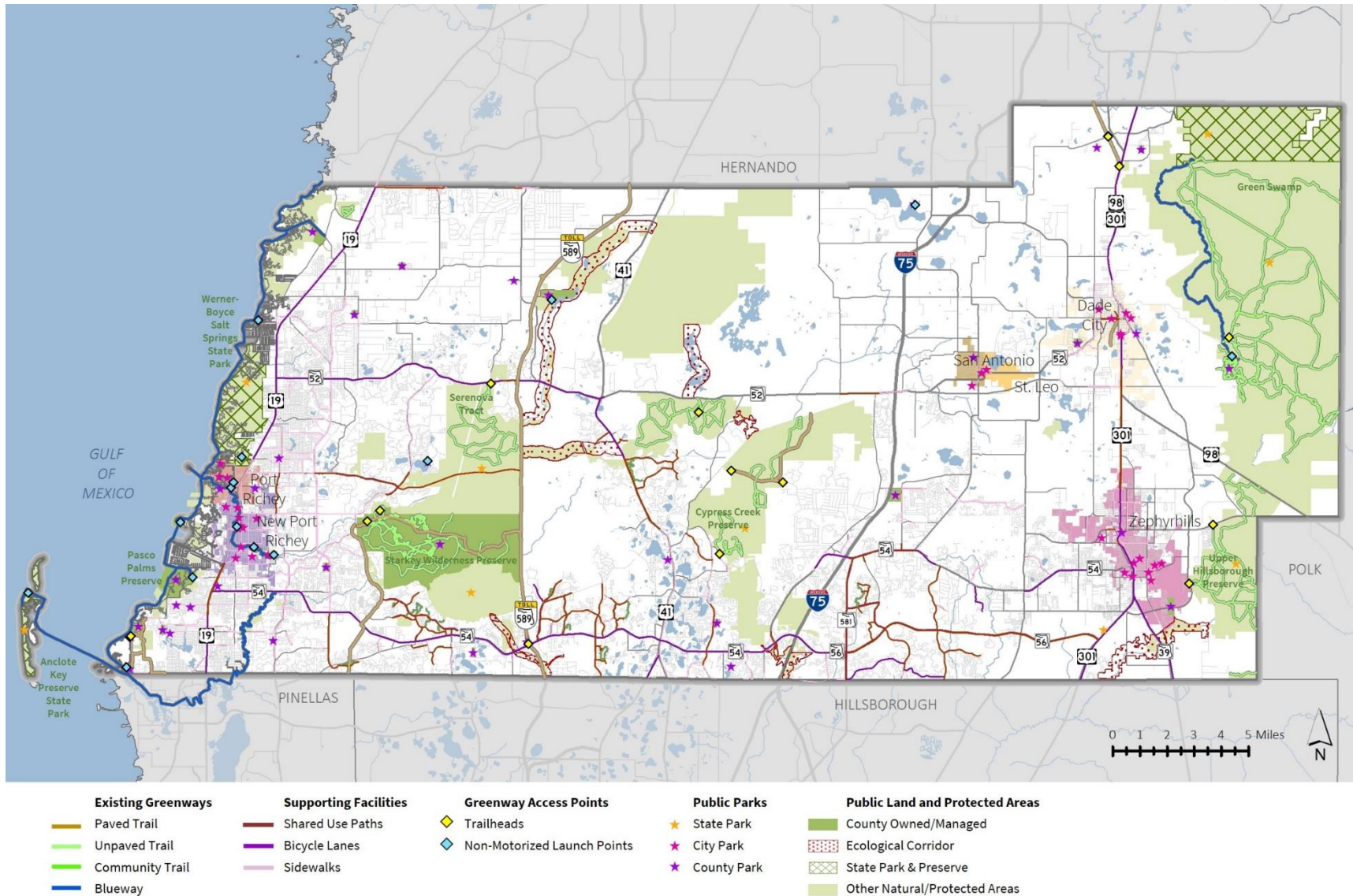
- |                                 |  |
|---------------------------------|--|
| 1. Eagle Point Park             | 9. Withlacoochee River Park              |
| 2. Robert K. Rees Memorial Park | 10. Werner-Boyce Salt Springs State Park |
| 3. Robert J. Strickland Park    | 11. Anclote Key Preserve State Park      |
| 4. Anclote Gulf Park            | 12. Nick’s Park                          |
| 5. Anclote River Park           | 13. Sims City Park                       |
| 6. Moon Lake Park               | 14. Frances Avenue City Park             |
| 7. Crews Lake Wilderness Park   | 15. James E Grey Preserve                |
| 8. Middle Lake Park             | 16. Port Richey Waterfront Park          |

## Supporting Transportation Facilities

Facilities such as shared use paths, on-street bicycle lanes, and sidewalks play an important role in the overall active transportation network and while they are not a focus of this Plan, they are important supplements to the GTB network. Figure 12 shows the existing shared use paths, on-street bicycle lanes, and sidewalks along with the existing GTB network. There are currently more than 100 miles of shared use paths located along and adjacent to roadways throughout the County. These facilities serve as critical connections to the GTB network and are expected to play a critical role in enhancing connections to the GTB network in the future.



**Figure 11: Existing Blueway Launch Points**



**Figure 12: Supporting Active Transportation Facilities**





## CHAPTER 5 – CONNECTIVITY AND OPPORTUNITIES



Greenways, trails, and blueways positively impact individuals and improve communities by providing not only recreation and transportation opportunities, but also by influencing economic and community development. The development of a connected and comprehensive GTB network will help to ensure that the residents and visitors of Pasco County experience an enhanced quality of life. Identifying opportunities for future GTB connections involves a systematic process that includes evaluation, coordination, and planning. While the path to identifying and implementing GTB network connections can vary, the following outlines the general process and decision-making steps.

- **Identify and Define the Existing Network** – Establish a base understanding of the existing GTB network, including their locations, connectivity, and purpose (what users are they intended for?).
- **Assess Community Needs and Preferences** – Engage with local communities, GTB users, and relevant stakeholders to gather input on their needs, preferences, and desires for new connections. Conduct surveys, public meetings, workshops, or interviews to understand community interests and priorities.
- **Analyze Environmental Constraints and Land Ownership** – Assess the environmental impact of the proposed connection. Identify ecologically sensitive areas, endangered species habitats, or potential impacts on water resources, and ensure that the proposed connection adheres to environmental regulations and best practices. Additionally, determine land ownership patterns to understand which entities or organizations may be involved in the decision-making and implementation process.
- **Coordinate with Partner Agencies and Organizations** – Engage with relevant government agencies, local municipalities, landowners, non-profit organizations, and other stakeholders involved in the management of GTB facilities, public spaces, and active transportation facilities. Coordinate to understand their perspectives, guidelines, and any legal or regulatory requirements for developing new connections.
- **Conduct Feasibility Studies** – Evaluate the feasibility of potential connections based on factors such as cost, available resources, technical challenges, and community support. Consider factors such as construction, maintenance, access, parking, and ongoing management requirements.
- **Prioritize Connections** – Based on input, review, and evaluation of potential connections, develop a prioritized list of connections that can be moved into the next phases of development.
- **Facility Design** – Develop a facility design plan that includes a proposed alignment, location of trailheads, amenities, signage, and any needed support infrastructure. Consider safety, accessibility, and maintenance requirements during this phase.
- **Secure Funding** – Identify potential funding sources for facility development, these may include government grants, private donations, partnerships with private enterprises, or crowdfunding initiatives. Develop a funding strategy and seek financial support to implement the proposed connections.
- **Construct and Maintain Connections** – Once funding is secured the implementation and construction process can be commenced. In addition to constructing new connections, a maintenance plan and schedule should be developed to help ensure the long-term viability and upkeep of the facility.

This Chapter further explores the existing network, looking at general connectivity and accessibility to the existing network, looks at planned and previously identified connections, and identifies the desired connections that were identified through the public and stakeholder engagement process of the Master Plan.

## GREENWAY, TRAIL, AND BLUEWAY CONNECTIVITY

Chapter 4 describes where existing facilities are located and discusses the different types of facilities currently found throughout the County. This section will examine how the GTB network interfaces with the residents of Pasco County and establishes some baseline measures that could be used to evaluate future GTB network needs. The measures explored in this section include a look at where trails and blueways are located in comparison to where people reside today and where growth is projected to occur in the future and an evaluation of access to GTB facilities by looking at how many people are within various drivetimes to existing trailheads.

### Proximity to Where People Live

Pasco County has experienced and is continuing to experience rapid population growth. A challenge in providing recreational trails and blueways that allow people to experience nature and are easily accessible is that often the areas where there are the most people are also the areas where land to provide these facilities is limited. Understanding the relationship between where people live, where they are projected to live, and the availability and access to trails and blueways is helpful in evaluating future trail and blueway opportunities. Figure 13 shows the existing (U.S. Census 2021 American Community Survey (ACS)) population per acre by Census block group. As shown, the County’s existing population is largely concentrated along the US 19 and SR 54/56 corridors.

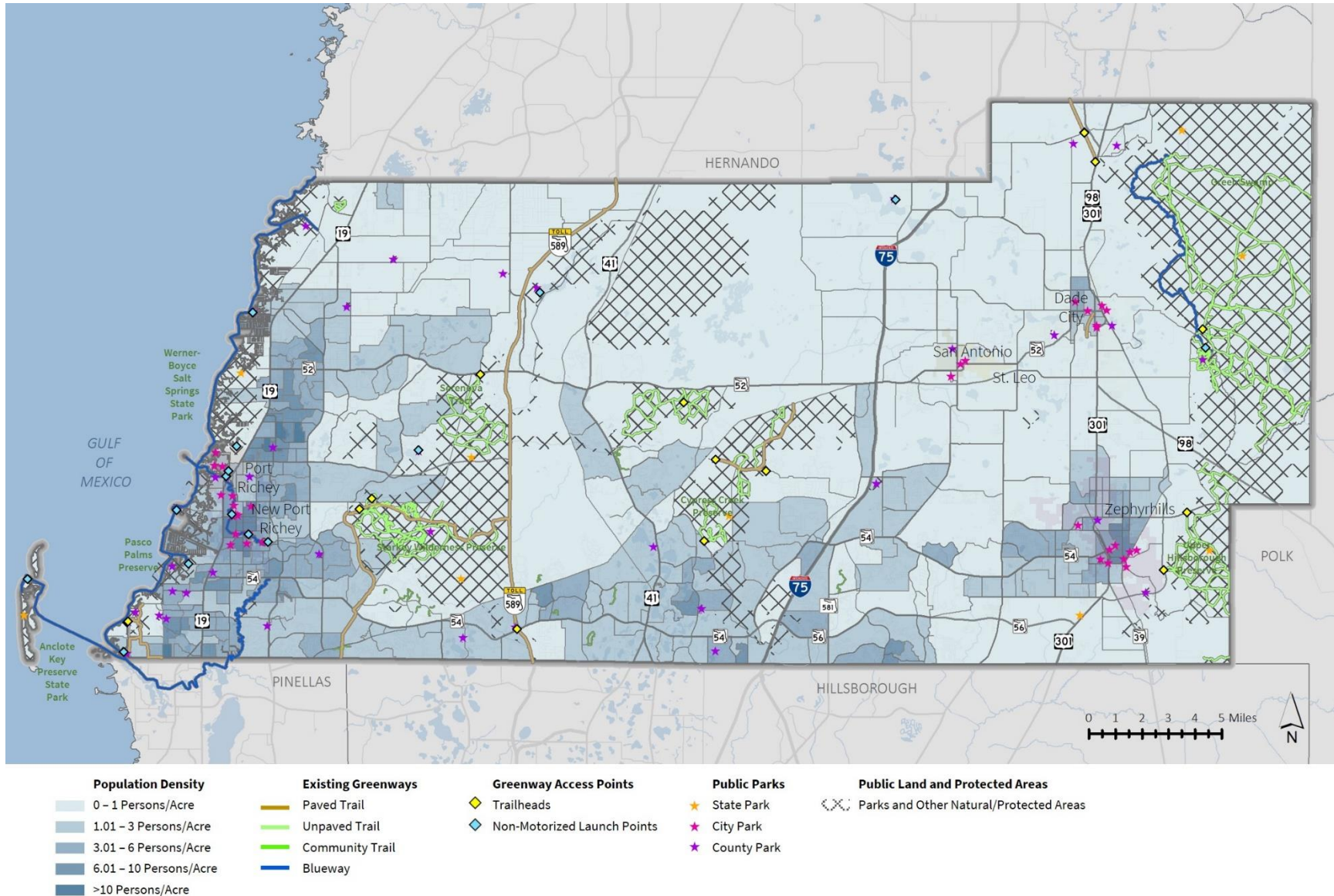
Figure 14 shows projected 2045 population density by traffic analysis zone (TAZ) using socio-economic data developed for the Pasco County 2045 Long Range Transportation Plan (LRTP). The projected population data shows that areas along the US 19 and SR 54/56 corridors will still be some of the County’s most densely populated areas, with continued growth in the central and eastern portions of the county.

One way to measure access to trails is to calculate linear miles of available trail by population. Table 2 compares the miles of available trails (paved and unpaved) per existing and projected population. As shown, there is currently 1 mile of paved trail per 8,487 residents, 1 mile of unpaved trail per 2,223 residents, and 1 mile of total trail per 1,761 residents. If no new trails were constructed the ratio of trails per population in 2045 would be 12,085 residents per mile of paved trail, 3,165 residents per mile of unpaved trail, and 2,508 residents per mile of total trail. To maintain the existing population per mile of trail ratio, Pasco County would need to construct approximately 28 miles of paved trails and 105 miles of unpaved trails by 2045.

**Table 2: Population per Linear Mile of Trail**

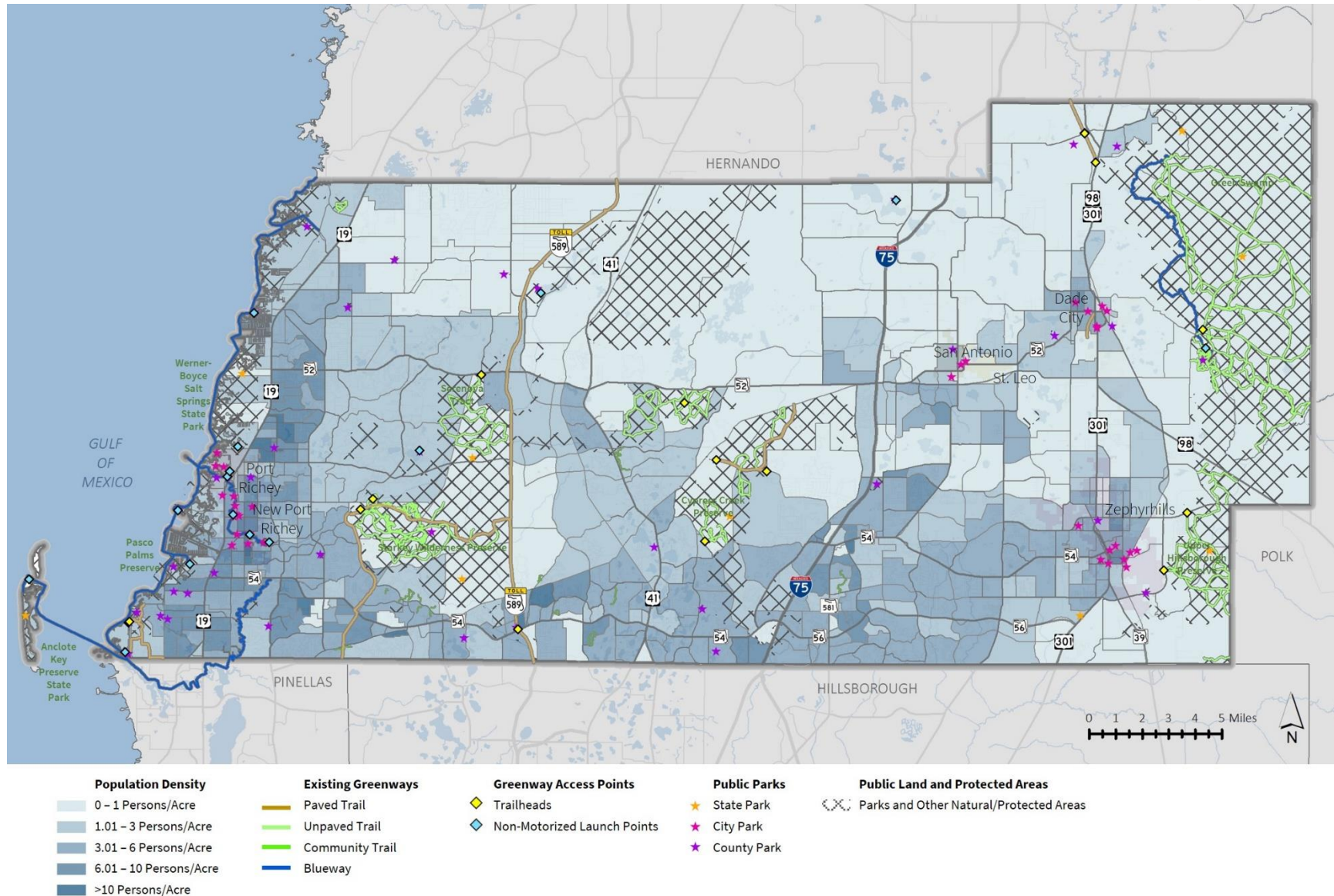
| Trail Type    | Existing Population per Mile of Trail | Projected Population per Mile of Trail |
|---------------|---------------------------------------|--|
| Paved Trail   | 8,487                                 | 12,085                                 |
| Unpaved Trail | 2,223                                 | 3,165                                  |
| Total Trail   | 1,761                                 | 2,508                                  |

*The Florida Statewide Comprehensive Outdoor Recreation Plan (SCORP) establishes a Level of Service goal for paved trails at 0.05 miles per 1,000 participants (1-mile per 20,000 participants) and 0.49 miles of unpaved trail per 1,000 participants (1-mile per 2041 participants).*



**Figure 13: Existing Population Density**





**Figure 14: Projected 2045 Population Density**



### Ease of Access to Trails and Blueways

In addition to looking at current and projected population in relation to trail facilities, an analysis looking at the percentage of the County’s population located within various drive times of existing trailheads and blueway launch points was completed. The drivetime analysis was developed in a Geographic Information System (GIS) platform that using the county’s roadway network and ordinary weekday afternoon traffic conditions calculates the area from each existing trailhead and launch point based on various drive times. These areas were then intersected with the existing Census block group population to identify the percentage of the existing population that is within the various drivetime areas.

Drivetime areas ranging between 5 and 20 minutes from existing trailheads were identified and analyzed against existing population (Figure 15). Table 2 lists the percentage of the existing population that are located within the various drivetime ranges. The drivetime analysis indicates that approximately 55% of the population lives within a 10-minute drive of an existing trailhead and nearly 94% live within a 20-minute drive.

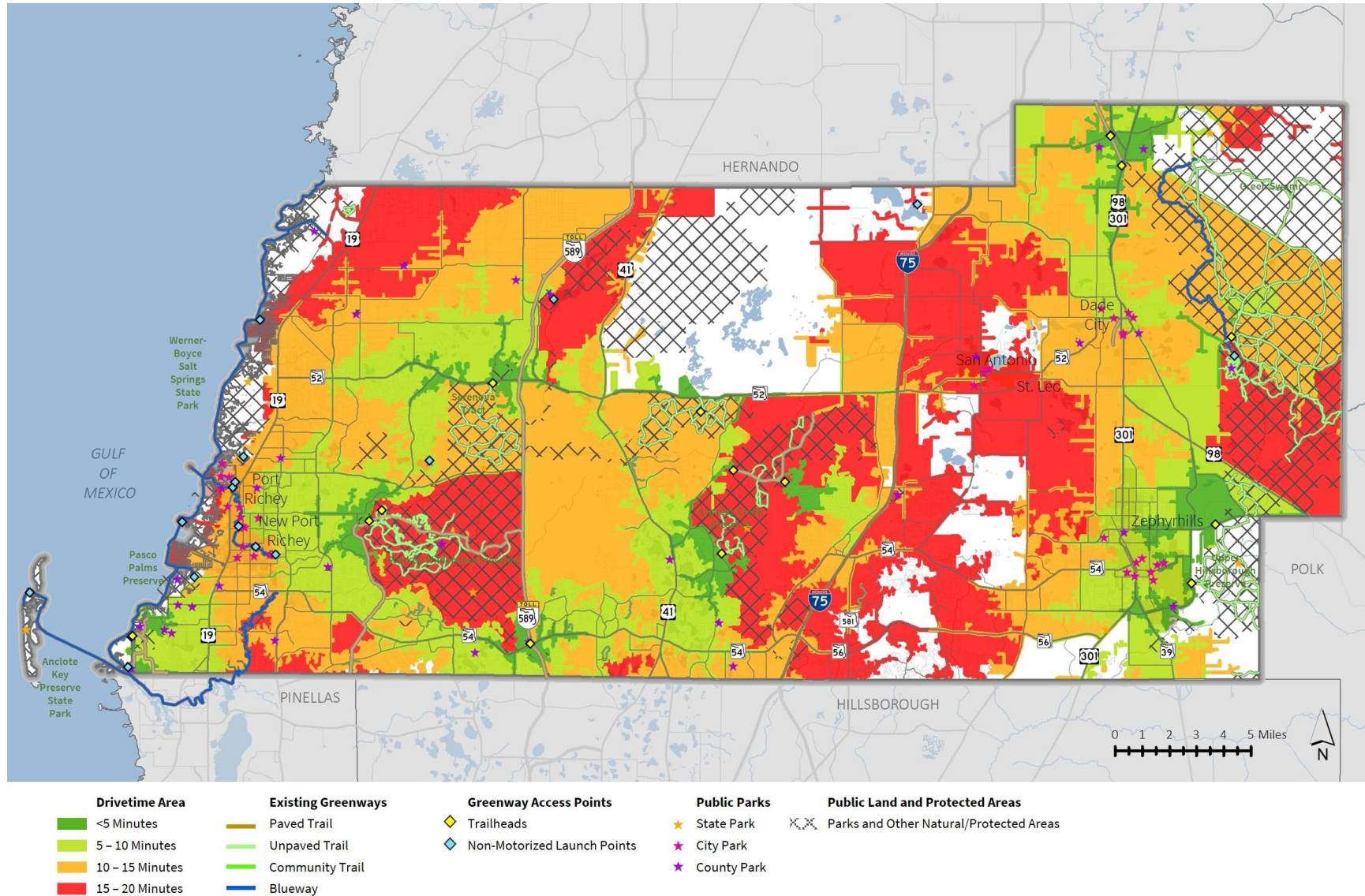
**Table 3: Population within Drivetime of Trailheads**

| Drivetime (minutes) | Percent of Population |
|---------------------|-----------------------|
| 5                   | 4.9%                  |
| 10                  | 55.1%                 |
| 15                  | 74.9%                 |
| 20                  | 93.6%                 |

Figure 16 shows the drivetime areas from the existing blueway launch points in ranges from 5 to 20-minute driving distances. Table 4 shows the approximate percentage of population that is located within the various drivetime ranges. The analysis results indicate that approximately 25% of the population lives within a 10-minute drive of a launch point and 42.5% live within a 20-minute drive. Not surprisingly, the areas along the Gulf coast of the County are located within the lowest drivetimes of a blueway launch point.

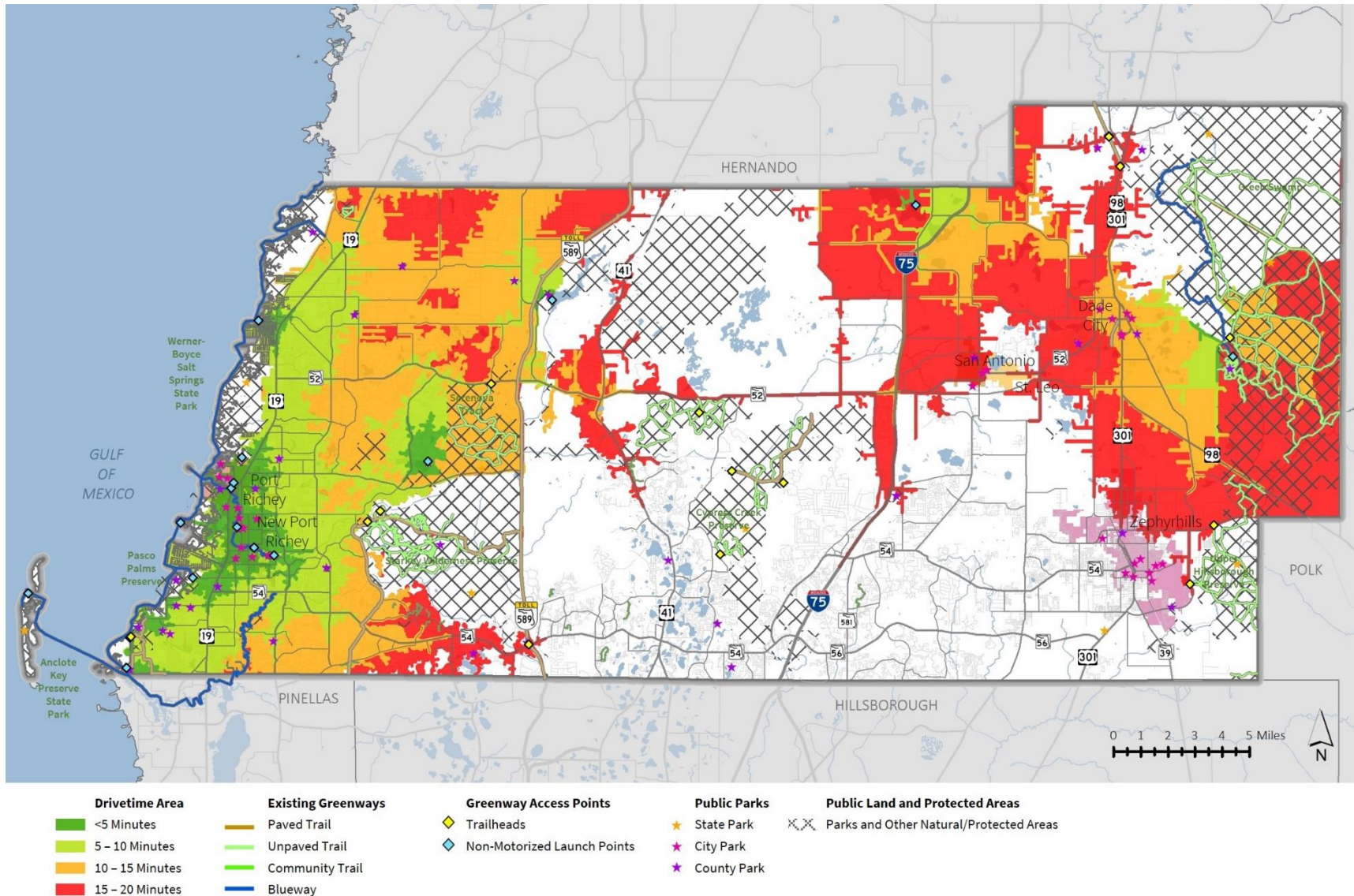
**Table 4: Population within Drivetime of Trailheads**

| Drivetime (minutes) | Percent of Population |
|---------------------|-----------------------|
| 5                   | 6.2%                  |
| 10                  | 24.7%                 |
| 15                  | 35.1%                 |
| 20                  | 42.5%                 |



**Figure 15: Drivetime to Existing Trailheads**



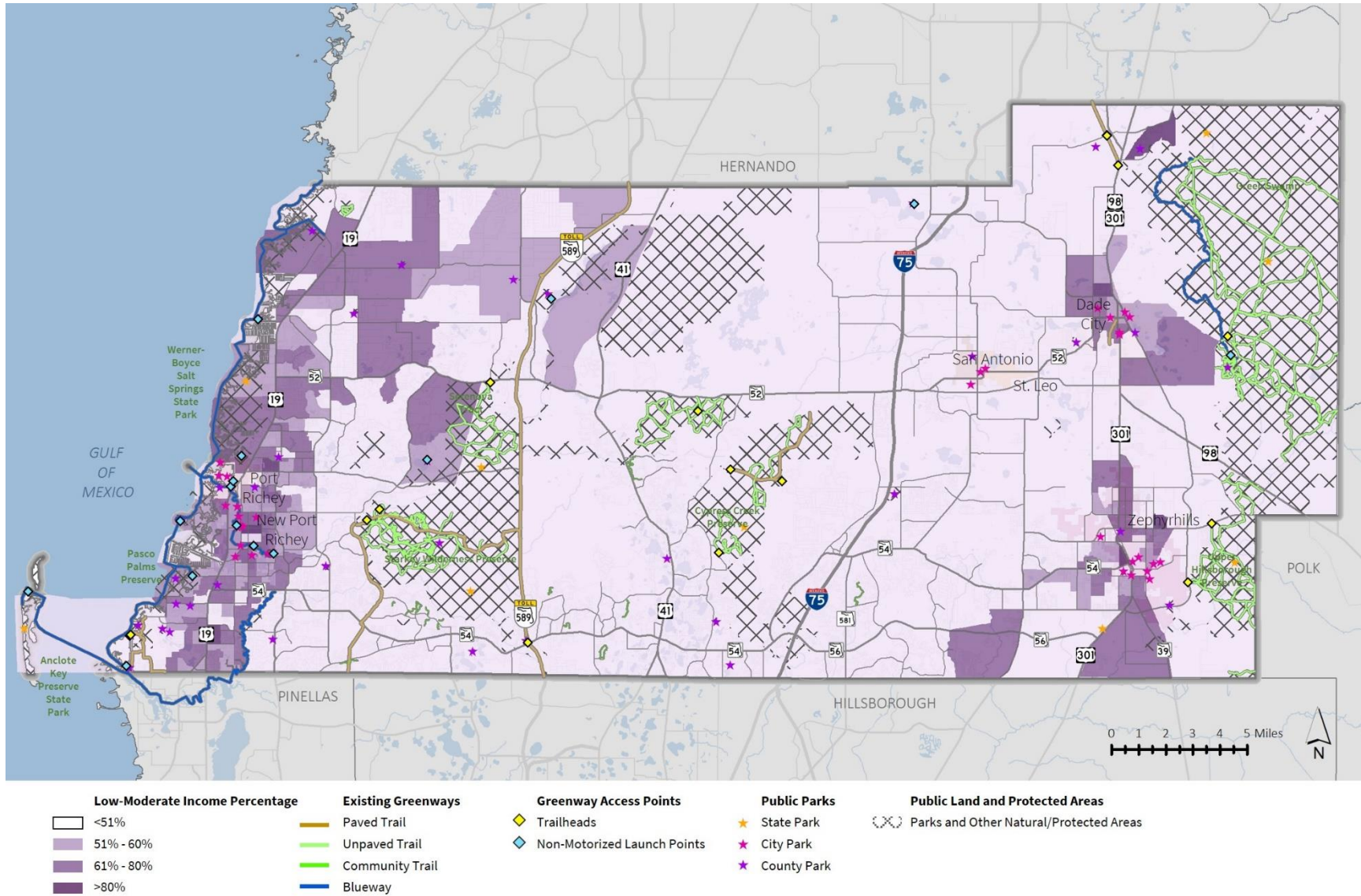


**Figure 16: Drivetime to Existing Launch Points**



## Equity Assessment

Assessing how Pasco County’s GTB system interacts with disadvantaged and underserved communities can help inform project prioritization, resource allocation, and decision-making, helping guide decisions about where investments might be warranted and where there may be opportunities to create more equitable communities. Using low- and moderate-income summary data (LMISD) from the U.S. Housing and Urban Development Department (HUD), areas that have higher percentages of person identified as low- and moderate-income were identified at the U.S. Census Bureau’s Block Group level. The percentages shown in Figure 17 represent the percent of the population, per block group, that are at or below 80% of the area median income (AMI). As shown, the areas along the west side of the county and around the cities of Dade City and Zephyrhills have higher percentages of low- and moderate-income population. While it is not always possible to ensure that GTB facilities are easily accessible to disadvantaged and underserved communities, understanding where those communities are located can help in the decision-making process for future investments in the GTB network.



**Figure 17: GTB Equity Assessment**

## PLANNED AND CONCEPTUAL CONNECTIONS

Pasco County and its partner agencies have previously identified trail connections that are in various stages of planning and implementation. Some of these connections have been studied, are currently being studied, or are still considered conceptual and need to be further evaluated to determine feasibility and details on alignments and facility types. Figure 18 shows the location and potential alignments/study areas for some of the more prominent planned and conceptual trail connections in the county. The following is an overview of some of the more notable connections.

### *Orange Belt Trail*

Pasco County is currently conducting a Project Development and Environmental (PD&E) study and Trail Segmentation Plan for the Orange Belt Trail (OBT). The OBT is a proposed regional multiuse trail projected to span approximately 37 miles through Pasco County. The OBT will provide regional connectivity and enhance the existing and planned regional trail network by providing key connections to the Coast-to-Coast Trail, Starkey Trail, Suncoast Trail, and Withlacoochee Trail. In addition, the OBT will link communities such as Trinity, Odessa, Land O' Lakes, San Antonio, St. Leo, and Dade City to help fuel economic transformation along the trail corridor. The trail is proposed to be a 12- to 14-foot-wide paved multi-use trail that will generally follow the path of the Orange Belt Railway. The OBT is envisioned to be off the roadway, where feasible, and follow natural features to the greatest extent possible. It will be open to pedestrian and bicycle traffic and may even include accommodation for equestrians in certain areas, if possible.

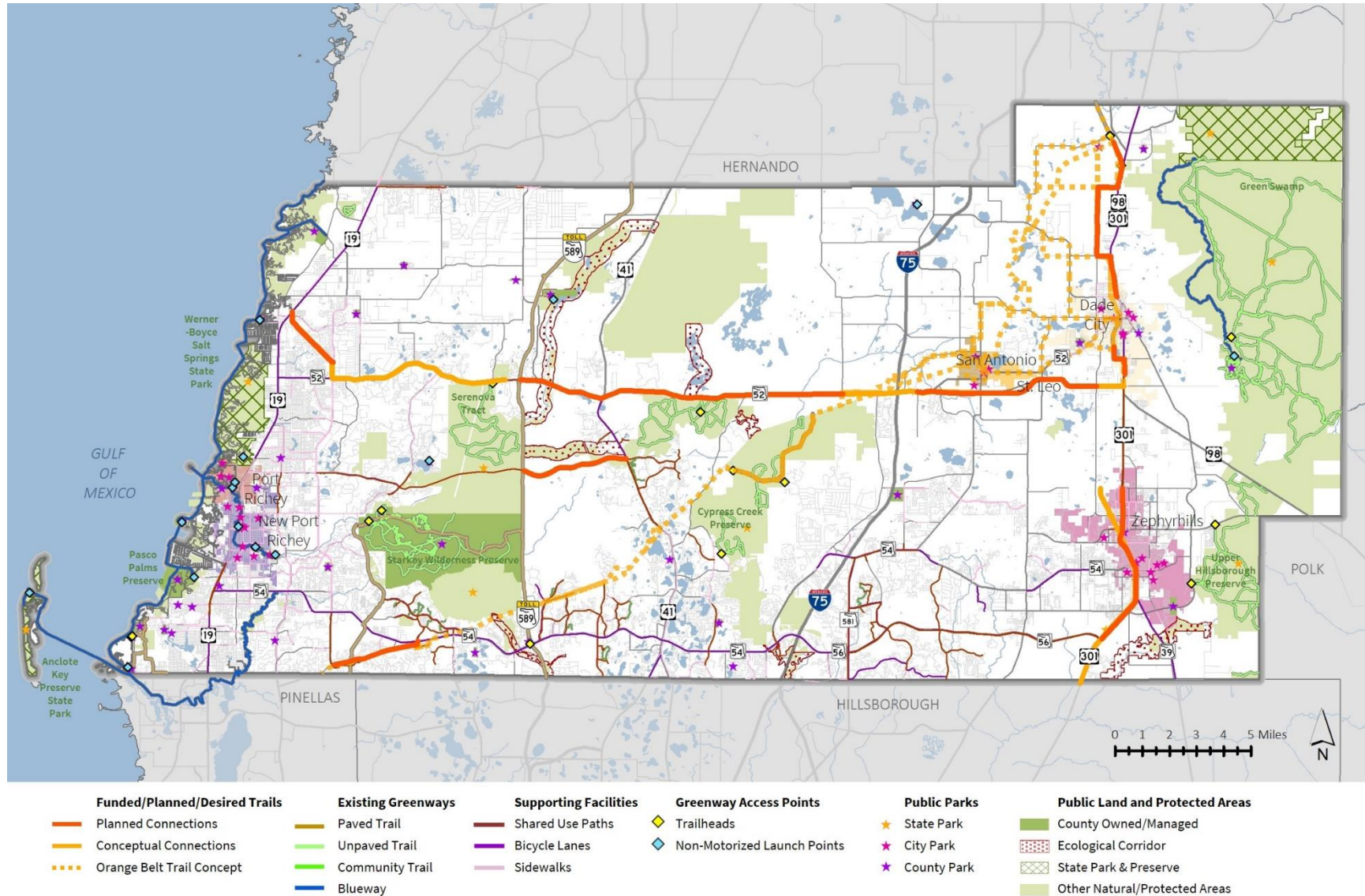
### *Withlacoochee State Trail Extension*

The Withlacoochee State Trail is a multi-use trail spanning 46 miles through Citrus, Hernando, and Pasco counties. The Withlacoochee State Trail Extension is a proposed 10–12-foot shared use path paralleling the US 301 corridor from the existing Trilby/Lacoochee trailhead along US 301. The Withlacoochee State Trail Extension is anticipated to include the Hardy Trail and Hardy Trail Extension North in Dade City.

### *State Road 52 Shared Use Path*

The State Road (SR) 52 corridor from US 19 to US 301 has been identified for roadway capacity improvements with many of these projects currently in various stages of construction. In coordination with the widening of SR 52, FDOT is constructing sidewalks and a 12-foot shared use path along the north side of SR 52. While not part of the official GTB network, this important shared use path connection will improve access and connectivity between parks and facilities such as the Serenova Tract, Suncoast Trail, Connor Preserve, future Orange Belt Trail, and the Withlacoochee State Trail extension and is an example of how transportation-based projects can be used to enhance connectivity to and between trail facilities.





**Figure 18: Planned and Proposed Connections**

## OPPORTUNITIES FOR ADDITIONAL TRAIL AND BLUEWAY CONNECTIONS

### Preliminary Preferred Connections

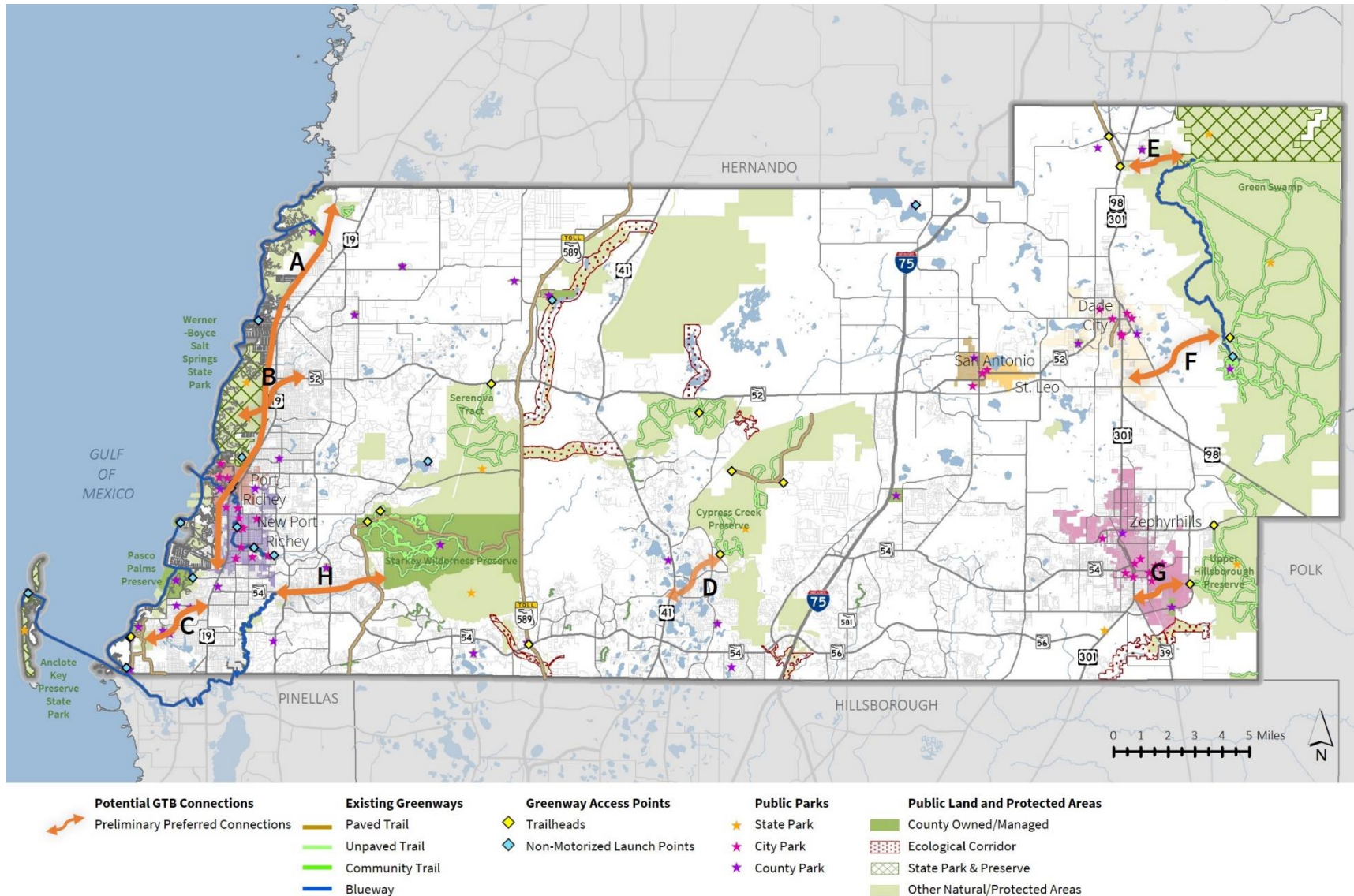
The stakeholder and public outreach efforts generated ideas for GTB connections across the county. The conceptual connections represent identified desires based on discussion with the public, stakeholders, and county staff. When conducting the connectivity exercise, a recognized challenge for Parks, Recreation, and Natural Resources staff is that most of the identified connections are in area and along corridors where land for greenways and trails and access for blueways is limited or non-existent, and where there is potentially available land, it is often on land not owned and maintained by the County. To achieve the identified connections coordination between County departments, the Pasco MPO, FDOT, SWFWMD, municipal partners, and others will be required. Figure 18 illustrates the conceptual connections that were identified through the Plan’s engagement process. The shown connections are not intended to represent detailed design of routes nor are they intended to represent actual alignments but are representative of connections that were identified by the public and stakeholders as needs and desires. It should also be considered that opportunities for both multi-use paths and trail connections should be considered to maintain these connections.

- A. The US 19 Corridor is identified as a Land Trail Opportunity Corridor by the Florida Department of Environmental Protection.
- B. Trail/path connection between Werner-Boyce Salt Spring State Park and the US 19 and SR 52 corridors.
- C. Trail/path connection between the Coastal Anclote Trail and the US 19 corridor.
- D. Trail/path connection between the Cypress Creek Preserve and the Collier Parkway and US 41 corridors.
- E. Trail/path connection between the Withlacoochee State Trail and the Withlacoochee State Forest and Green Swamp
- F. Trail/path connection between the US 301 and Withlacoochee State Trail Extension near Dade City and Withlacoochee River Park.
- G. Trail/path connection between the future Withlacoochee State Trail Extension near Zephyrhills and the Upper Hillsborough Preserve.
- H. Anclote River blueway north of State Road 54 towards Starkey Wilderness Park.

### *Preferred Facility Types and Amenities*

As evident by the public survey responses and public workshop activity results, people have varying preferences on the type of trail facilities and amenities they desire. Developing a GTB network that provides a variety of options and experiences helps to ensure that the network addresses the desires and needs of the community that it is intended to serve. The survey and workshop results suggest a desire for more paved multi-use trails, unpaved multi-use trails, and natural surface hiking trails. The most preferred amenities identified through the engagement activities include shade, parking, signage, restrooms, and waste disposal. In addition to user needs and desires, opportunities to provide a mix of facilities, experiences, and amenities are often limited by the availability of land, resources, and funding.





**Figure 19: Preliminary Preferred Connections**



## Opportunities for Connections within or Adjacent to Parks and Conservation Lands

Protecting and enhancing the natural environment and providing residents and visitors of Pasco County with an opportunity to experience the GTB network and connect with natural areas with recreation opportunities, when possible, are goals and objectives of the Master Plan. While it has been acknowledged that there may be challenges in providing connections between existing park land there are options that could provide potential opportunities for new trails and blueways and/or connections that support the broader GTB network. Additionally, connections within and adjacent to conservation land should be considered as well as adjacent to or within future planned parks.

It is crucial to ensure that the future parks incorporate trail amenities and establish connections to both existing and future park facilities when feasible. Planned new and expanded parks (Figure 20 and listed below), as identified by the 2022 Pasco County Parks and Recreation Impact Fee Study, represent an opportunity to build on the existing.

- Two Rivers District Park (Planned)
- Wyndfields Community Park (Planned)
- Wesley Chapel District Park (Expansion)
- John S. Burks Memorial Park (Expansion)
- Samuel A. Pasco Recreation Complex (Expansion)
- Withlacoochee River Park (Expansion)
- Village of Pasadena Hills Super Park (Planned)
- Connerton District Park (Planned)
- Bexley North District Park (Planned)
- Project Arthur Wilderness and Recreation Park (Planned)
- Crews Lake Wilderness Park (Expansion)
- Ballies Bluff Wilderness Park (Planned)
- Magnolia Valley Park (Planned)
- Arthur F. Engle Memorial Park (Expansion)

### ***Environmental Lands and Ecological Corridors (Critical Linkages)***

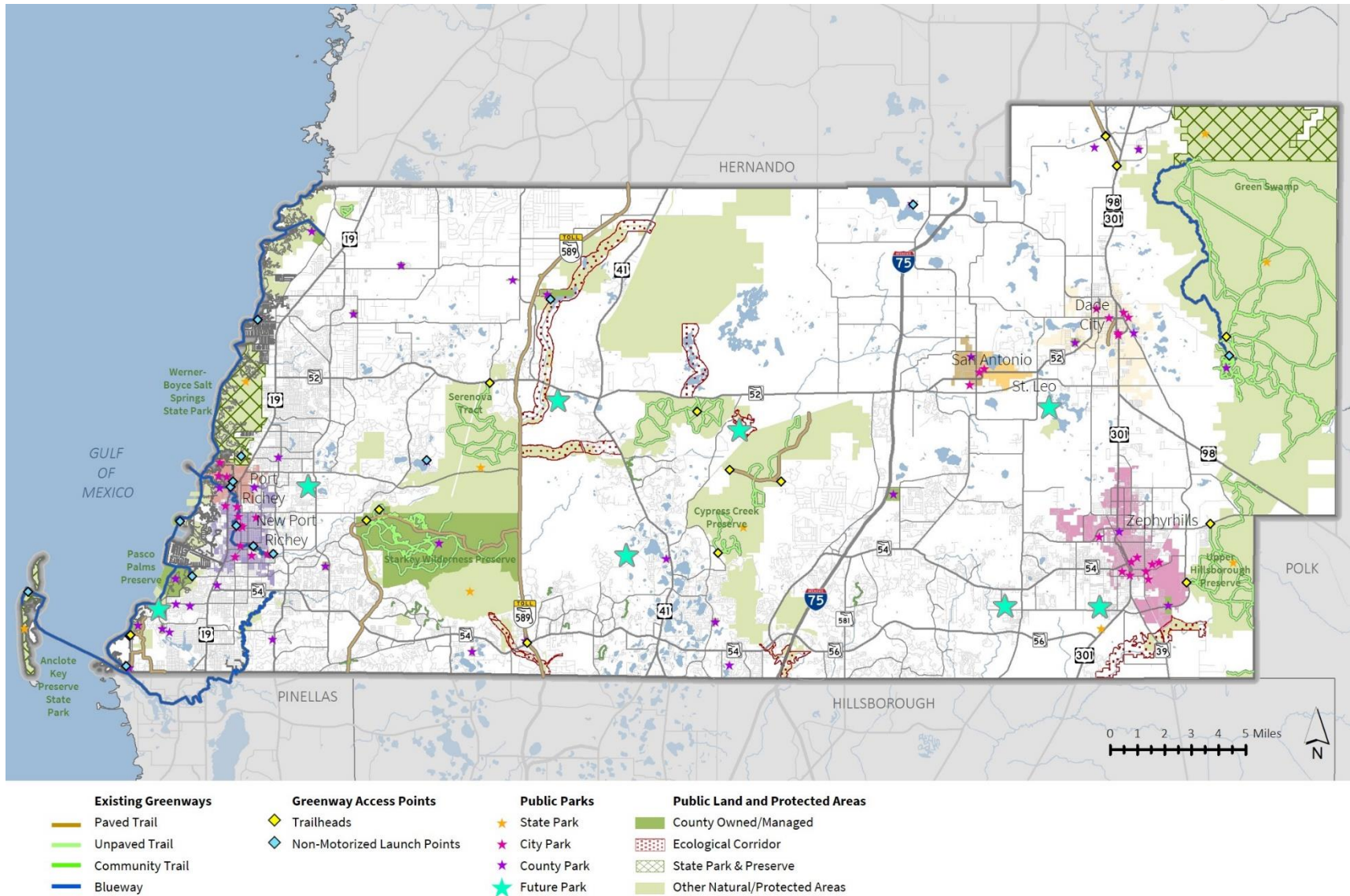
The Environmental Lands Acquisition and Management Program (ELAMP) was created in 2004 and is responsible for purchasing environmentally sensitive lands throughout the County by either fee title or less-than-fee methods. Funding is provided through a portion of the Penny for Pasco surtax, with partnerships with state and federal agencies to supplement the Penny funds. Since 2005, approximately 6,255 acres have been acquired or preserved through ELAMP (Figure 21). The ELAMP objectives are as follows:

- Protect natural communities including uplands and wetlands
- Connect natural linkages
- Conserve viable populations of native plants and animals
- Protect habitat for listed species
- Protect water resources and wetland systems
- Protect unique natural resources
- Enhance resource-based recreational opportunities
- Expand environmental education opportunities

To protect natural resources, Pasco County has developed natural protection policies aimed at implementing measures to protect wildlife, acquire land, protect major river systems, and partner with other resource agencies to accomplish regional conservation objectives. Part of those efforts include the identification and designation of wildlife linkages and ecological corridors that have a primary objective to conserve and restore wildlife habitat and maintain biodiversity of both ecological communities and wildlife species. One of the stated objectives of the ecological corridors is to maintain linkages that would provide a contiguous network of wildlife habitat between existing public lands. The seven ecological corridors, shown in Figure 21, that connect public lands are:

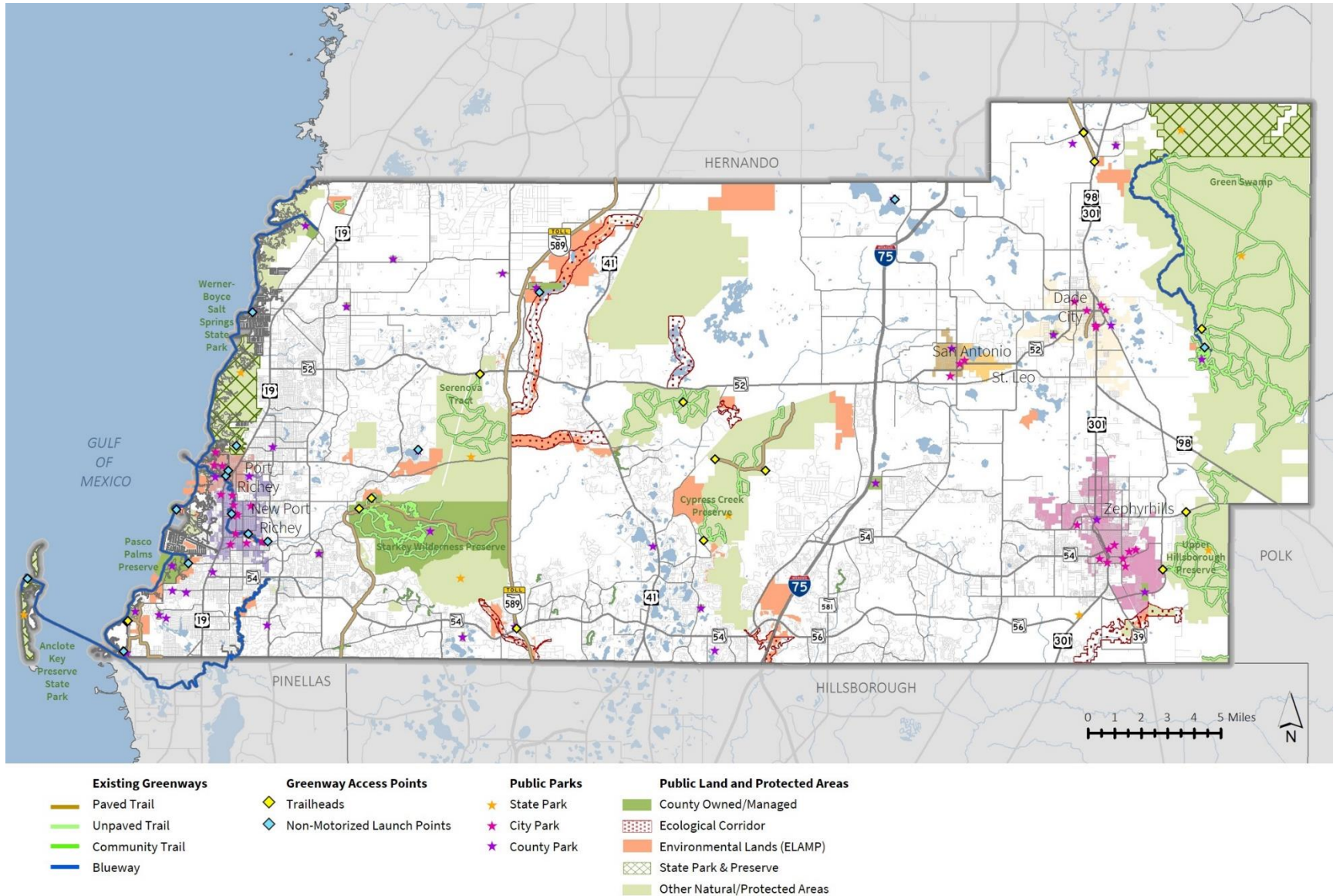
- North Pasco to Crossbar
- Crossbar to Connerton
- North Pasco to Connerton
- Cypress Creek to Connerton
- Starkey to South Pasco
- Cypress Creek to Cypress Bridge
- Hillsborough River to Green Swamp

Passive recreational opportunities using pervious and semi-pervious walking/hiking trails, boardwalks, and/or observation structures may be approved within designated ecological corridors. However, taking into consideration that even passive nature trails result in significant negative edge effects. The design, materials, number, location, position, and total length, any passive recreational uses must be approved by County staff. Trails within ecological corridors shall be constructed using pervious materials only, semi-pervious material may be used in some instances. Boardwalks and other structures permitted within the Land Development Code Chapter 800 Section 804 shall not fragment the ecological corridor, reduce the ability of the corridor to function as a genetic exchange pathway and transit for wildlife, impede the flow of water, or alter the biological and ecological integrity of the corridor.



**Figure 20: Planned Parks**





**Figure 21: Ecological Corridors and Environmental Lands**

## **Additional Opportunities**

### ***Transportation Facilities***

The past decade has witnessed a shift towards recognizing the importance of not just providing basic non-motorized transportation facilities, but the importance of providing facilities, like shared use paths, that are attractive to a wide range of users and user types. By embracing complete street principles transportation departments and agencies have begun to re-examine how and for whom the roadway network is designed for and are implementing changes that support the recreational-based goals of the GTB Master Plan. While using shared use paths, bicycle lanes, and sidewalks located adjacent to roadways is not always the preferred option to connect trails but is often the only option. Shared use paths and other transportation facilities have challenges including safe crossings at intersections, crossing driveways, and access to adjacent properties.

### ***Utility Corridors***

Utility corridors, such as powerline, gas, and drainage corridors, can often provide space for trails and can provide opportunities for connections between existing trails. Working with utility providers the County can evaluate opportunities to provide public trail and waterway access within existing utility easements.

### ***Private Development***

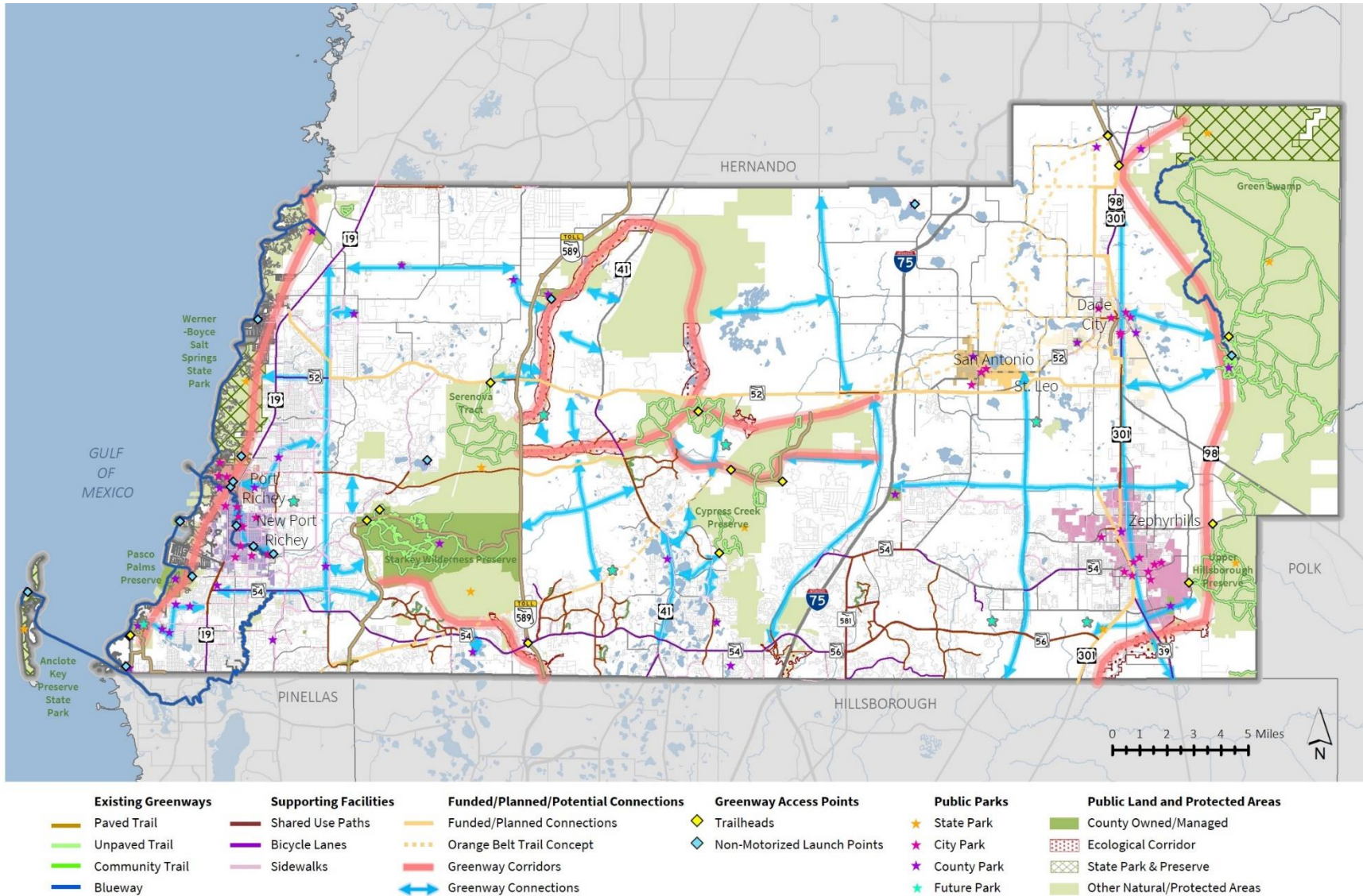
One of the quickest and most cost-effective methods for expanding the trail network and increasing access to blueways is to work with private developers to either construct trails or provide easements as part of the development process. This can greatly reduce the need to secure funding for new trails and result in an overall trail network that provides enhanced connectivity and access from where people live and work. Chapter 7 explores how the County's Comprehensive Plan and Land Development Code can be better used to help the County enhance and expand its GTB network in collaboration with development.

## **Greenways, Trails, and Blueways Master Plan Map**

Through the evaluation of preferred connections and opportunities utilizing the ecological corridors, environmental lands, parks, public lands, as well as the previously approved Map 5-1 (displayed in Chapter 7 on page 74), a Greenways, Trails, and Blueways Master Plan Map (GTB Master Plan Map) was developed (Figure 22). The GTB Master Plan Map has the following two major components: Greenway Corridors and Greenway Connections. The Greenway Corridors generally follow the large natural areas that are within or adjacent to public lands and/or protected areas, which include but are not limited to coastal areas, state preserves, and the ecological corridors. After identifying the Greenway Corridors, it is evident that a truly interconnected recreational system must expand outside of the natural areas. Therefore, Greenway Connections are also identified to link Greenway Corridors and major existing/future public parks that serve as destinations and/or trailheads.

The Corridors and Connections on the map do not represent exact alignments but rather provide the general locations of the connections where greenway opportunities should be explored, examined, and evaluated. The map is not intended to exclude additional or future opportunities for greenway connections. Instead, it should serve as a guide for the revision of Map 5-1, which should be reviewed and approved as the official guide in the Comprehensive Plan to allow the County to construct and/or require greenway facilities throughout the County.





**Figure 22: Greenways, Trails, and Blueways Master Plan Map**





## CHAPTER 6 – DESIGN GUIDANCE



## FACILITY DESIGN GUIDANCE AND STANDARDS

Greenway, trail, and blueway design is an important process that requires careful planning and consideration of various factors, such as terrain, natural features, environmental impact, and user safety and comfort. The following are some general guidelines to consider when designing greenway, trail, and blueway facilities:

- **Define Use and Purpose** – The purpose and use will determine the specific design elements, including width, grade, and surface materials.
- **Evaluate Site Conditions** – Facility design should consider the natural features of the area, such as soil type, topography, drainage, and vegetation. Trail and blueway design should seek to minimize impact on the environment and should help ensure the preservation of natural resources.
- **Prioritize Safety** – Facility designers should consider user safety when designing trails and blueways. Trail grades and depths (for blueways) should be appropriate for the intended user group and the terrain. Hazardous areas, such as drop-offs, should be clearly marked or avoided altogether.
- **Signage** – Trails and blueways should be marked with appropriate signage and trail markers to help users navigate the trail and avoid getting lost. Signage should also include information about trail use, rules, and regulations.
- **Accessibility** – Facility designers should consider accessibility for people with disabilities, including those who use wheelchairs or other mobility devices. When feasible, trails should provide access to areas with natural features or scenic vistas that are accessible to people of all ages and abilities.
- **Maintenance and Sustainability** – Trail designs should include a plan for maintenance and sustainability, including regular trail inspections, repairs, and upgrades. Trail designs should also consider sustainability by minimizing environmental impact, reducing erosion, and preserving natural resources.

Following these general guidelines and considerations will help to ensure that trail and blueway designers will create safe, comfortable, enjoyable, and sustainable experiences for a wide range of users.

## ACCESSIBILITY

Trails are required to be built in accordance with certain standards of accessibility, and providing accessibility by all users is an important goal for Pasco County. Meeting the requirements of the Americans with Disabilities Act (ADA) is an important part of any greenway facility project. The United States Access Board’s Public Rights-of-Way Accessibility Guidelines (PROWAG), the ICC/ANSI A117.1 Accessible and Usable Buildings and Facilities, the 2010 ADA Standards for Accessible Design (2010 Standards), and the ABA Accessibility Guidelines for Outdoor Developed Areas contain standards and guidance for the construction of accessible facilities, including requirements for sidewalk curb ramps, slope requirements, and pedestrian railings.

The Florida Department of Environmental Protection’s (FDEP) policy on Wheelchairs and Power-Driven Mobility Devices (OPDMD) could be considered as a model for accessibility along Pasco County’s GTB facilities. In addition to the following policy statement, the FDEP highly recommends that people with mobility disabilities contact the parks in advance of a visit to ensure that the OPDMD is approved for use in the particular elements and at the particular times they are intended to be used. The FDEP’s Wheelchair/OPDMD Policy states:

Wheelchairs and manually powered mobility aids are allowed anywhere foot traffic is allowed. Power-driven mobility devices (OPDMD) shall be permitted for use only by people with mobility disabilities and shall typically comply with the following maximum specification in order to be considered acceptable for use in Florida State Parks:

- **Speed** – The operating speed while in a Florida State Park shall be that of typical walking speed, based on the particular soil type and existing environmental conditions, not to exceed 5 mph.
- **Width** – The width shall not typically exceed 34 inches. Certain pedestrian routes, trails and undeveloped areas may reduce the acceptable width as the width varies greatly for these areas due to natural features or cultural landscapes.
- **Length** – The length shall not typically exceed 62 inches. Certain pedestrian routes, trail and undeveloped areas may not support the length of certain devices due to natural features or cultural landscapes.
- **Weight** – The weight of the device shall not typically exceed 550 pounds. Certain pedestrian routes, trails and undeveloped areas may not support the weight of certain devices due to natural features or cultural landscapes.
- **Type** – The type shall not typically include any motorized off-highway vehicle designed to travel on non-highway tires and/or having a seat designed to be straddled by the operator and/or handlebars for steering control, such as all-terrain vehicles (ATVs), off-highway motorcycles (OHMs) and recreational off-highway vehicles (ROV). Note: Gas-powered vehicles, no matter the type, shall not typically be allowed in any facility enclosed by walls and/or covered by roofs.

## TRAIL FACILITY DESIGN GUIDELINES

The following provides design guidance for several facility types. The design guidelines are based on best practice applications and are intended to serve as a starting point to inform decision makers on design criteria, characteristics, and limitations. Individual trail facilities should include professional, site-specific design and engineering. The following are design elements that should be considered for each trail type:

- **Surface Type** refers to the type of surface on the traveled part of the trail, such as asphalt, concrete, granular, or alternative. Surface quality is affected by tread obstacles, such as roots or rocks, and by any openings such as gaps and grates located within the trail surface.
- **Trail Width** refers to the width of the traveled part of the trail that is free of protruding objects and obstacles, such as trees and overgrown vegetation.
- **Horizontal Clearance** refers to the area on each side of the trail between the traveled surface and any obstructions, such as trees, walls, or fences.
- **Corridor Width** refers to the minimum combined width for a trail facility that includes the surface width and the horizontal clearance width. For trails located outside of parks and natural settings, a minimum of 100 feet in total corridor width is desired. This width should allow for sufficient buffering between neighborhoods and adjacent land uses, room for trails to meander, and adequate area for the free movement of wildlife. Narrower greenway widths may be necessary to create connections.
- **Vertical Clearance** refers to the height above the trail, which is free from protruding objects and overhead obstructions, such as tree branches or bridges.



- **Desirable Grade** refers to the vertical curvature or slope of a trail. Trail grades may exceed the desired percentage in certain places but should look to achieve the desired grade through the total length of the trail.

## Multi-Use Trails

The sensitivity of the area, the type and threshold of use allowed, and other pertinent factors should be considered when designing a multi-use trail. As the volume of users increases, education and other management efforts will be required to maintain the integrity of the trail. Trails should be designed for the largest width and height requirements for the user types allowed, for example, if horses will use a multi-use trail, the trail should be designed to the appropriate width and height needed for equestrians.



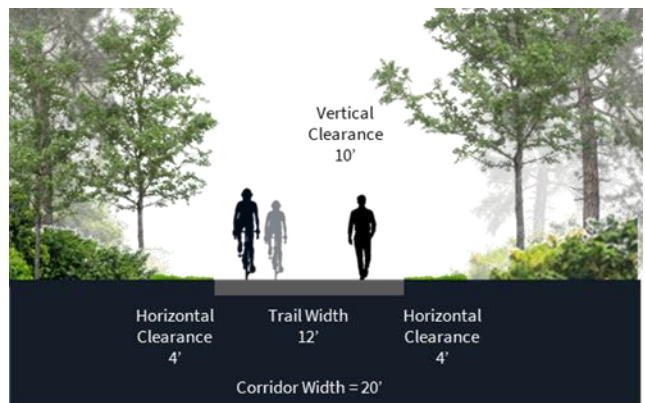
Source: Tampa Bay Times (Douglas R. Clifford)



### **Paved Multi-Use Trails**

Paved multi-use trails are recreationally focused facilities located within an exclusive right-of-way, outside the roadway network, in a more natural setting. The trails are typically bi-directional and are intended for a wide range of non-motorized user types. Multi-use trails may cross roadways, but do not typically follow roadway routes for more than a short distance.

|                             |  |
|-----------------------------|--|
| <b>User Types</b>           | Pedestrians, Bicyclists, Runners, Joggers, Dog Walkers, Strollers, Skaters, Scooters, Wheelchair Users                                 |
| <b>Surface Type</b>         | Asphalt or Concrete  |
| <b>Trail Width</b>          | 12' (8' min. 14' max.)   |
| <b>Horizontal Clearance</b> | Min. 4' on each side (additional clearance should be provided in hazardous areas, e.g., road crossings, drop offs, trip hazards, etc.) |
| <b>Corridor Width</b>       | 20' (16' min. 22' max.)  |
| <b>Vertical Clearance</b>   | 10' (8' min.)  |
| <b>Desirable Grade</b>      | < 5%   |
| <b>Other Features</b>       | Directional and Regulatory Signage; Pathway Centerline Markings; Seating/Rest Stops  |
| <b>Potential Conflicts</b>  | High User Volume; Various User Types and Speed Differentials; Environmental Constraints  |

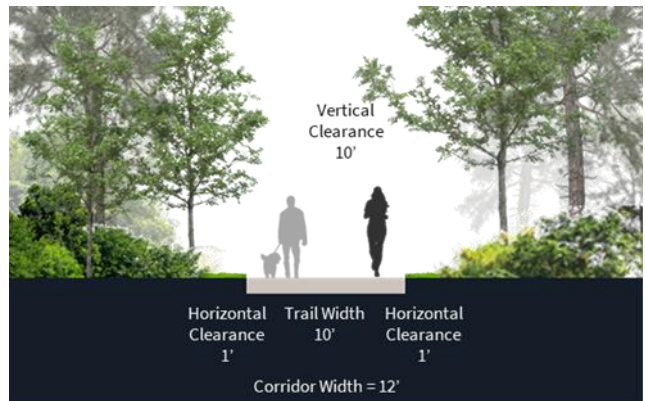




### Unpaved Multi-Use Trail

Like paved multi-use trails, unpaved multi-use trails are recreationally focused facilities located within an exclusive right-of-way, outside of the roadway network, in a more natural setting. Unpaved multi-use trails may be appropriate in sensitive habitats or where expected use is low. While the construction cost of unpaved trails may be lower compared to paved trails, they tend to have higher maintenance costs and shorter life cycles. While they are intended for use by a wide range of users, unpaved trails may not be suitable for all user types and levels of experience.

|                             |  |
|-----------------------------|--|
| <b>User Types</b>           | Pedestrians, Bicyclists, Runners, Joggers, Dog Walkers   |
| <b>Surface Type</b>         | <b>Unimproved:</b> Natural materials such as indigenous soil, leaf litter, pine straw, mowed grass, wood chips.<br><b>Improved:</b> Compacted limestone, soil stabilizers, and graded road base. |
| <b>Trail Width</b>          | 10' (5' min. 14' max.)   |
| <b>Horizontal Clearance</b> | Min. 1' on each side (additional clearance should be provided in hazardous areas, e.g., road crossings, drop offs, trip hazards, etc.)   |
| <b>Corridor Width</b>       | 12' (7' min. 16' max.)   |
| <b>Vertical Clearance</b>   | 10' (8' min.)  |
| <b>Desirable Grade</b>      | < 5%   |
| <b>Other Features</b>       | Directional and Regulatory Signage; Seating/Rest Stops   |
| <b>Potential Conflicts</b>  | Environmental Constraints; Changes in Surface Material Conditions; Various User Types  |





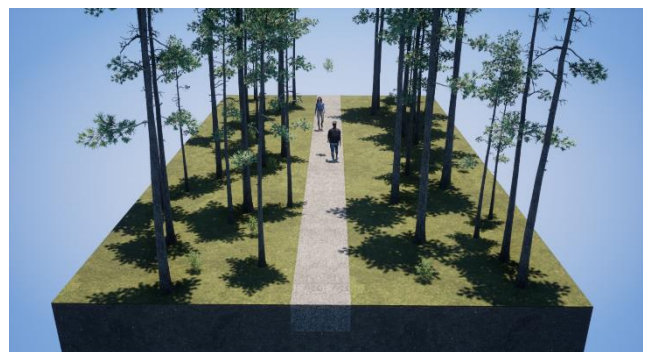
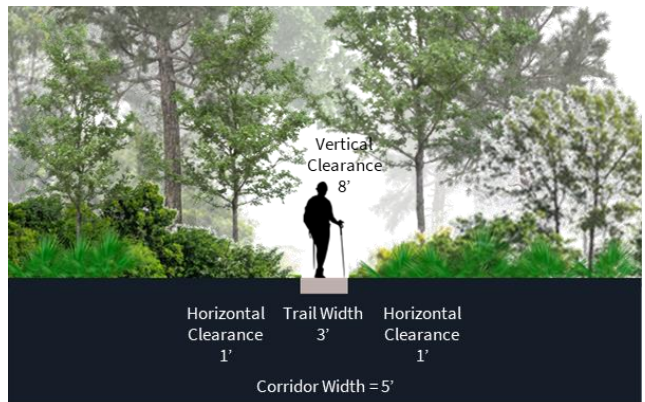
## Single Use Trails

While these facilities may accommodate multiple user types, single use trails are designed primarily for a single user type. The design guidance for single use trails is based on the expected primary user, however additional considerations for multiple users may be necessary based on the anticipated volume and mix of user types.

### Hiking/Nature Trails

Hiking/nature trails may be classified into three general categories based on existing or projected usage, low, medium, and high. The trail designs should be reflective of the expected usage, trails with lower usage should be designed to minimize environmental impacts and at minimum widths, medium and higher usage trails require different design standards including wider and more stable surfaces.

|                             |   |
|-----------------------------|---|
| <b>User Types</b>           | Pedestrians (hikers, walkers, joggers, runners, dog walkers, etc.)  |
| <b>Surface Type</b>         | <b>Unimproved:</b> Natural materials such as indigenous soil, leaf litter, pine straw, mowed grass, or wood chips.<br><b>Improved:</b> Compacted limestone, gravel, soil stabilizers, and graded road base. |
| <b>Trail Width</b>          | Low Volume: 1' – 2'<br>Medium Volume: 2' – 5'<br>High Volume: 5' – 10'  |
| <b>Horizontal Clearance</b> | 1' on each side   |
| <b>Corridor Width</b>       | 3' – 12'  |
| <b>Vertical Clearance</b>   | 8' min.   |
| <b>Desirable Grade</b>      | < 5%  |
| <b>Other Features</b>       | Directional and Regulatory Signage  |
| <b>Potential Conflicts</b>  | Environmental Constraints   |



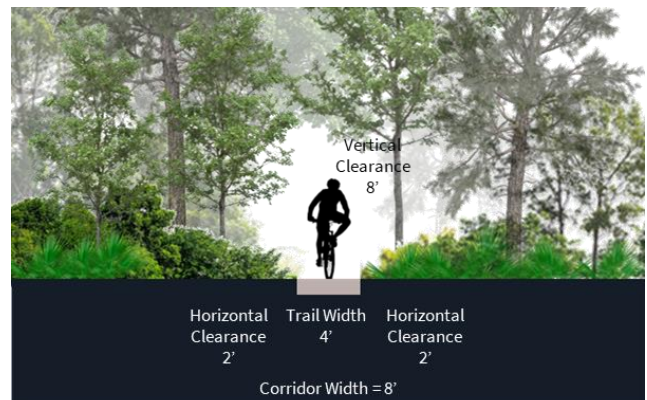
### Off-Road Bike Trails

Off-road/mountain bike trails are paths designed for off-road bicycling, typically in a natural environment such as a park, forest, or other natural setting. These are typically natural surface trails and may be narrow, winding, and challenging to ride, requiring riders to navigate obstacles such as rocks, roots, and uneven terrain. Off-road bike trails can vary in difficulty level, ranging from beginner-level trails to more advanced and technical trails that are designed for experienced riders. These trails can be used for a variety of activities, including cross-country, freeride, and trail riding. The design and construction of off-road bike trails should take into consideration the natural terrain and features of the area, as well as environmental considerations such as soil erosion and wildlife habitats. While typically built and maintained by local governments, mountain biking clubs and organizations are often useful partners in ensuring the quality and condition of the trails.

|                             |  |
|-----------------------------|--|
| <b>User Types</b>           | Bicyclists, pedestrians may be allowed depending on the projected bicycle use volume, terrain, surface, and expected speed of bicyclists.  |
| <b>Surface Type</b>         | <b>Unimproved:</b> Natural materials such as indigenous soil, leaf litter, pine straw, mowed grass, wood chips.<br><b>Improved:</b> Gravel, compacted limestone, soil stabilizers, crushed shell, boardwalk, and graded road base. |
| <b>Trail Width</b>          | 4' (2' min.)   |
| <b>Horizontal Clearance</b> | 2' (1' min.) on each side (additional clearance should be provided in hazardous areas, e.g., road crossings, drop offs, turns, etc.)   |
| <b>Corridor Width</b>       | 8' (4' min.)   |
| <b>Vertical Clearance</b>   | 8'   |
| <b>Desirable Grade</b>      | < 5%   |
| <b>Other Features</b>       | Directional and Regulatory Signage; Rest Stops; Bicycle Repair Stations; Bicycle Racks   |
| <b>Potential Conflicts</b>  | High User Volume; Various User Types and Speed Differentials; Environmental Constraints  |



Source: Tampa Bay Times





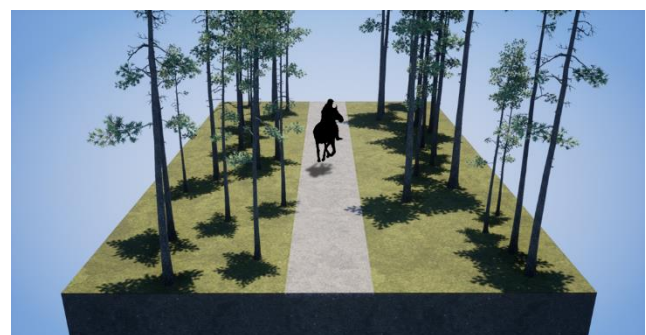
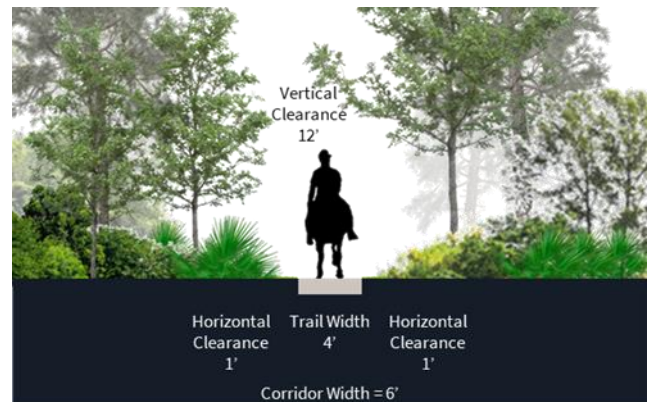
### Equestrian Trails

Public access equestrian trails provide people with an opportunity to ride outside of a private stable or on private property. Equestrian trails located within parks and greenways that have sufficient land and minimal user conflicts provide a unique opportunity for equestrians to experience nature and different environments.

|                             |   |
|-----------------------------|---|
| <b>User Types</b>           | Horse and rider.<br>Pedestrians and bicyclists may be permissible but are not encouraged.                         |
| <b>Surface Type</b>         | Natural materials, soil or stabilized soil is preferred, leaf litter, pine straw, and mowed grass are acceptable. |
| <b>Trail Width</b>          | 4' (18" min.)   |
| <b>Horizontal Clearance</b> | 1' on each side   |
| <b>Corridor Width</b>       | 6' (3.5' min.)  |
| <b>Vertical Clearance</b>   | 12' (10' min.)  |
| <b>Desirable Grade</b>      | < 5%  |
| <b>Other Features</b>       | Rest and Water Stations; Areas for Tying or Tether Lines; Trailer Parking   |
| <b>Potential Conflicts</b>  | Environmental Constraints   |



Source: Getty Images, USA Today

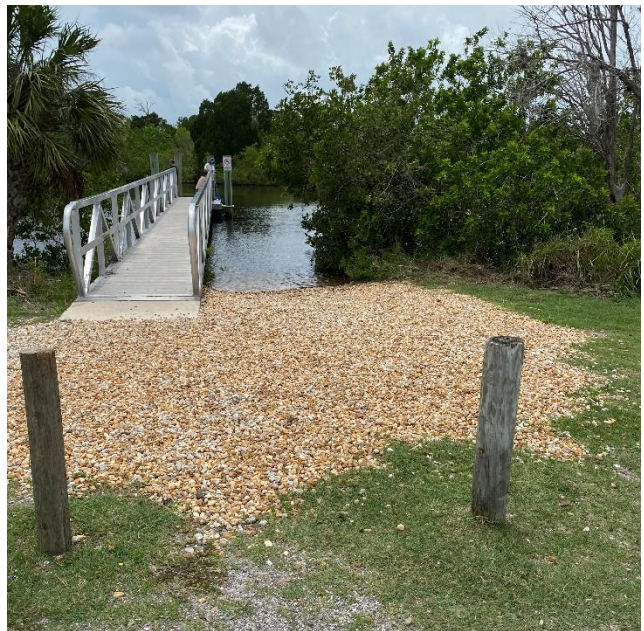




## Blueway/Water Trail

Blueways should be designed to offer safe and reliable passage of non-motorized water vessels such as a canoe, kayak, or stand-up paddle board. Routes may offer trips of varying lengths, from a few hours to day trips, to multi-day overnight excursions. The primary considerations in the design and designation of a blueway include adequate signage and support facilities, and the reasonable expectation that the waterway can accommodate small craft most of the time. They require collaboration with Florida Department of Environmental Protection (FDEP), Florida Fish and Wildlife Conservation Commission (FWC), U.S. Army Corps of Engineers, and the U.S. Coast Guard (USCG) for permitting and sign implementation along navigable waterways. Guidelines for the design of blueways generally focus more on adequate signage and access points, the following are general guidelines that should be considered when designating blueways:

- Clearly marked access points/trailheads.
- Directional, regulatory, and educational signs should inform users of their surroundings and how to safely navigate the water route.
- Informational signs containing emergency contact information, as well as contact information for the managing agency, should be displayed in the parking area and/or near the access site.
- Access to the waterway should be firm, compact, and permanently delineated. If the pathway is natural, it should be well maintained with grass not higher than 5 inches, vertical clearance of at least 14 feet, and a clear pathway of at least 6 feet.
- Accessible canoe/kayak launch sites, providing universal access at launch sites can reduce challenges for people with physical disabilities and should be included whenever possible to ensure accessible access to waterways.
- The provision of designated picnic areas, wash stations, and camp sites along blueways can reduce incidents of trespassing private property along the water route.



## SUPPORTIVE DESIGN FEATURES AND ELEMENTS

### Crossings

Trail/roadway intersections are essential components of a comprehensive trail system because these are often the areas that are most prone to conflict, designing crossings and intersections that give trail users and motor vehicle drivers enough time to react to each other is crucial to minimizing conflicts. The following is a summary of potential design considerations for locations where trails intersect and cross roadways.

Because each crossing is unique, the specific geometry and location will factor into the design of each crossing. It is important to note that circumstances of use may change over time, and this should trigger a review and modification as needed for certain intersections, e.g., if a trail has a consistently higher volume of users than what was anticipated, then a review of the crossing/intersection design may need to take place. It is also important to consider changes to surrounding land uses and attractions that may generate additional non-motorized activity.

#### Crossing and Intersection Design

Trail crossings typically take one of two forms, at-grade (mid-block or intersection) and grade-separated (over/underpass). Each type of crossing has its own design and usage challenges. The following are some general guidelines to consider, more detailed guidelines and standards found in the MUTCD, FDM, and AASHTO guides should be consulted when designing specific trail crossings.

#### At-Grade Crossings

Special care and consideration should be given anytime a trail crosses a transportation or utility corridor to ensure the safety of trail users and respect for private property. Providing safe crossings should be the primary objective; ensure clear visibility and adequate stopping sight distances, provide appropriate signage, and follow applicable design standards when crossing roadways.



*Shared Use Path Crossing (source: Small Town and Rural Design Guide (FHWA))*

#### Grade-Separated Crossings

Grade-separated crossings (overpasses/underpasses) may be considered in locations where traffic volumes are too high to manage with an at-grade crossing, such as multi-lane highway crossings.

#### Water Crossings

There should be a minimum of four (4) feet of vertical clearance between the seasonal high-water mark and any overhead bridge or permanent structure located over a paddling trail.



*West Orange Trail Bridge (source: DRPMO)*

## Signage

The inclusion of signage is an important element that can help increase safety and comfort on trails and blueways. Signs may assist in the navigation of a trail or greenway system, warn of approaching roadway crossings and hazards, regulate use, or interpret natural features. There are five basic types of signs that should be considered for the GTB system.

**Regulatory Signs** – Regulatory signs explain the “rules of the trail” by prohibiting specific types of uses and/or controlling the direction of travel. This category of signage includes stop and yield signs, right-of-way signs, speed limit signs, and exclusion signs. Regulatory signs are typically installed where the specific regulations apply.

**Directional Signs** – Directional signs, often referred to as wayfinding signs, give trail names, direction arrows, mileage to points of interest, and other navigational information.

**Cautionary Signs** – Cautionary signs warn of upcoming hazards including roadway crossings, steep grades, blind corners, obstacles, or any other potential trail hazard.

**Objective Signs** – Objective signs provide information about existing trail conditions, including grade, cross slope, surface materials, trail width, water depth (blueways), and obstacle height or vertical clearance.

**Interpretive Signs** – Interpretive signs offer educational information on the trail and trail environment, including the identification of ecosystems, community types, flora, fauna, and historical significance of the area.

### Greenway and Trail Signage

Installing signage and surface markings along a trail can help ensure the safety of trail users. Signage and surface markings should be clear, concise, and consistent and should be easily read by all users. The Manual on Uniform Traffic Control Devices (MUTCD), produced by the Federal Highway Administration (FHWA), is one of the best resources available for signage and surface marking guidelines and provides a comprehensive guide of federal rules, regulations, and recommendations for the construction and placement of signs and markings that trail builders should follow. Another popular resource is the American Association of State Highway and Transportation Officials’ (AASHTO) Guide for the Development of Bicycle Facilities.

The placement of signage along a trail should be done with thought and purpose and comply with MUTCD and any other regulatory standards when applicable. Excessive signage can create a sense of being overwhelmed with information or as too restrictive to trail users, warning signs should be placed only where necessary and the locations for signs should be identified in engineering studies and during the trail design phases. The following are some general guidelines related to the placement and design of trail signage.

- Signs should be placed where they are clearly visible. Placement is dependent on the sight lines and expected user type and user speed of each trail.
- Signs should be placed at a consistent distance from the trail edge, a minimum distance of 3 feet is preferred.
- Signs should be placed 4 – 5 off the ground in a location that is free of vegetation, fencing, and other obstacles that could impact visibility.



- Lettering less than two inches in height on signs is not recommended for directional, regulatory, and cautionary signs.
- Text should be avoided on regulatory and cautionary signs whenever possible, consider using symbols to help communicate the intended message.
- Multiple signs may be mounted on the same post, but the primary message should be in the top position on the post.

### **Blueway Signage**

The following provides some additional guidance on the placement and design of signage specific to blueway operations.

- Land-Based Signage:
  - Signs placed on waterway banks should be visible at varying water levels by paddlers and should follow standard signage guidelines.
- In-Water Information Signage – The U.S. Coast Guard and the U.S. Army Corps of Engineers must approve all in-water signage. The following conditions apply to in-water trail signage:
  - Signs placed in Florida waterways require a permit and shall comply with U.S. Coast Guard and Florida Fish and Wildlife Conservation Commission (FWC) regulations.
  - Markers/signs should be placed out of the “main” body of water so as not to become a hazard to navigation and/or safety for powered boats.
  - Markers/signs should be a minimum of 12 inches by 12 inches and a maximum of 18 inches by 18 inches.
  - Marker/sign material should be a white reflective background with an international orange boarder, black block characters, and brown crossed kayak and canoe paddles (to be utilized on signs only).
  - Markers/signs should be mounted on minimum schedule 40 PVC pipe, four (4) inches in diameter.
  - Pile markers/signs are recommended in areas where facilities are not available, or it is not possible to install larger signs. Utilize minimum 40 PVC pipe, minimum six (6) inches in diameter. Markings on the pile markers/signs shall be white reflected background with an international orange boarder, black block characters, and brown crossed kayak and canoe paddles.

### **Trailheads, Rest Areas, and Amenities**

In addition to the linear facilities themselves, trailheads, rest areas, and amenities are a critical component of a successful GTB system. Providing consistent, high-quality, and easy to maintain amenities helps to attract and maintain a highly satisfied user base.

Trailheads are the access points to trails and blueways. Trailheads often establish a user’s first impression of the facility and therefore are an important component of the overall network and should be designed and implemented with careful consideration. In terms of specific design and availability of features trailheads can be diverse. The size and features of a trailhead often depends upon the location and projected amount of use. Basic trailhead features often include parking, facility map, and access to the trail or blueway. More extensive

trailheads may include signage, restrooms, water fountains, lighting, landscaping, seating, and pavilions. Often trailhead features are dictated by availability of funds to construct and maintain them, one opportunity to help offset these costs is to cluster recreational opportunities and trail access in or near the same location, for example, providing a trailhead in a park that serves other recreational uses and users so those amenities and features can be shared. Some general trailhead features and criteria that should be considered include:

- **Circulation** – adequate, efficient, and safe space must be provided for vehicles and pedestrians to maneuver.
- **Parking** – adequate number of spaces for the anticipated level of use of a particular facility.
- **Signage** – welcoming signs, wayfinding, and informational signs help orient users, provide important information, and allow users to know where they are going before they head out on the trail.
- **Trail access** – consider how users will get from the parking lot and other amenities to the actual trail. Additionally, trail access points should discourage prohibited uses (i.e., motor vehicles) from entering the trail.
- **Structures** – depending on the anticipated level of use, buildings and structures such as restrooms, picnic shelters, information booths/kiosks, shade structures, and maintenance and storage facilities may be required.
- **Furniture** – including benches, water fountains, bike racks, and trash receptacles.
- **Gates** – including fences and lockable security gates, gates can also be used to control access to trails and discourage prohibited uses from accessing the trail.
- **Lighting** – the need for lighting should be carefully evaluated, consider limiting lighting to parking areas and site structures. Avoid lighting that would disturb wildlife.
- **Landscaping** – appropriate plantings are essential to creating a sustainable trailhead, they provide a buffer and habitat for wildlife, can provide shade, prevent erosion, and slow and clean runoff from parking lots and roadways.

Amenities, including those found at trailheads, are any offering that may enhance the overall experience of using a trail or blueway facility. Table 5 provides general guidance on amenities for the various trail facility types.

**Table 5: Guidelines for Amenities by Facility Type**

| Amenity                       | Paved Multi-Use Trail | Unpaved Multi-Use Trail | Hiking Trail | Off-Road Bicycle Trail | Equestrian Trail | Blueway |
|-------------------------------|-----------------------|-------------------------|--------------|------------------------|------------------|---------|
| <b>Bicycle Racks</b>          | S                     | O                       | N            | O                      | N                | O       |
| <b>Bicycle Repair Station</b> | S                     | O                       | N            | O                      | N                | N       |
| <b>Boat Ramp</b>              | N                     | N                       | N            | N                      | N                | O       |
| <b>Canoe/Kayak Launch</b>     | N                     | N                       | N            | N                      | N                | S       |
| <b>Concessions</b>            | O                     | N                       | N            | N                      | N                | O       |
| <b>Directional Signage</b>    | S                     | O                       | O            | O                      | O                | S       |
| <b>Docks</b>                  | N                     | N                       | N            | N                      | N                | O       |
| <b>Interpretive Signage</b>   | O                     | O                       | O            | O                      | O                | O       |
| <b>Parking</b>                | S                     | O                       | O            | O                      | S                | S       |
| <b>Picnic Tables</b>          | O                     | O                       | O            | O                      | O                | O       |
| <b>Public Art</b>             | O                     | O                       | N            | N                      | N                | O       |
| <b>Restrooms</b>              | S                     | S                       | O            | O                      | O                | S       |
| <b>Shade Structures</b>       | S                     | O                       | O            | O                      | O                | S       |
| <b>Showers</b>                | O                     | N                       | N            | N                      | N                | O       |
| <b>Trailer Parking</b>        | N                     | N                       | N            | N                      | S                | S       |
| <b>Trailhead Lighting</b>     | S                     | O                       | O            | O                      | O                | S       |
| <b>Water Fountain</b>         | S                     | O                       | O            | O                      | O                | S       |
| <b>Waste Disposal</b>         | S                     | S                       | O            | O                      | S                | S       |

S – Standard O – Optional N – Not Expected



## ADDITIONAL CONSIDERATIONS

### Maintenance

Providing trails, blueways, and associated amenities are valued assets to the community and require routine maintenance to ensure that they are safe, accessible, and attractive. Regular maintenance tasks include:

- Trash removal
- Regular sweeping and cleaning to keep trail free of debris
- Ensuring that signs and pavement markings are in good condition
- Maintaining sight distances, trimming trees and shrubs and mowing tall grass to ensure adequate sight distances and horizontal and vertical clearance standards
- Mow/trim trail shoulders and other selected areas on a scheduled basis
- Repairing trail surfaces to maintain a desired trail surface standard
- Repairing damage from weather related events, e.g., trail washouts, silt buildup, fallen tree limbs
- Cleaning of drainage structures, culverts and catch basins on a routine basis
- Inspect structures such as pavilions, restrooms, kiosks, etc. on a scheduled basis to ensure that they are in good condition
- Inspect amenities and other support items to ensure that they are in good condition
- Habitat enhancement and control
- Graffiti removal

### Crime Prevention and Safety

Crime Prevention Through Environmental Design (CPTED) is defined as a multi-disciplinary approach to deterring criminal behavior through environmental design. CPTED strategies rely upon the ability to influence offender decisions that precede acts by affecting the built, social, and administrative environment. Where feasible and reasonable, CPTED principles should be applied to GTB facilities.

#### 911 Emergency Response System Markers (ERSM)

Installing decals on trails has become an increasingly common practice to both enhance the feeling of safety and allow emergency responders to quickly locate trail users. The decals can be located on the pavement or on signage next to the trail.



ERSM Pavement Decal

### Sustainable Design

Whenever possible, local materials should be used for the construction of trails and trail features. The use of recycled materials and products in the construction of trails and trail facilities is encouraged. Recycled materials often have a longer life span, require less long-term maintenance, and offer design versatility compared to similar items constructed from natural materials. Using recycled plastic lumber or recycled concrete for posts, poles, and benches and recycled aluminum for signs is just an example of how recycled items can be incorporated into sustainable design.

## Trail Usage Monitor

Increasingly, communities are turning to technology and crowdsourcing to improve communication and efficiency. The use of smartphone applications has been used to improve citizen engagement as well as maximizing limited agency resources. Phone applications can be used by citizens to report concerns, post pictures, and note the exact location of the issue. This information can decrease the amount of time needed to identify, evaluate, and resolve potential issues.

Understanding trail usage is valuable information that can help to properly inform staff and decision-makers on how to properly staff and maintain facilities. Knowing usage can also help to build a case to improve facilities or expand the system. Counties, cities, and other maintaining agencies are installing trail counters, it is recommended that counters be installed at or near major trailheads and at county/municipal lines.



Trail Usage Counter, Rogers, AR

## Shade

Shade, whether through natural landscape features and trees or through man-made structure, is an important consideration when designing any trail facility in a sub-tropical environment like that experienced in Pasco County. The use of natural landscape and tree canopy along trails can greatly enhance the overall user experience, especially during the higher temperature months. Trees and vegetation should be supported by and reflect native and natural landscapes.

## Mobility Trends

### Electric Bicycles

Electric Bicycles, or E-bikes, are an increasingly popular option for people looking to explore trails. They are like a standard bicycle in appearance and operation but have a small electric motor that assists the rider by adding power to the wheels. E-bikes are generally either pedal-assist, where the motor is engaged by pedaling and cuts off at a designated top speed, or throttle controlled, where the motor is engaged even if the rider is not pedaling. The State of Florida has the following three classes of E-bikes:

- **Class 1 E-Bike** – A Class 1 E-bike operates on a pedal assist mechanism that works when the rider is actively pedaling. Class 1 E-bikes can reach speeds up to 20 mph.
- **Class 2 E-Bike** – A Class 2 E-bike has throttle assist in place of pedal assistance; this allows the bike to move forward even if the rider is not actively pedaling. Like Class 1, Class 2 E-bikes are capable of speeds up to 20 mph.
- **Class 3 E-Bike** – Capable of speeds up to 28 mph, Class 3 E-bikes utilize a pedal assist system, like Class 1, to help power the bike while the rider is actively pedaling.

The State of Florida permits E-bike usage anywhere standard bicycles are allowed, including roads, bike lanes, shared use path, and trails. Rules for trail riding can be regulated by jurisdiction and by the type of trail, for example, the Florida DEP permits Class 1 E-bikes in all areas where normal bicycles are permitted.

### **Golf Carts and Low-Speed Vehicles**

The State of Florida defines golf carts in Florida Statutes 320.01 (22) as a motor vehicle that is designed and manufactured for operation on a golf course for sporting or recreational purposes and that is not capable of exceeding speeds of 20 mph. Meanwhile, according to the Florida Statutes 320.01 (42), a low-speed vehicle (LSV) is defined as any four-wheel vehicle with a top speed that can travel faster than 20 mph but less than 25 mph. So, while many vehicles are marketed and sold as golf carts, they are technically LSVs. The State permits the use of golf carts and LSVs on local residential neighborhood streets, one distinction between the two is that LSVs are allowed to operate on any public road with a speed limit no higher than 35 mph where golf carts must avoid public roadways except to cross a highway if it divides a neighborhood, trailer park, or golf course. Golf carts and LSVs are not allowed to be driven on sidewalks, bike paths, or trails unless otherwise permitted by local ordinance.

### **Trail Etiquette and User Behavior**

All greenway, trail, and blueway users have responsibilities for the safety of themselves and of the others that they are sharing space with. People riding bicycles are generally the fastest users on trails and should consider their speed to not startle other users, particularly those who may be more vulnerable to injury or have reduced sight, hearing, or mobility. While not necessarily design guidelines, guidance and reminders on how different users should use the GTB system, beyond the formal rules established in the County's Code of Ordinance, Chapter 70, is provided as follows:

#### **Bike Riders**

- *Pass on the left* – be sure that when you are passing another trail users, stay on their left side and move to the right after you have safely passed them. Call out “passing on your left” or use a bell to alert them without startling the person you are passing.
- *Pull completely off the trail if you need to stop* – by pulling off the trail, you reduce trail congestion and you are less likely to impede other trail traffic.
- *Wear a helmet* – it’s required for children under 16 years of age and it’s a good idea for adults as well.
- *Obey all traffic signs* – be sure to obey all trail traffic signs and follow any detour signs. Make sure you watch for vehicular traffic when trails intersect and cross a roadway.
- *Pay attention when you ride* – avoid wearing headphones and make sure you keep your eyes on the trail to look for potential hazards. Stay in your lane or side of the trail.
- *Ride in single file* – even if you are in a group, riding in single file helps keep the trail clear of congestion and reduces the chance of a collision.
- *Pay attention to your speed* – many trails are not designed for extreme biking and excessive speeds and riding too fast can be a hazard to you and those around you.
- *Stay on the paved trail* – bicycles should stay on the paved portion of trails (when applicable) to avoid impacts to vegetation and trail edges.
- *Watch for maintenance workers* – mowing and maintenance staff are there to keep the trail clean, safe, and attractive. Proceed with caution where they are working for their safety and yours.



## **Pedestrians**

- *Use the right side* – walkers, joggers, runners, strollers, and other pedestrians should move with the flow of trail traffic; keep right, pass left rule.
- *Stay in single file* – this reduces trail congestion and the risk of straying into the path of other users.
- *Keep your dog on a short leash* – dogs should be under control and not be allowed to roam on longer or retractable leashes, a leash with a maximum length of six feet is preferred.
- *Clean up after your dog* – dog owners are required to clean up after their dog, doing so helps keep the trail area clean for all users.

## **Other Trail Users**

- *Skaters* – when skating (roller skating, in-line skating, and skateboarding) is permitted, skaters should adhere to the same guidelines as bicyclists.
- *Equestrians* – be sure to let people know when it is safe to pass your horse when you encounter other trail users. It is recommended that equestrians wear helmets and only use the trails during daylight hours to avoid potential hazards or obstacles that may be hidden from view in the dark.

## **Everyone**

- *Please do not litter* – keep our trails clean, safe, and attractive for everyone. Put your trash in trash cans or carry out any trash.
- *Share the trails* – the trail system is for everyone, please be respectful and courteous to fellow users.



## CHAPTER 7 – COMPREHENSIVE PLAN AND LAND DEVELOPMENT CODE REVIEW



Laying the groundwork for a successful GTB network starts at the policy level. The process can be complicated, but once established, can greatly aid with growth of new and additional GTB facilities, especially in relation to new residential and commercial development projects. The core policy document is the County's Comprehensive Plan; the goals, objectives, and policies outlined in the Comprehensive Plan set the stage for future planning. The Comprehensive Plan contains strategies that include policy recommendations for trails in new developments, a map referencing potential new trails and connections, and an overview of design standards that inform the Land Development Code and Regulations. Once these strategies have been developed and approved the next step is to codify these into existing land development regulations and the development review processes.

A review of the County's Comprehensive Plan and Land Development Code was completed as part of the Master Plan process. The following is an overview of the reviewed policies and codes and general recommendations aimed at helping achieve the goals outlined in this Master Plan. A detailed review of the Comprehensive Plan and Land Development Code, including recommendations, in strikethrough/underline format, is included in Appendix C. It is recommended that any changes to the Comprehensive Plan and/or Land Development Code should be completed in coordination with the County's Planning and Development Department and subject to all necessary review and procedural processes.

## **COMPREHENSIVE PLAN REVIEW**

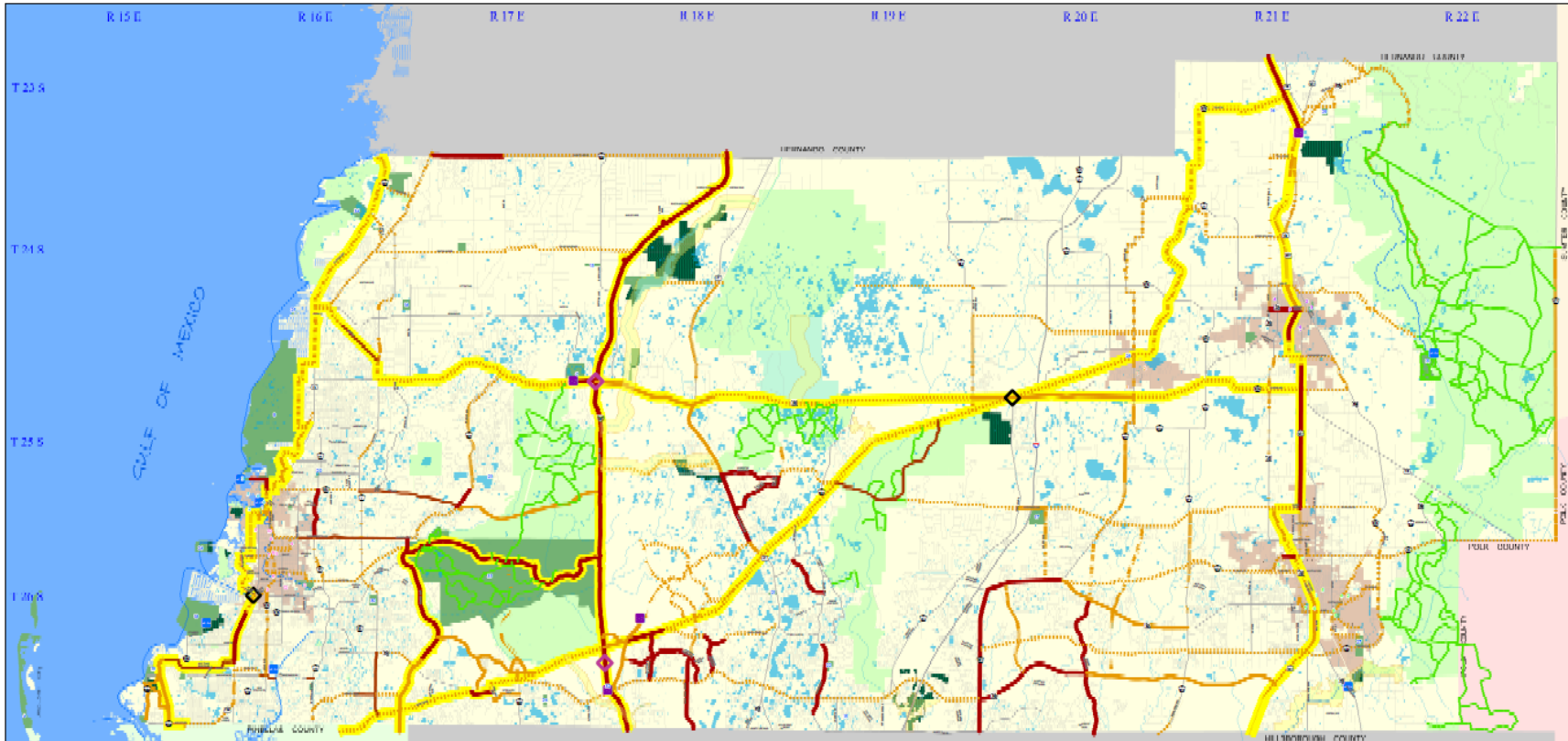
The County's Comprehensive Plan sets the goals, objectives, and policies that guide current and future growth through an established longer-term vision. The Comprehensive Plan covers topics such as economic development, transportation, parks, natural resources, public infrastructure, and how land is used, developed, and conserved. Chapter 3 (

Element), Chapter 5 (Recreation and Open Space Element), and Chapter 7 (Transportation Element) all have Goals, Objectives, and Policies that address aspects of the greenways, trails, and blueways network.

The Recreation and Open Space Element, Chapter 5, is the primary Comprehensive Plan chapter that addresses greenways, trails, and blueways. Chapter 5 covers topics such as performance indicators and measures for gauging adequate service standards for facilities and programs, coordination between departments and agencies, the funding process, procedures, and sources, process and standards for developments, and access and connectivity to parks and trails. The following provides an overview of the general recommendations for Chapter 5, again, Appendix C contains a detailed account of specific policy recommendations and changes.

- Many of the recommendations are aimed at expanding and/or clarifying references to parks to include trails and other recreation facilities.
- Encouraging trail connections through incentives, such as allowing trail connections to count towards a neighborhood park acreage requirement.
- Updating Map 5-1, shown below, which has not been updated to date to accurately reflect the existing GTB network conditions.





**MAP 5-1: GREENWAYS, TRAILS AND BLUEWAYS MAP**

- TRAILS**
- Existing Multiuse Path - 8' Wide
  - Existing Trails - 10' Minimum Width
  - Existing Trails (unpaved)
  - Funded Trails FY15/16 - FY19/20\*
  - - - Conceptual Trails / Planned\*
  - Regional Trail
  - Trail Head
- ROADS**
- Major Roads
  - Residential
  - City Limits
  - Study Area
- BLUEWAYS**
- Canoe Launch
  - Paddling Trails
- GREENWAYS**
- Critical Linkage
  - ELAMP Purchased
  - Parks
  - Public Lands
- OVERPASS/UNDERPASS**
- ◆ Funded
  - ◇ Planned/Conceptual

**COUNTY PARKS**

- |                                    |                                       |
|------------------------------------|---------------------------------------|
| NO. NAME                           | NO. NAME                              |
| 1 ANGLICOTE CUP PARK               | 21 LAND OF LAKE COMMUNITY PARK        |
| 2 ANGLICOTE RIVER PARK             | 22 LAND OF LAKE RECREATION COMPLEX    |
| 3 ALMA CARDENE PARK                | 23 MOON LAKE PARK                     |
| 4 BEACON SQUARE PARK               | 24 ODESSA COMMUNITY PARK              |
| 5 CREWS LAKE WILDERNESS PARK       | 25 ROBERT J. STROBLAND MEMORIAL PARK  |
| 6 JOHN J. SULLIVAN MEMORIAL PARK   | 26 ROBERT K. REED MEMORIAL PARK       |
| 7 ARTHUR F. SINGLE MEMORIAL PARK   | 27 SHARON W. PADOA RECREATION COMPLEX |
| 8 JERRY HARBILL RECREATION COMPLEX | 28 SAN ANTONIO ATHLETIC COMPLEX       |
| 9 MIDDLE LAKE PARK                 | 29 STANLEY PARK                       |
| 10 OAKRIDGE PARK                   | 30 W.H. JACK MITCHELL, JR. PARK       |
| 11 PINHILL PARK                    | 31 WITTHALDOOCHER RIVER PARK          |
| 12 JAMES WAIN CIVIC CENTER         | 32 ZIMMELT TRAIL                      |
| 13 BLUE LAGOON MEMORIAL PARK       | 33 JAY E STANLEY WILDERNESS PARK      |
| 14 TRILEY PARK                     | 34 SUNWEST PARK                       |
| 15 TURTLE LAKE PARK                | 35 LAND OF LAKE COMMUNITY PARK        |
| 16 VETERANS MEMORIAL PARK          | 36 LAND OF LAKE RECREATION COMPLEX    |
| 17 WELBY CHAMBER DISTRICT PARK     | 37 MADISON LAKE PARK                  |
| 18 SKYLE POINT PARK                | 38 ODESSA COMMUNITY PARK              |
| 19 BEY VISTA NATURE PARK           | 39 ROBERT J. STROBLAND MEMORIAL PARK  |
| 20 LAKE LISA PARK                  | 40 ROBERT K. REED MEMORIAL PARK       |

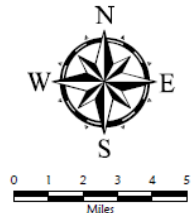
**CITY PARKS**

- |   |                         |
|---|-------------------------|
| NO. NAME                                  | NO. NAME                |
| 1 FRANCIS HUNTER PARK                     | 1 CITY PARK SAN ANTONIO |
| 2 JAMES E GREY PRESERVE                   | 2 CITY PARK SAN ANTONIO |
| 3 FULHAM PARK                             | 3 CITY PARK SAN ANTONIO |
| 4 RECREATIONAL COMPLEX & AQUATIC FACILITY |                         |
| 5 RUGG PARK                               |                         |
| 6 GRAND WILDERNESS PARK                   |                         |
| 7 NEW ROYAL BOATY BOAT RAMP               |                         |
| 8 COTTER RIVER PARK                       |                         |
| 9 ORANGE LAKE PARK                        |                         |
| 10 JACOBSON PARK                          |                         |
| 11 ZIMMELT PARK                           |                         |
| 12 MIDBOWEN DDOG PARK                     |                         |
| PORT ROYAL                                |                         |
| 1 NICKI PARK                              |                         |
| 2 COLBY MOUND                             |                         |
| 3 BEACHES PARK                            |                         |
| 4 WATERFRONT PARK                         |                         |

**STATE & OTHER PARKS**

- |  |                              |
|--|------------------------------|
| NO. NAME                                 | NO. NAME                     |
| A ANGLICOTE PRESERVE STATE PARK          | 1 HEBBOLD PARK               |
| B WINDENADVICE SACT (FRANCIS STATE PARK) | 2 PIRACANTHA / MADON JONES   |
| C OODHOUSE NATURE CENTER                 | 3 MADON FIELD                |
|  | 4 POLLY TOLGOUTH             |
|  | 5 PRICE PARK                 |
|  | 6 WATKINSON PARK             |
|  | ZOPHONISSE                   |
|  | 1 GLOOM PLAZA                |
|  | 2 LINCOLN HEIGHTS PARK       |
|  | 3 MULTI-PURPOSE CENTERS/YMCA |
|  | 4 GARRARD PARK               |
|  | 5 TRANSLANT PARK             |

\* All trails labeled as Conceptual or Funded are subject to public input, alignment/route studies and approval by the Pasco County Board of County Commissioners.  
 Note: Additional bicycle/pedestrian overpass/underpass locations to be determined in the future.



## LAND DEVELOPMENT CODE REVIEW

The Pasco County Land Development Code (LDC) is required to be consistent with the Comprehensive Plan and applies to all uses, structures, and development proposed within the County. The LDC shall be construed and implemented to achieve the following intentions and purposes of the Board of County Commissioners:

- A. To establish the regulations, procedures, and standards for review and approval of all proposed development in the County.
- B. To foster and preserve public health, safety, and welfare and to aid in the harmonious, orderly, and progressive development of the County in accordance with the adopted Comprehensive Plan.
- C. To implement a development review process that is:
  - 1. Efficient, in terms of time and expense;
  - 2. Effective, in terms of addressing the natural resource and public facility implications of proposed development;
  - 3. Equitable, in terms of consistency with regulations and procedures;
  - 4. Equitable, in terms of preservation of the rights of property owners; and
  - 5. Equitable, in the consideration of the interests of the citizens of the County.
- D. To implement the Comprehensive Plan.

The LDC review primarily focused on Chapter 500 (Zoning Standards), Chapter 600 (Overlay and Special District Areas), Chapter 800 (Natural, and Cultural Resources Protection), and Chapter 900 (Development Standards) with an emphasis on how the development process is used to support the expansion and connections to the GTB network. The following overview, like the Comprehensive Plan review, highlights the general takeaways and recommendations of the review.

### Chapter 500 – Zoning Standards

As guided by the Comprehensive Plan, the Land Development Code (LDC) currently requires the inclusion of greenways within certain projects pursued under the County’s Master Planned Unit Development (MPUD) zoning districts. MPUDs should encourage innovations in residential and nonresidential development, to provide greater opportunities for better housing and recreation, and to encourage flexible land development to respect natural resources. In addition to the standard MPUD district, there are four “specialty” MPUD districts identified by the LDC as Conservation Subdivision, Employment Center, Mixed Use Trip Reduction Measures, and Connected City.

The Conservation Subdivision and Connected City are the only districts that strictly require the inclusion of facilities considered under the umbrella of greenways and trails. The required facilities are separated into multiuse paths or trails. Under this framework, a multiuse path is any wide, at least 10’, paved area intended to be used by people walking or biking and located directly adjacent to a roadway. Multiuse paths can be located on one or both sides of a roadway in the designated Right-of-Way (ROW). A multiuse trail generally refers to a wide, at least 12’, paved area that exists within its own ROW separate from a roadway. Table 6 provides an overview of the path and trail requirements for the various MPUD districts.

**Table 6: MPUD District Path and Trail Requirements**

| MPUD District                            | Multiuse Path  |               | Multiuse Trail |               |
|--|--|---------------|----------------|---------------|
|  | Required Width   | Dedicated ROW | Required Width | Dedicated ROW |
| <b>MPUD</b>                              | <i>No facilities explicitly required.</i>  |               |                |               |
| <b>Connected City</b>                    | ≥12'   | No            | ≥12'           | Yes           |
| <b>Conservation Subdivision</b>          | ≥10'   | No            | 12' – 15'      | Yes, 22'      |
| <b>Employment Center</b>                 | <i>No facilities explicitly required</i>   |               |                |               |
| <b>Mixed-Use Trip Reduction Measures</b> | Required system of Multipurpose Lanes, Multipurpose Paths, Multipurpose Trails, sidewalks and bicycle lanes. |               |                |               |

### Chapter 800 – Natural, and Cultural Resources Protection

Chapter 800 provides standards for development that are intended to help protect and preserve the natural environment from vulnerability to man-made hazards. Protecting the natural environment will help to cultivate and preserve a sense of place while fostering economic well-being through a healthy ecosystem. This chapter looks to implement the Comprehensive Plan with an emphasis on preserving and protecting biodiversity and the ecological values and functions of uplands, wetlands, open bodies of water, and flowing streams, floodplains, groundwater, and other significant geological features, soils and slopes, and flora and fauna.

Section 804, Ecological Corridors addressed the critical linkages/ecological corridors from the Comprehensive Plan’s Conservation Element. This section defines the County’s ecological corridors and defines the permitted uses within them. The following uses are permitted within the ecological corridors:

- Recreational fishing
- Exotic species removal
- Passive recreational uses such as canoeing, kayaking, hiking, birding, and nature study

Additional there are several uses that may be permitted with specific approval from the Board of County Commissioners, the County Administrator, or designee, one of these uses is the construction of boardwalks, pervious or semi-pervious walking/hiking trails, interpretive nature trails, equestrian uses, observation platforms, and fishing docks.

### Chapter 900 – Development Standards

#### Section 905 – Greenspace Requirements and Standards

- Section 905 is intended to advance the health, safety, and welfare of the County’s residents by providing common areas as neighborhood parks in residential developments for people to engage in recreational activities. This section of the LDC is the primary section that addresses the process and standards related to parks and recreation and landscape and buffering in new development. A



detailed review and suggestions for changes to this section are included in Appendix C, the following highlights the general recommendations for this section of the LDC. The official revision of the section will consider the trail suggestions proposed by this plan and will also coordinate the necessary changes concerning other aspects of the neighborhood parks. The revision process will be a cooperative effort involving various departments and stakeholders. Revise the neighborhood park requirement in Section 905.1 to clarify that hiking and biking trails may count towards the park acreage requirements and provide design standards.

- Encourage trails (paved and unpaved) to be located adjacent to setbacks from wetlands or environmental areas (905.1.F.1).
- Add a requirement for developments adjacent to existing or planned trail facilities to provide connections and to allow those connections to count towards the development's neighborhood park requirements.

### **DEVELOPMENT REVIEW PROCESS**

While the Comprehensive Plan and Land Development Code address development and park and recreation requirements, they do not specifically address the development review process and the point at which Parks, Recreation, and Natural Resources (PRNR) staff is included in the review of proposed developments. Having PRNR staff involved early in the review process could help to ensure that opportunities for GTB expansion and connections are included in the development process. An additional consideration could be a dedicated position within the PRNR department that is primarily responsible for development review. This position can help to establish clear land development code language establishing clear targets for multi-use trails, and distinguishing between multi-use trails and ROW paths.

### **NEXT STEPS**

The County's Planning and Development Department is currently in the process of completing the Pasco 2050 Comprehensive Plan Update, the timing of this Plan and the update to the Comprehensive Plan provides a unique opportunity to implement updates that help to support, develop, and expand the GTB network and clarify the role of the Parks, Recreation, and Natural Resources Department, especially related to the Department's role in the development and commenting process related to trails. The PRNR staff should proceed with the necessary Comprehensive Plan and LDC Amendments and continue to provide feedback on the Pasco 2050 Comprehensive Plan Update, accordingly.



## CHAPTER 8 – ACTIONABLE STRATEGIES AND FUNDING OPPORTUNITIES

Developing a master plan is one step in creating a successful GTB network. After Plan adoption, collaboration and action are what leads to success. The challenge for any plan is implementation, this chapter provides direction, strategies, and actions to guide the implementation of the Plan. Successful implementation will require the continued coordination between Pasco County, the cities of Dade City, New Port Richey, Port Richey, San Antonio, St. Leo, and Zephyrhills, the Pasco MPO, FDOT, SWFWMD, and many others.

While many master plans are intended to be advisory, this Plan is to be viewed as a call-to-action. The actions, strategies, and implementation measures within this Plan are not intended to be prescriptive, the Plan should be allowed to evolve over time and change as the County grows, new opportunities emerge, and priorities change.

### **ACTIONABLE STRATEGIES**

Pasco County’s GTB network is an asset and will require continued investment to maintain and enhance the value of these important community features. The GTB Master Plan has identified several recommended actions and strategies aimed at guiding the successful implementation of the Master Plan.

The recommended actions are organized by action/strategy, objectives, and next steps that include a potential timeframe, potential cost range, and identification of potential partners. The inputs for the timeframe, estimated cost, and potential partner categories are as follows:

| <b>Timeframe</b>   | <b>Estimated Cost</b>   | <b>Potential Partners</b>  |
|--|---|--|
| <ul style="list-style-type: none"> <li>• Short-Term (1 – 5 years)</li> <li>• Mid-Term (6 – 10 years)</li> <li>• Long-Term (&gt;10 years)</li> <li>• Ongoing (Continuous Activity)</li> </ul> | <ul style="list-style-type: none"> <li>• Low (&lt;\$100,000)</li> <li>• Medium (\$100,000 - \$500,000)</li> <li>• High (&gt;\$500,000)</li> </ul> | <ul style="list-style-type: none"> <li>• Planning &amp; Development</li> <li>• Project Management</li> <li>• Community Development</li> <li>• Pasco GIS</li> <li>• Pasco MPO</li> <li>• Municipalities</li> <li>• FDOT</li> <li>• FDEP</li> <li>• SWFWMD</li> <li>• Other</li> </ul> |



## 1. Greenway, Trail, and Blueway Policy Update – Comprehensive Plan and Land Development Code

### Objectives:

- Strengthen private development requirements to provide connections to the existing/future GTB network.
- Strengthen requirements for interconnected recreational trail system for future private residential development
- Encourage private partnership in developing trail amenities through incentives or other benefits
- Updated the development review process to better identify opportunities to implement proposed GTBs

### Next Steps:

|   | Timeframe                       | Cost | Potential Partners                          |
|---|---------------------------------|------|---|
| Review Comprehensive Plan and Land Development Code   | <i>Completed by Master Plan</i> |      |   |
| Identify GTB Network Goals  | <i>Completed by Master Plan</i> |      |   |
| Update the Comprehensive Plan GTB Map   | <i>Completed by Master Plan</i> |      |   |
| Identify draft updates for the Comprehensive Plan and Land Development Code                             | <i>Completed by Master Plan</i> |      |   |
| Form an internal working group to discuss revisions to the Comprehensive Plan and Land Development Code | Short-Term                      | Low  | Planning & Development, MPO, Municipalities |
| Finalize Comprehensive Plan and Land Development Code updates   | Short-Term                      | Low  | Planning & Development                      |

## 2. Updated Greenway, Trail, and Blueway Information and Maps for Internal and Public Use

### Objectives:

- Enhance public consumption of GTB-related information including maps of the GTB network
- Maintain a detailed inventory and mapping application for internal planning/tracking that accurately depicts current facility and amenity conditions

### Next Steps:

|  | Timeframe                       | Cost   | Potential Partners                           |
|--|---------------------------------|--------|--|
| Review and identify existing GTB facilities  | <i>Completed by Master Plan</i> |        |  |
| Develop a detailed inventory of existing and planned GTB facilities, amenities, and support infrastructure   | Short-Term                      | Medium | GIS, MPO, Municipalities, FDOT, FDEP, SWFWMD |
| Produce a series of GTB maps for public and internal usage through multiple platforms including but not limited to online, mobile, and application-based | Short-Term                      | Low    | GIS  |
| Monitor GTB inventory data and updated as needed   | Ongoing                         | Low    | GIS  |

## 3. Develop Greenway, Trail, Blueway Priority List and Capital Improvement Plan

### Objectives:

- Establish a prioritization process and produce a prioritized list of GTB facilities and amenity improvements
- Develop a 5-year GTB Capital Improvement Plan

### Next Steps:

|   | Timeframe  | Cost   | Potential Partners  |
|---|------------|--------|---|
| Evaluate opportunities to expand the variety of trails in existing parks and preserves                  | Short-Term | Medium | Planning & Development, Project Management, Community Development, Municipalities, FDEP, SWFWMD |
| Develop a data-driven prioritization process to evaluate potential improvements and network connections | Short-Term | Low    | Planning & Development, MPO, Municipalities   |
| Continue to coordinate with partner agencies to provide new and enhanced connections to the GTB network | Ongoing    | High   | MPO, Municipalities, FDOT, FDEP, SWFWMD   |

|  |          |        |   |
|--|----------|--------|---|
| Conduct feasibility studies and evaluations to identify and assess future GTB connections and improvements | Mid-Term | Medium | Planning & Development, Project Management, MPO, Municipalities, FDOT, FDEP, SWFWMD |
| Explore additional funding opportunities   | Ongoing  | Low    | MPO, Municipalities, FDOT, FDEP   |

#### 4. Adopt Greenway, Trail, and Blueway Facility and Amenity Design Guidelines and Standards

**Objectives:**

- Develop and adopt GTB facility and amenity design guidelines and standards
- Establish and implement a uniform wayfinding and signage program
- Develop Maintenance Plan in accordance with GTB Capital Improvement Plan

**Next Steps:**

|   | <b>Timeframe</b> | <b>Cost</b> | <b>Potential Partners</b>   |
|---|------------------|-------------|---|
| Establish GTB facility and amenities design standards and guidelines (partially completed by Master Plan)                                   | Short-Term       | Low         | Municipalities, FDEP, SWFWMD  |
| Adopt and implement GTB facility and amenities design standards and guidelines  | Short-Term       | Low         | Planning & Development, Project Management, Community Development, Municipalities, FDEP, SWFWMD |
| Establish unified signage, wayfinding, and markings standards for GTB facilities  | Mid-Term         | Medium      | Municipalities, FDEP, SWFWMD  |
| Develop a GTB Facility Maintenance Plan that identifies the various activities needed to keep GTB facilities safe and in a usable condition | Mid-Term         | Medium      | Project Management, Municipalities, FDOT, FDEP, SWFWMD  |



## 5. Expand Greenway, Trail, and Blueway Outreach, Education, and Promotions

### Objectives:

- Improve the availability of GTB-related information and data to the public
- Increase activity and usage along the GTB network
- Enhance and promote the safe usage of GTB facilities
- Implement programs that encourage GTB usage

### Next Steps:

|  | Timeframe  | Cost   | Potential Partners                      |
|--|------------|--------|---|
| Encourage public engagement during the implementation of improvements and expansion of the GTB network                                 | Short-Term | Medium | MPO, Municipalities, FDOT               |
| Develop a GTB-focused safety campaign that promotes safe and responsible usage of facilities, crossings, and associated infrastructure | Short-Term | Medium | MPO, Municipalities, FDOT, FDEP, SWFWMD |
| Expand GTB-related programs that encourage usage of the GTB network to a wide variety of users   | Short-Term | Medium | Municipalities, FDEP, SWFWMD, Other     |

## 6. Monitor Usage of Greenway, Trail, and Blueway Facilities

### Objectives:

- Enhance the availability of trail and blueway usage (volume and user types) data to inform decision-making and prioritization of GTB improvements, expansion, and connections.

### Next Steps:

|  | Timeframe  | Cost | Potential Partners                      |
|--|------------|------|---|
| Research and evaluate trail counter technology/programs and potential funding sources for implementation | Short-Term | Low  | MPO, Municipalities, FDOT, FDEP, SWFWMD |
| Prioritize and identify locations to implement trail usage monitoring stations                           | Mid-Term   | Low  | MPO, Municipalities, FDOT, FDEP, SWFWMD |
| Implement a trail usage count and monitoring program   | Mid-Term   | High | MPO, Municipalities, FDOT, FDEP, SWFWMD |

## 7. Ensure Greenway, Trail, and Blueway Consistency Across All County Plans and Programs

### Objectives:

- Ensure that planning efforts throughout the County support and consistently reference GTB-related goals, objectives, and policies.

### Next Steps:

|  | Timeframe | Cost   | Potential Partners  |
|--|-----------|--------|---|
| Improve review and coordination practices with County departments and partner agencies to ensure that long-range planning documents consistently reflect and implement the GTB goals, objectives, and policies | Ongoing   | Medium | Planning & Development, Project Management, Community Development, MPO, Municipalities, FDOT, FDEP, SWFWMD, Other |

## 8. Expand Blueway Offerings and Improve Blueway Access

### Objectives:

- Identify opportunities to improve and enhance the existing blueway network

### Next Steps:

|   | Timeframe  | Cost   | Potential Partners                           |
|---|------------|--------|--|
| Identify the existing blueway network, access points, and amenities (partially completed by Master Plan)          | Short-Term | Low    | GIS  |
| Develop blueway amenities standards, guidelines, and priorities   | Short-Term | Low    | Municipalities, FDEP, Other                  |
| Develop a user-oriented blueway network map   | Short-Term | Low    | GIS  |
| Increase the number of designated blueway access points and ramp/launch facilities                                | Mid-Term   | High   | Municipalities, FDEP, Other                  |
| Collaborate with State, municipal, and private partners to expand blueway/paddling programs throughout the County | Ongoing    | Medium | MPO, Municipalities, FDEP, State Park, Other |

## 9. Greenway, Trail, Blueway Working Group with Municipal Partners

### Objectives:

- Coordinate to identify opportunities to connect and expand the GTB network
- Collaborate on GTB branding and promotional efforts
- Coordinate on GTB-related programs and initiatives

Establish uniform trail use rules **Next Steps:**

|  | Timeframe  | Cost | Potential Partners   |
|--|------------|------|--|
| Form a collaborative working group involving the municipalities and MPO with a goal of regularly coordinating and addressing GTB-related matters | Short-Term | Low  | Planning & Development, Project Management, Community Development, MPO, Municipalities |
| Evaluate existing GTB facility usage rules and guidelines and update as necessary  | Short-Term | Low  | Municipalities, FDEP, SWFWMD   |

## FUNDING OPPORTUNITIES

Ideas, concepts, and designs for greenways, trails, and blueways rarely progress to construction and completion without a dedicated source of funding. While partnerships and agreements with developers can, and should, be used to enhance the network by providing on-street connections, they are not reliable sources of funding and are often unpredictable in terms of timing and location. The reality is that funding is often a moving target that is dependent on the economic, fiscal, and political climate of the state, region, county, and municipal governments. Completing trail and blueway projects and their related amenities typically requires creativity, determination, and a variety of funding sources over several years.

Appendix D contains a detailed list of potential funding sources that are available for the construction of greenways, trails, and blueways.

## CONCLUSION

The Pasco County GTB Master Plan was developed in close coordination with County staff and the County’s municipal and regional partners. While developed with meaningful participation and coordination, continued oversight will be necessary to help ensure greenway, trail, and blueway facilities are consistent and that the guidance in this document reflects the current needs of the County. The Plan will require continued collaboration and coordination among the County’s many partners to ensure that the vision and mission of this Plan is executed.



## APPENDIX A – PLANS AND BEST PRACTICE REVIEW

## PLANS REVIEW

To better understand local and statewide initiatives, a review of major plans that impact the design, funding, and construction of greenway, trail, and blueway facilities was undertaken.

### Local Plans and Policies

#### *Comprehensive Planning*

Pasco County’s Comprehensive Plan makes several references to greenways, trails, and blueways. The following goals and objectives address or influence trail development:

- **Parks and Recreation Element Goal 1:** Ensure provision of outstanding parks and recreational facilities designed to satisfy the active and passive recreational needs of all of the county’s existing and future citizens, and promote the health and welfare of the entire community.
  - **Objective 1.6:** Access and connectivity of parks and trails
    - Provide public access and connectivity for all existing and future trails, public parks, and recreational facilities through the Year 2025
- **Transportation Element Goal 1:** Develop an integrated, multimodal, transportation system that provides for the safe, efficient, and effective movement of people, goods, and services in Pasco County.
  - **Objective 1.5:** Bicycle facilities, sidewalks, and multiuse trails
    - Provide safe and convenient bicycle, sidewalk, and multiuse trail networks

The comprehensive plans of other jurisdictions within the County also refer to promoting and creating a system of greenways. One such example is New Port Richey’s Recreation and Open Space policy, which states:

- **ROS 1.3.6:** The City shall create a system of greenways by defining and preserving the following areas as open space:
  - a) Conservation and Preservation Category designated lands on the Future Land Use Map;
  - b) Jurisdictional wetlands and wetland buffers;
  - c) Significant habitat of threatened or endangered species; and
  - d) Any species management areas for species of special concern.

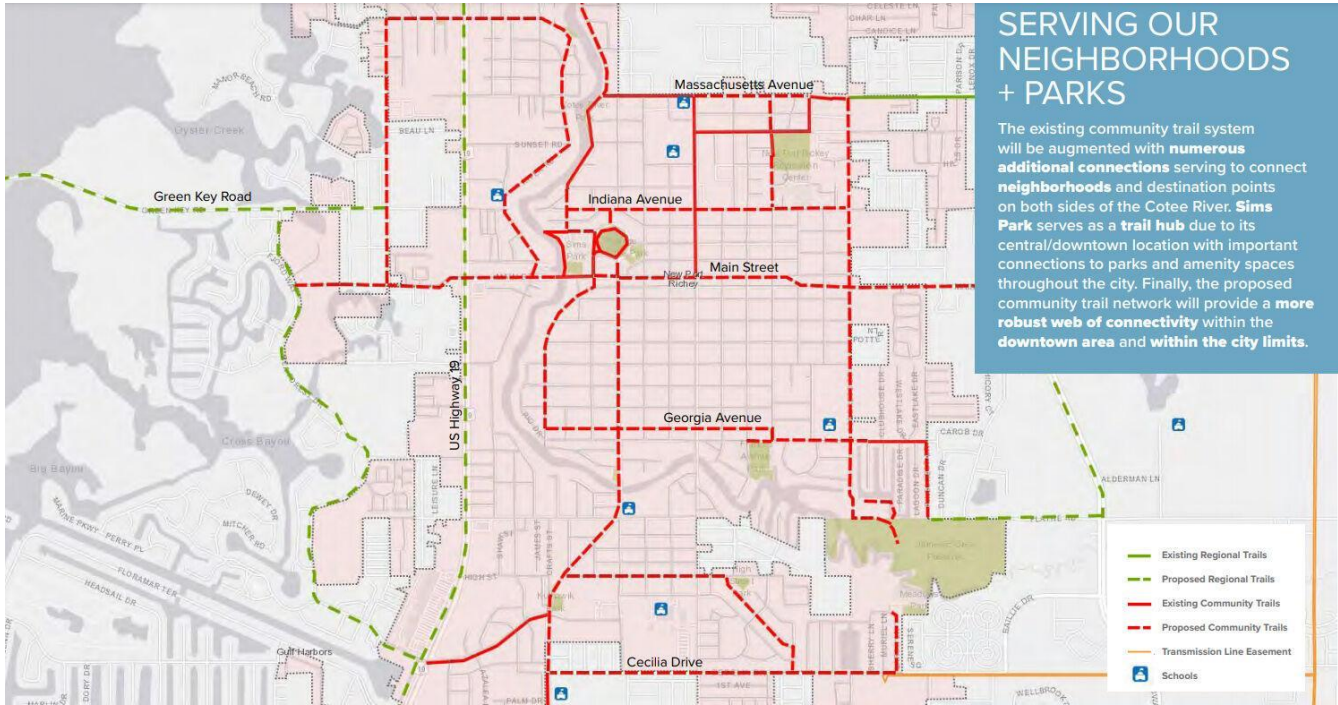
When feasible, facilities such as boardwalks, trails, interpretive displays, observation areas, and benches shall be installed within greenways.

#### *New Port Richey Trails Feasibility Study*

New Port Richey conducted a Trails Feasibility Study in 2020, which sought to identify gaps within the City’s trail system, prioritize trail improvements, and provide a framework to better connect neighborhoods to destination points within the city. The plan focused on not only east-to-west and north-to-south regional connections, but also identified opportunities to connect the City’s parks, schools, businesses, and neighborhoods. The proposed trails were mostly parallel to the street or on-street paved multiuse paths.

## SERVING OUR NEIGHBORHOODS + PARKS

The existing community trail system will be augmented with **numerous additional connections** serving to connect **neighborhoods** and destination points on both sides of the Cotee River. **Sims Park** serves as a **trail hub** due to its central/downtown location with important connections to parks and amenity spaces throughout the city. Finally, the proposed community trail network will provide a **more robust web of connectivity** within the **downtown area and within the city limits.**





### **Pasco MPO Plans**

Several Pasco Metropolitan Planning Organization (MPO) plans have elements that affect the development and ongoing use of greenways, trails, and blueways. These plans include the Long-Range Transportation Plan (LRTP), the Transportation Improvement Program (TIP), the Hills Multimodal Safety Action Plan, and the forthcoming Active Transportation Plan.

#### **MOBILITY 2024 Long Range Transportation Plan**

The LRTP makes note that the percent of funding allocation in the 2045 plan for trails, sidewalks, and bike facilities nearly double from the 2040 plan, from 1.3% of the budget to 2.3%. The plan states that developing an active (walking and cycling) transportation system in Pasco is built on completing the existing network of sidewalks, trails, bike lanes, and paths in a manner that recognizes the unique needs of the users and the function of transportation facilities.

Highlights of the approach proposed in the MOBILITY 2045 LRTP include the following:

- All road widening and construction projects in the LRTP will include appropriate bicycle facilities and sidewalks.
- Continued implementation of bicycle and sidewalk safety projects currently prioritized for implementation.
- Use Pasco County’s recently updated roadway cross-section designs, which include appropriate bike/ped facilities, when filling gaps in the system or resurfacing/rehabilitation existing roadways.
- Identify opportunities for local road connections in established areas as alternatives to busy, and often unsafe, arterials.
- Prepare a comprehensive bike/ped plan that would consider opportunities, constraints, and evaluation of alternative solutions or projects specific to the needs and vision of the County’s Market Areas.
- Prioritized identified projects based on technical criteria for implementation.
- Coordination with FDOT, County, and City staff for utilizing the \$183 million set aside in the LRTP through 2045 for walk/bike.

#### **Transportation Improvement Program (TIP)**

The Transportation Improvement Program (TIP) is a five-year list of projects that are funded as part of the LRTP process. The MPO’s TIP details the transportation projects that have been funded through fiscal years 2023 through 2027. Of facilities related to the GTB Master Plan, the most notable and regionally impactful TIP projects include the Orange Belt Trail, the Withlacoochee State Trail extension, and the Starkey Trail overpass connection at SR 54 and SR 52. , and the Pasco MPO’s 2021-2027 TIP.

Table A-1 provides details on all envisioned trails within the County. These trails were identified in the Pasco County MPO’s List of Priority Projects (LOPP) unfunded multi-modal projects for 2022, Sun Coast Transportation Planning Alliance’s 2021 Regional Multiuse Trails Priority Projects list, and the Pasco MPO’s 2021-2027 TIP.

**TABLE A-1: PASCO COUNTY IN DEVELOPMENT TRAILS**

| <b>Project</b>                          | <b>Description</b>  | <b>Funding Phase</b>  | <b>Agency/Jurisdiction</b>                  |
|---|---|---|---|
| <b>Bayou Trail Connection</b>           | PD&E study for a US 19 underpass along Cottee River   | Motion made at 4/14/22 MPO board meeting  | Pasco County and City of New Port Richey    |
| <b>Eiland Blvd. Multiuse Path</b>       | Multiuse path on Eiland Blvd. from SR 54 to US 301  | Unfunded  | FDOT, Pasco County, and City of Zephyrhills |
| <b>Geiger Rd. Multiuse Path</b>         | Multiuse path on Geiger Rd. from Eiland Blvd. to US 301   | Unfunded  | FDOT, Pasco County, and City of Zephyrhills |
| <b>Grand Blvd. Multiuse Path</b>        | Design for a multiuse path on Grand Blvd. from Marine Pkwy. to Massachusetts Ave.   | New project   | City of New Port Richey                     |
| <b>Jasmine Blvd. Multiuse Path</b>      | Multiuse path on Mitchell Blvd. US 19/SR 55 to CR 1/Little Rd.  | PD&E study funded through TIP for 2024, construction funded for 2026  | FDOT and Pasco County                       |
| <b>Mitchell Blvd. Multiuse Path</b>     | Multiuse path on Mitchell Blvd. Churchill Pkwy. to Trinity Oaks Blvd.   | Construction funded through TIP for 2025  | FDOT and Pasco County                       |
| <b>Old Dixie Hwy. Multiuse Path</b>     | Feasibility study for a multiuse path on Old Dixie Hwy. from Sea Ranch to Race Track Rd.  | Funding requested, SU application submitted 2022  | FDOT and Pasco County                       |
| <b>Orange Belt Trail Segments 1</b>     | The Orange Belt Trail segment from Little Road in the Trinity area of southwest Pasco County to the existing multi-use path on Gunn Highway.            | Fully funded. SUN Trail funding for the segment east of Little Road to SR 54. Construction to begin in FY 2025. | FDOT and Pasco County                       |
| <b>Orange Belt Trail Segment 2</b>      | Orange Belt Trail segment connecting the Suncoast Trail on the west and Tower Rd/Bexley Village Dr. on the east   | Fully funded. SUN Trail funding for the construction phase  | FDOT and Pasco County                       |
| <b>Orange Belt Trail PD&amp;E Study</b> | The PD&E Study encompasses the segment of Orange Belt Trail from US 41 and connect to the Withlacoochee State Trail. Will be a 12' multiuse path/trail. | PD&E Study fully funded   | FDOT and Pasco County                       |
| <b>School Rd. Multiuse Path</b>         | Multiuse path on School Rd. from Community Center Rd. to US 41 to Land o' Lakes Blvd.   | PD&E study funded through TIP for 2024, construction funded for 2026  | FDOT and Pasco County                       |
| <b>Starkey Trail at SR 54</b>           | The overpass would bridge SR 54, connecting the Starkey Gap Trail to  | Request funds for PE, ROW, and construction   | FDOT and Pasco County                       |

| Project                                    | Description   | Funding Phase   | Agency/Jurisdiction                         |
|--|---|---|---|
|  | the Starkey Boulevard multiuse path.  | phases. SUN Trail application submitted.                              |   |
| <b>Suncoast Trail at SR 52</b>             | The overpass would bridge SR 52, providing safe passage for trail users.  | Currently in Design Phase, construction phase funded in TIP for 2024. | FDOT and Pasco County                       |
| <b>Wire Rd Multiuse Path</b>               | Multiuse path on Wire Rd. from Pretty Pond Rd. to CR 54   | Analysis has been completed, move to TA list sidewalk                 | FDOT, Pasco County, and City of Zephyrhills |
| <b>Withlacoochee State Trail Extension</b> | 10 to 12-foot paved bicycle/pedestrian 13-mile trail extension from the existing Trilby/Lacoochee trailhead along US 301, south to SR 56. Includes Hardy Trail/Hardy Trail Extension. | Funded by Penny for Pinellas  | FDOT and Pasco County                       |



## The Hills Multimodal Safety Action Plan

The Hills Multimodal Safety Action Plan was produced in 2018 to address on-road conditions for multimodal users in northeastern Pasco County. In addition to identifying needs by segment, the plan makes several general recommendations for the roads within the study area, including:

- Roadway Milling and Resurfacing
- Addition of Shoulders
- Vegetation Maintenance
- New Signage and Improved Lighting at Blind Curves

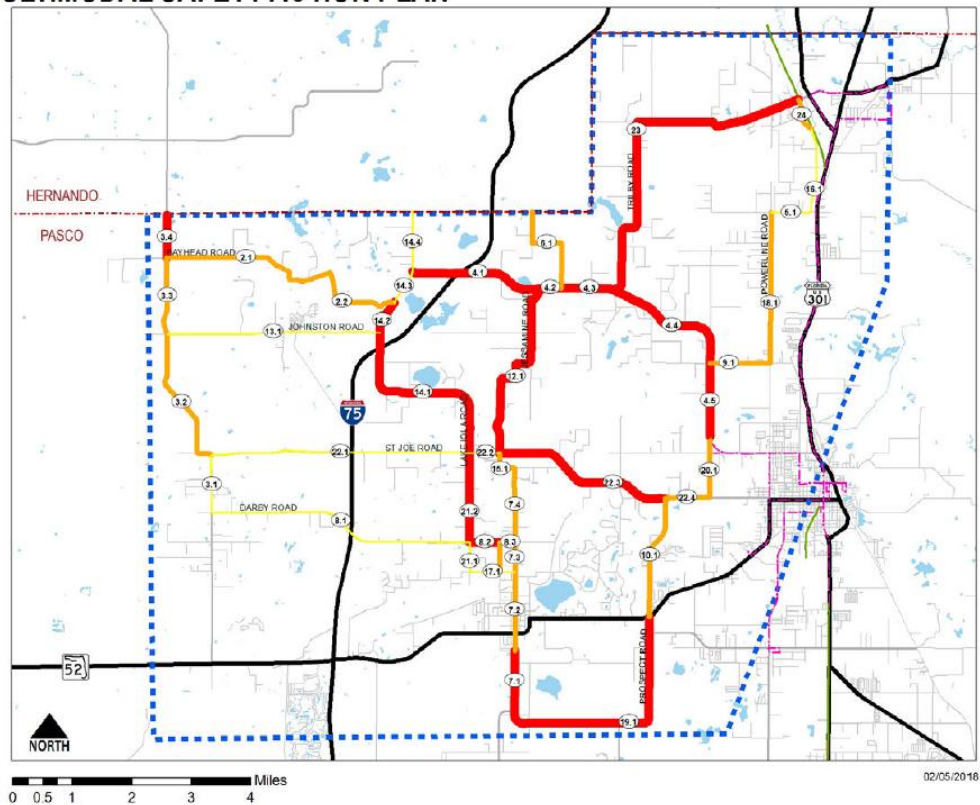
These suggested improvements will increase accessibility and safety for users traveling to the trails in the area, the Withlacoochee and Hardy trails. These trails will soon be connected to make a 13-mile trail and consequently increase the number of vehicles, bicyclists, and pedestrians traveling in the area to use the trail.

### NE PASCO (THE HILLS) MULTIMODAL SAFETY ACTION PLAN

#### IDENTIFICATION OF NEED BY SEGMENT

#### Legend

- Low Priority
- Medium Priority
- High Priority
- Existing Trails
- PCPT Bus Routes
- County Boundary
- Study Area
- State Roads
- County Roads
- Waterbody



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### Active Transportation Plan

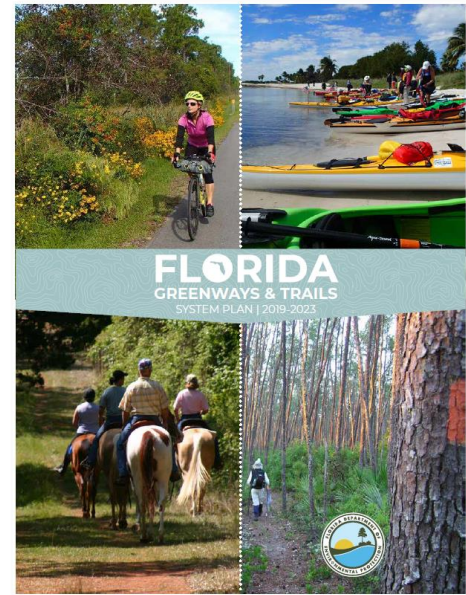
The MPO is currently developing an Active Transportation Plan (ATP) that will incorporate a safety element for bicycle/pedestrian facilities in Pasco County. Ongoing ATP development activities include a peer agency review of adopted ATPs to identify best practices and successful engagement activities. An updated inventory of Master Planned Unit Development multimodal facilities and county sidewalks is also an ongoing component in the development of the ATP.

## Statewide Plans and Policies

### *Florida Greenway and Trails System Plan*

The Florida Office of Greenways and Trails (OGT) is responsible for leading, planning, and facilitating the development of an interconnected Florida Greenways and Trails System. An important function of the OGT is to facilitate communication, cooperation, and coordination among governmental entities, landowners, recreational user groups, and other nongovernmental organizations involved in greenways and trails planning, development, management, and maintenance. The system plan defines the role of the greenway and trail system in advancing Florida’s economy, tourism, public health, transportation choices, recreation, conservation, and quality of life. As part of the plan, the OGT set forth four primary goals:

1. Delineate regional systems
2. Strategic investment of resources to advance system completion
3. Promote and market the Florida Greenways and Trails System to residents and visitors
4. Establish partnerships and engage stakeholders



The Plan also sets thresholds for Land Trails or Paddling Trails:

- **Land Trail**
  - Cross county boundaries
  - Evidence of government endorsement
  - Leads or connects to a destination that provides natural scenic qualities and diverse experiences
  - Provides access to conversation lands and historic, recreational, or cultural sites
  - Supports the FL ecological greenways network
- **Paddling Trail**
  - Recognized as an existing or potential tourism destination due to the scenic qualities and diverse experiences.
  - Spans at least three miles in length.
  - Navigable during most months in an average year.
  - Benefits from increased visitation without harm to the natural environment

Both land and paddling trails can be considered Priority Trails if the trails meet the following criteria:

- Supports and further establishes national, state, or regional trail projects, plans, and initiatives.
- Builds on past and programmed state and federal investments in trails, particularly when matched by funding from local and private sources.
- Includes long-distance trails or provides connections between long-distance trails and/or long loops to join multiple counties and population centers.

- Demonstrates broad regional and community support, especially those entities willing to commit to trail management and long-term maintenance.
- Enhances access to nature-based tourism and economic development by connecting natural, recreational, cultural, and historic sites.
- Enhances connections to state parks and trails and greenways.
- Coincides with and supports the Florida Ecological Greenways Network priorities.
- Protects public safety by offering non-motorized use that is separated from highways.

Identified Priority Trails are shown in Figure A-1.

**FIGURE A-1: FLORIDA GREENWAYS & TRAILS PRIORITY TRAILS**







### **Implementing Florida's SUN Trail Program Handbook**

The Florida Legislature in 2014 and 2015 passed measures to fund the development of multiuse trails called the Shared-Use Nonmotorized (SUN) Trail program. Administered by FDOT, the SUN Trail program provides funding for the development of a statewide system of paved multiuse trails for bicyclists and pedestrians. Through a two-tier funding structure, FDOT advances the establishment of the trail system by programming the recurring \$25 million allocation to close gaps and complete trails within the Greenways and Trails Priority System. The Parks and Community Trails (PACT) program is a proposed technical assistance program to help rural and small communities build new trails linking the Opportunity and Priority Corridors with local and state parks.

The SUN Trail Program enables the allocation of funds to all phases of project development, including preliminary and environmental planning; design; acquisition of real property/land/right-of-way (ROW); new construction, or reconstruction of trail surfaces and

bridges; and maintenance. Projects ineligible for funding include sidewalks, natural trails, and loop trails wholly within a single park or natural area; on-road facilities (e.g., on-road bike lanes); and amenities associated with trail projects (e.g., benches, restrooms, parking areas, etc.).

Several criteria determine if a trail is eligible for SUN Trail funding and contribute to priority for selection.

- Eligibility Criteria:
  - The project will be developed as a paved, multiuse path within the SUN Trail network including a map with project limits
  - The project is a priority of the applicable jurisdiction
  - A non-FDOT government entity is committed to the operation and maintenance of the trail
  - The project is consistent with applicable planning documents
- Selection Criteria:
  - Project connects two or more existing trails
  - Project enhances the safety of bicyclists, pedestrians, and motorists
  - Project is recognized as having regional, state, or national importance
  - Construction readiness
  - Additional financial contribution committed to the project
  - Project has a high level of documented public support
  - Project has a significant immediate impact on the quality of life by enhancing economic opportunities and providing connectivity to destinations
  - Project enhances or preserves environmental resources
  - Project includes cost-saving elements

Two major existing trails in Pasco County, the Starkey Trails and the Suncoast Trail, make up the majority of Pasco's section of Florida's Coast to Coast (C2C) Trail. Upon completion, the C2C will connect St. Petersburg

on the west coast to Titusville on the east coast with a 250-mile trail. The Starkey Gap Trail, completed in November 2020, closed the final 2-mile gap of the C2C trail within Pasco County.



### ***Florida State Trail Design Standards***

The Florida Division of Recreation and Parks/Office of Park Planning developed a detailed set of trail design standards based on community characteristics as well as estimated costs for the design, construction, and maintenance of trails.

**TABLE A-2: FLORIDA STATE TRAIL DESIGN STANDARDS**

|                    | <b>Natural/Rural</b>  | <b>Suburban</b>  | <b>Urban</b>   |
|--------------------|---|--|--|
| <b>Trail Width</b> | 12'-14'   | 10'-14'  | 8' minimum   |
| <b>Distance</b>    | 8-12 miles between trailheads   | 5-8 miles between trailheads   | N/A  |
| <b>Rest stops</b>  | 1-2 between trailheads  | 1/mi between trailheads  | N/A  |
| <b>Trailheads</b>  | Trailheads should include restrooms, drinking water, a parking area, and informational panels. Rest stops should include a covered bench.   | Trailheads should include restrooms, drinking water, a parking area, and informational panels. Rest stops should include a covered bench.  | Trailheads are not mandatory at regular intervals in most urban areas due to easily accessible amenities provided by public facilities and businesses  |
| <b>Corridors</b>   | Corridors are typically associated with adjacent road right-of-way, utility corridors, and defunct railroad lines.  | Corridors are typically associated with adjacent road right-of-way, utility corridors, and defunct railroad lines.   | Corridors are typically associated with linear public spaces and park facilities and can be designed with the pedestrian in mind, resulting in esplanades and promenades, or focusing on cyclists, which would lead to separated bicycle lanes; or both        |
| <b>Planning</b>    | Planning for support facilities should include an analysis of existing and potential recreation and tourism opportunities along the trail corridor and incorporate existing and planned facilities into trailhead and rest stop design. | Planning for support facilities should include an analysis of tourism opportunities along the trail corridor and incorporate existing and planned facilities into trail design. Trail-friendly businesses can help supplement the need for facilities, such as restrooms, when appropriate | Planning an urban trail will aim to encourage an active and heavily used trail corridor that will facilitate alternative modes of transportation for users.  |
| <b>Surfaces</b>    | Permeable surfaces should be incorporated into the design of parking areas at trailheads.   | Permeable surfaces should be incorporated into the design of parking areas at trailheads, when appropriate.  | Trail surfaces can vary widely based on the general vision for the corridor. Bike lanes will be paved, but wider pedestrian-oriented corridors could incorporate a variety of permeable surfaces such as packed gravel or shell, cobblestone, or other pavers. |

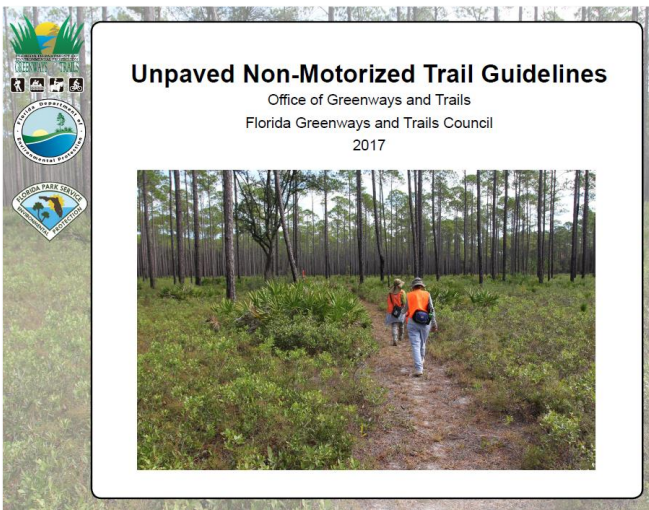


The guide also provides planning level per mile costs for trail design, construction, and maintenance.

- **Design Build**
  - Fixed Capital Outlay (FCO) Funded
    - \$/mile to design: \$40,000
    - \$/mile to build: \$290,000
  - FDOT/Local Agency Program (LAP) Funding
    - \$/mile to design: \$125,000
    - \$/mile for PD&E study: \$75,000
    - \$/mile to build: \$650,000
- **Maintenance**
  - \$/mile to maintain (mow, blow, trim, other): \$4,500
  - \$/mile for labor, fuel, and equipment maintenance: \$1,500

Funding assistance is available through the Florida Community Trust (FCT), [Florida Recreation Development Assistance Program \(FRDAP\)](#), Land and Water Conservation Fund (LWCF), and the Recreational Trails Program in Florida (RTP).

### **Unpaved Non-Motorized Trail Guidelines (2017)**



The Florida Greenways and Trails Council within the Office of Greenways and Trails created the Unpaved Non-Motorized Trail Guidelines with the mission of promoting new spaces to recreate through the development and improvement of unpaved non-motorized trails to suit Florida’s current and future recreational needs. The guide addresses accessibility, pre-construction considerations, trail construction, wayfinding, and trail amenities.

Trails and associated facilities should be designed or retrofitted so that accessibility is a key tenet; when physical or environmental considerations prevent a trail from being fully accessible, the jurisdiction

should publish accurate information on trail features and limitations so that potential trail users may make informed decisions. Retrofits should consider budgetary constraints, legal requirements, cultural/historical significance, and the natural environment. Title II of the Americans with Disabilities Act (ADA), the Florida Building Code, and Access Board Outdoor Guidelines provide information on the legally required and recommended standards for accessibility.

According to the guidelines, the design of pre-construction trails should take into consideration:

**Aesthetics**—Scenic views, sounds (streams, waterfalls), smells (pine, damp earth), and things to touch (vegetation, rock formations).

**Archaeological and historical resources**—Trails should be designed to minimize or not impact archeological and historical sites.

**Bridges**—Provide bridges, walkways, and other crossing facilities where necessary with appropriate railings and other safety measures.

**Community involvement**—Community support is vital for trail development.

**Consultation with authorities**—Determine regulations and carrying capacity for appropriate trail use.

**Contaminated sites**—Avoid the use of non-remediated contaminated sites for trail use.

**Degree of difficulty**—Establish the degree of difficulty (easy, moderate, difficult) for each trail and trail section, and include the information at the trailhead.

**Electronic communication**—The inclusion of a mobile-friendly website/app and QR codes may benefit trail users who choose to use electronics during their trail use.

**Monitoring**—Must be able to efficiently complete a physical inspection of trailheads and trails to maintain the trail.

**Public land use**—Utilize public land and rights-of-ways whenever possible to minimize project costs.

**Rural/primitive/low volume trails**—These trails should take into consideration accessibility to areas with diverse natural and cultural experiences. These trails tend to experience a low volume of users at any given time, contain few amenities, and are usually located away from populated areas.

**Trail linkages**—Strive for local linkages to statewide trail systems to provide for trail continuity and long-distance users.

**Waste receptacles**—Provide animal-resistant trash receptacles at primary and secondary trailheads, picnic areas, and campsites.

**Urban/high volume trails**—These trails should be connected to areas of interest, ADA accessible, and a feasible alternative to motorized vehicle use where possible.

**Visibility**— Provide for clear visibility corresponding to travel speed of trail users, especially at trail intersections, corners, and curves.

Regarding trail construction, hiking trails may be classified into three general categories: low, medium, and high usage. This guidebook provides detailed standards for the construction of hiking trails, off-road cycling trails, and unpaved multiuse trails. The guidebook additionally provides considerable information on wayfinding, including types of signs:

- Educational
- Property Ownership
- Regulatory & Warning
- Wayfinding

The guidebook concludes with information on trail amenities which can consist of trailheads, rest stops, parking and staging areas, equestrian trailer parking, bicycle racks, and camping sites. The plan emphasizes that amenities should be planned with careful consideration to location, space, development of the ground, and types of users (e.g., primitive, equestrian, etc.).

***Florida Shared-Use Nonmotorized Trail Network (Florida Statutes 339.81)***

Title XXVI (Public Transportation) Chapter 339 (Transportation Finance and Planning) Section 81 (Florida Shared-Use Nonmotorized Trail Network) states the following:

- (1) The Legislature finds that increasing demands continue to be placed on the state's transportation system by a growing economy, continued population growth, and increasing tourism. The Legislation also finds that significant challenges to providing additional capacity to the conventional transportation system exist and will require enhanced accommodation of alternative travel modes to meet the needs of residents and visitors. The Legislature further finds that improving bicyclist and pedestrian safety for both residents and visitors remains a high priority. Therefore, the Legislature declares that the development of a nonmotorized trail network will increase mobility and recreational alternatives for Florida's residents and visitors, enhance economic prosperity, enrich quality of life, enhance safety, and reflect responsible environmental stewardship. To that end, it is the intent of the Legislature that the department make use of its expertise in efficiently providing transportation project to develop the Florida Shared-Use Nonmotorized Trail Network, consisting of a statewide network of nonmotorized trail which allows nonmotorized vehicles and pedestrians to access a variety of origins and destinations with limited exposure to motorized vehicles.
- (2) The Florida Shared-Use Nonmotorized Trail Network is created as a component of the Florida Greenways and Trails System established in chapter 260. The statewide network consists of multiuse trails or shared-use paths physically separated from motor vehicle traffic and constructed with asphalt, concrete, or another hard surface which, by virtue of design, location, extent of connectivity or potential connectivity, and allowable uses, provides nonmotorized transportation opportunities for bicycles and pedestrians statewide between and within a wide range of points of origin and destinations, including, but not limited to, communities, conservation areas, state parks, beaches, and other natural or cultural attractions for a variety of trip purposes, including work, school, shopping, and other personal business, as well as social, recreational, and personal fitness purposes.
- (3) Network components do not include sidewalks, nature trails, loop trails wholly within a single park or natural area, or on-road facilities, such as bicycle lanes or routes other than:
  - (A) On-road facilities that are no longer than one-half mile connecting two or more nonmotorized trails, if the provision of non-road facilities is infeasible and if such on-road facilities are signed and marked for nonmotorized use; or
  - (B) On-road components of the Florida Keys Overseas Heritage Trail.
- (4) The planning, development, operation, and maintenance of the Florida Shared-Use Nonmotorized Trail Network is declared to be a public purpose, and the department, together with other agencies of this state and all counties, municipalities, and special districts of this state, may spend public funds for such purposes and accept gifts and grants of funds, property, or property rights from public or private sources to be used for such purposes.
- (5) The department shall include the Florida Share-Use Nonmotorized Trail Network in its work program developed pursuant to s. 339.135. For purposes of funding and maintaining projects within the network, the department shall allocate in its program and resource plan a minimum of \$25 million annually, beginning in the 2015-2016 fiscal year.
- (6) The department may enter into a memorandum of agreement with a local government or other agency of the state to transfer maintenance responsibilities of an individual network component. The department may contract with a not-for-profit entity or private sector business or entity to provide maintenance services on an individual network component.



## BEST PRACTICES REVIEW

A review of related plans from across the region, state, and country was undertaken to identify practices that would inform positive outcomes for the Pasco County GTB Master Plan. These plans serve as examples of approaches to developing a system of connected greenways, trails, and blueways that have worked elsewhere, and can be applied to Pasco County's local system.

### *Sarasota County Trails Master Plan (2018)*

Sarasota County's Trails Master Plan's development process included robust community engagement, rationale for the plan (e.g., increased community value, health, transportation, and economic development), and identified trail typologies within the County.

The types of facilities addressed in this plan and their general design guidelines are:

- **Blueways**—At access points, the blueway should be 12' wide at the water line, tapered to 9' wide at top of the entrance area, 15' in length, and a 3:1 slope at the stream bank.
- **Boardwalks**—Constructed of wooden or recycled material planks, with a width of 10'-12'. When the height of the boardwalk exceeds 30", railings are required.
- **Equestrian Trails**—Minimum 1.5' of tread width and 5.5' horizontal clear width, preferred width of 6' of tread and 3' shoulders for a total of 12'.
- **Low-Stress Roadway Connections**—On-street facilities that connect off-street sections of the trail. Low-stress facilities include bike boulevards, advisory shoulders, and separated bike lanes.
- **Mountain Bike Trails**—Typically 18"-24" wide and have compacted bare earth or leaf litter surfacing.
- **Natural Surface Trails**—Unpaved trails varying in minimum width and overhead clearance dependent on allowable users. Optimal and enhanced widths are 6'-8'+.
- **Neighborhood Accessways**—Paved trails 8'-12' wide with a 2'-5'+ shoulder and overhead clearance of 8'-10'+. Important to make ADA accessible and should slightly meander whenever possible.
- **Shared-Use Paths**—Paved trails 10'-14'+ wide with a 2'-5'+ shoulder and overhead clearance of 8'-10'+.



A strong feature of this plan is its clearly laid-out vision, goals, and policies to guide trail planning and development. Sarasota County's mission statement is, "Establish and expand a diverse and comprehensive multiuse system of land and water trails that provide access to and between recreational, cultural, environmental, historical, residential, and commercial activities within Sarasota County and surrounding counties." The plan then sets ten goals for trail users and five additional goals created specifically for blueway users. The plan further defines six policies that create a clear path through which the County can achieve its goals. Each policy is additionally associated with three to six actions that help carry out the policy.

- Policy 1: Create and maintain local, regional, national, and public/private partnerships.
- Policy 2: Ensure regional and local trail connectivity.
- Policy 3: Promote active transportation through the integration of transportation and recreation systems.
- Policy 4: Examine and revise existing policies, codes, and regulations for opportunities or barriers to the trail system.
- Policy 5: Keep existing and future trails well maintained.
- Policy 6: Promote the trail system to various users.

The final two sections of the plan consisted of an existing conditions review and final recommendations. Existing conditions reviewed existing plans (e.g., Sarasota-Manatee MPO Long Range Transportation Plan), completed a trail inventory, and reviewed trail crime and collision incidents. The final recommendations section of the plan begins with a map series depicting proposed trails by type, followed by a table describing the proposals in detail.

Another component of the Sarasota County Trails Master Plan is the scoring prioritization methodology. The following figure depicts the scorecard used in the plan. Based on scores, the proposals are sorted into three tiers of priority, with tier one as the highest priority. Exceptionally strong public support for a proposal has the potential to bump a recommendation to the next tier.

**FIGURE A-2: SARASOTA COUNTY PRIORITIZATION SCORE CARD**

| Criteria                       | Measurement                                 | Range | Scoring Details  | Weight |
|--------------------------------|---|-------|--|--------|
| Supports Active Transportation | SCAT Stops                                  | 1 - 5 | 1 – Within 2 miles of a SCAT stop<br>3 – Within 1 mile of a SCAT stop<br>5 – Within 0.5 miles of a SCAT stop                                 | 1      |
| Comfort                        | Trail Type                                  | 3 - 5 | 3 – Low Stress Facility<br>5 – Shared Use Path or Natural Surface Trail  | 1      |
| Access to Community Centers    | Community Center Locations                  | 3 - 5 | 3 – Part of the project can be tied to an upcoming capital project<br>5 – Project can be tied to an upcoming capital project                 | 3      |
| Leverages Community Investment | Capital Project Connection                  | 3 - 5 | 3 – Part of the project can be tied to an upcoming capital project<br>5 – Project can be tied to an upcoming capital project                 | 1      |
| Equity                         | Proximity to County's Vulnerable Population | 1 - 5 | 1 – Low proximity to vulnerable population<br>3 – Moderate proximity to vulnerable population<br>5 – High proximity to vulnerable population | 2      |
| Healthy Food                   | Proximity to Healthy Food Source            | 1 - 5 | 1 – Within 2 miles of healthy food source<br>3 - Within 1 mile of healthy food source<br>5 – Within 0.5 miles of healthy food source         | 1      |
| Local Trail Connectivity       | Existing Trails                             | 3 - 5 | 1 – Not located near an existing trail<br>3 – Extends an existing trail<br>5 – Closes a gap between two existing trails                      | 3      |
| Regional Trail Connectivity    | Proximity to FGTS/SUN Trail Network         | 1 - 5 | 3 – Alignment matches FGTS Opportunity Network<br>5 – Alignment matches FGTS/SUN Trail Priority Network                                      | 3      |
| Parks and Natural Lands        | Proximity to Greenway or Park               | 1 - 5 | 1 – Within 0.5 miles of greenway or park<br>3 – Within 1 mile of greenway or park<br>5 – Within 2 miles of greenway or park                  | 3      |
| Public Input                   | Public Comments                             | 1 - 5 | 1 – Low or no amount of public comments<br>3 – Moderate amount of public comments<br>5 – Highest amount of public comments                   | 1      |
| Right of Way Acquisition       | Right of Way Required                       | 1 - 5 | 1 – Full right of way required<br>3 – Some new right of way required<br>5 – No new right of way required                                     | 1      |
| Safety                         | Proximity to Crash Areas                    | 1 - 5 | 1 – Within low crash area<br>3 – Within moderate crash area<br>5 – Within high crash area  | 3      |
| School Connection              | Proximity to Schools                        | 1 - 5 | 1 – Within 2 miles of a school<br>2 – Within 1 mile of a school<br>3 – Within 0.5 miles of a school  | 2      |

Bikeshare, wayfinding, and ancillary trail improvements are also recommended improvements for trails where appropriate. Blueway proposals are supported by the installation of new blueway launches and support for water activity related businesses (e.g., kayak rentals) near the blueways.

The plan concludes by identifying short-, mid-, and long-term policy, program, and infrastructure action steps and who is responsible for their implementation. These steps are detailed below.

- Policy Actions Steps:
  - Amend local zoning and subdivision ordinances and technical standards (short-term).



- Revise sewer, stormwater, and utility easement policies (short-term).
- Develop a corporate sponsorship policy (short-term).
- Develop a coordinated operations and maintenance plan (mid-term).
- Trail access program (mid-term).
- Program Action Steps:
  - Ensure planning efforts are integrated regionally (ongoing).
  - Implement safety campaigns (short-term).
- Infrastructure Action Steps
  - Identify and secure specific funding sources for trail corridors and begin design and construction phases as possible (short term).
  - Gather further public support and input during the design phase for trail projects (ongoing).
  - Develop a long-term funding strategy; Consider limited obligation bonds to fund Sarasota County PROS projects, including trails (mid-term).
  - Re-evaluate and re-confirm the near-term top priorities (annually).

### **Hillsborough County MPO Greenway and Trails Master Plan Update (2016)**

The Hillsborough County MPO’s Greenway and Trails Master Plan unified the previously separate Hillsborough County and City of Tampa Trail Master Plans and coordinated with two other cities within the County to develop the new, unified plan. The plan focused on making connections across existing trails, rather than acquiring new land to develop new trails. Due to this focus, there is a higher presence of urban trail elements such as bike lanes and Complete Street treatments than in other trail master plans reviewed as part of this effort.



Trail facility types and trail elements addressed in this plan include:

- **Facility Types** – Due to difficulties in acquiring new right-of-way for trails, a hybrid of Recreational and Complete Streets approaches was assembled.
  - **Bicycle Priority Streets/Bicycle Boulevards**—Streets with low auto volumes and speeds and designated specifically for bicycle use.
  - **Bikeway**—Any road, street, or path that in some manner is specifically designated for bicycle travel.
  - **Cycle Track/Separated Lane**—Cycle tracks use a physical barrier between the motor vehicle lane and the bicycle lane.
  - **Greenway**—Linear open space established along a natural corridor, a natural open space connecting parks, or a local strip or linear park designated as a parkway or greenbelt.

- **Shared-Use Path**—A bikeway that is physically separated from motor vehicle traffic by an open space or barrier. They are indented for use by non-motorized users and typically are designed for two-way travel.
- **Side Path**—A shared-use path located immediately adjacent and parallel to a roadway.
- **Trail**—A linear corridor and any adjacent support parcels on land or water providing public access for recreation/alternate modes of transportation. Hillsborough County’s standard trail is 12’.
- **Trail Crossing Treatments** —Handled a number of ways, often not stop-controlled; updates to the *FDOT Traffic Engineering Manual* removed the need for minimum trail crossing thresholds making an RRFB or HAWK easier to include moving forward.
  - **High-Intensity Activated Crosswalk Beacon (HAWK)**—Activated warning devices located on mast arms over mid-block crossings or alongside the roadway, often used as an intermediary between RRFBs and a full traffic signal.
  - **Rectangular Rapid Flashing Beacon (RRFB)**—Rectangular-shaped, high-intensity LED-based flashing indicators typically attached to a standard pedestrian crossing sign at a non-signalized crossing location.
  - **Leading Pedestrian Interval**—Gives pedestrians a few seconds head start, allowing them to be mid-crosswalk and in a driver’s line of sight before beginning their right turn.
  - **Protected Intersections**—Allows bicyclists to travel within an area protected by islands, protecting bicyclists from a “right-hook” crash danger.
  - **Pedestrian Bridge**—Typically used when crossing multiple-lane arterials or highways, provide an uninterrupted crossing of the roadway for bicyclists.
- **Wayfinding**—Spatial problem-solving that lets a person know where they are in a building or environment, examples of its use on trails include uniform signage and pavement markings.

The Hillsborough MPO trails master plan is guided by two primary goals:

1. Develop a comprehensive, interconnected system of off-street shared-use trails that will serve as a vital component of our region’s transportation and recreation network, and
2. Ensure adequate maintenance of the regional trail system. Several strategies are listed that address coordination with all relevant jurisdictional agencies and FDOT in order to finish and connect trails. Project development included a review of existing plans, community engagement, coordination meetings with all jurisdictions, and GIS analysis.

An integral part of plan development undertaken by the project team was a field review of the proposed trail alignments to identify, “any fatal flaws that might preclude the alignment being categorized into a tier for the next steps of additional study or design,” (e.g., lack of right-of-way).

Several trails were classified as having existing accessible connections, but a need for more wayfinding elements to help trail users identify and use the connections. The plan then selects ten proposed alignments as priority trails. Each of these ten trails is highlighted on one to two pages displaying a map with existing and proposed improvements, relevant jurisdictions, a description of existing and proposed improvements, and a detailed planning cost estimate, shown in Figure A-3.

**FIGURE A-3: HILLSBOROUGH MPO COST ESTIMATES**

**Planning Cost Estimate:**

| <b>1. I-275 Greenway, Cypress Point Park to West River Greenway</b> |                  |      |                 |                    |
|---|------------------|------|-----------------|--------------------|
| <b>Item</b>   | <b>Unit Cost</b> |      | <b>Quantity</b> | <b>Cost</b>        |
| Side-Path (8' Width)  | \$291,000        | Mile | 0.52            | \$151,320          |
| Multi-Use Trail (12' Width)   | \$356,000        | Mile | 1.2             | \$427,200          |
| Bikeway   | \$240,000        | Mile | 0               | \$0                |
| RRFB Crossing   | \$22,000         | Each | 4               | \$88,000           |
| PHB Crossing  | \$58,000         | Each | 0               | \$0                |
| Ped Signal/Signal Mod   | \$125,000        | Each | 2               | \$250,000          |
| Pedestrian Overpass   | \$355            | Sqft | 16000           | \$5,680,000        |
| <b>Subtotal:</b>  |                  |      |                 | <b>\$6,596,520</b> |

The plan categorizes trails as falling under three categories:

- **Key Intra-County Connections** — Projects identified in this study and other reviewed plans as trails with the potential to contribute to the system of complete key regional connections.
- **SUN Trail Eligible** — Trail projects that are eligible for SUN Trail funding under its guidelines to help develop the statewide trail system.
- **Other Project Concepts** — Additional trail concepts that require further study to vet for feasibility and/or are important to completing local network connectivity.

The categorization of the trails helps the implementing agencies to prioritize trails and organize the process of trail development. The report also includes a table with details regarding potential funding sources.



**TABLE A-3: TRAIL FUNDING SOURCES**

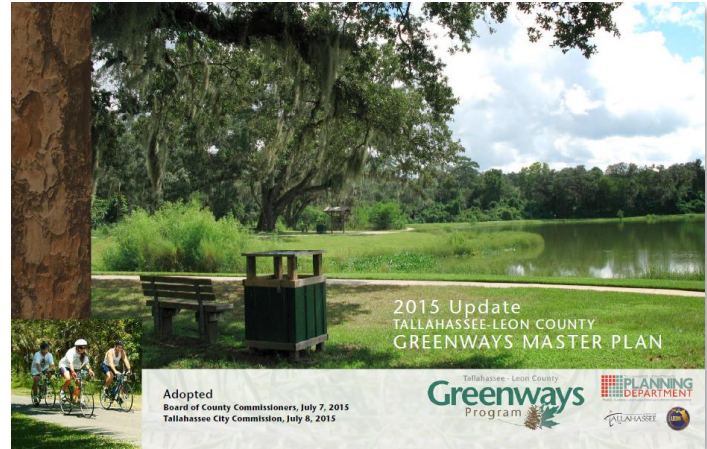
| Agency Type                 | Agency Name   | Program Name   | Eligible Activities                                       | Category             | Local Match |
|-----------------------------|---|--|---|----------------------|-------------|
| Federal                     | FHWA  | Surface Transportation Block Grant Program                       | Development of bicycle and pedestrian facilities          | -                    | 0-10%       |
| Federal                     | FHWA  | Recreational Trails Program (RTP)                                | Development of trails                                     | Recreational Trails  | 20%         |
| Federal                     | National Park Service                               | Land and Water Conservation Find (LWCF)                          | Development of land for outdoor recreation                | -                    | 50%         |
| Federal                     | FHWA  | Surface Transportation Block Grant                               | Bicycle and pedestrian facilities, trails                 | Greenways and Trails | -           |
| State                       | FDEP  | Florida Greenways and Trails Acquisition Program—Florida Forever | Acquisition of land for Florida’s Priority Trails Network | Greenways and Trails | 0%          |
| State                       | FDOT  | SUN Trail  | Development of bicycle and pedestrian facilities          | Greenways and Trails | -           |
| State                       | DCA – Division of Housing and Community Development | Florida Community Trust’s Forever Grant Program                  | -   | Recreation           | 25%         |
| State                       | FDEP – Division of Recreation and Parks             | Florida Recreation Development Assistance                        | -   | -                    | 0-50%       |
| Public/Private Partnerships | -   | -  | Development of trails                                     | -                    | -           |

The report concludes by recommending that the Greenways and Trails Committee continue to advocate for the implementation of the trails recommended in the plan through coordination, gathering of funding, and community outreach.

## Tallahassee-Leon County Greenways Master Plan 2015 Update

The Tallahassee-Leon County Greenways Program, a 30-year effort whose Master Plan was most recently updated in 2015, is guided by two principles:

1. Protect environmentally sensitive lands and other areas and features and provide increased open space recreational opportunities for the citizens of Leon County and the City of Tallahassee, and
2. Increase access to and from residential areas, commercial centers, and existing parks wherever possible, increasing access for the citizens who have provided the funds to purchase, secure, and manage these areas.



In contrast to past plans that focused on constructing a new trails network, the 2015 Update focuses more on building out the existing network with new connections between existing trails and residential areas, commercial centers, and parks. The Plan is intended to be an implementation guide for citizens, government agencies, and property owners. The plan emphasizes this through:

- Identifying involved units of government, user groups, and other stakeholders.
- Identifying each proposed trail and its amenities, including estimated costs of construction and any safety or other related improvements, so that detailed design can proceed as soon as possible once funding is identified.
- Creating a greenway network designed to provide connectivity between parks and public-access conservation areas.
- Indicating specific areas where full or partial land acquisition activities should be concentrated, consistent with other related programs.
- Defining management principles, practices, and guidelines that address natural resources protection, public access, recreation, education, and opportunities for economic development.
- Estimating planning-level costs for engineering, permitting, and construction.

The plan defines what qualifies as a greenway, and the various trail types that exist under this framework:

- **Greenways**
  - **Conservation Lands**—Protected areas comprise approximately 40 percent of the county, and encompass broad riparian areas, floodplains, floodways, wetlands, and selected uplands.
  - **Canopy Roads**—Generally identified as historical roads that have distinct tree canopies and mostly rural or undeveloped scenic views in most places.

- **Easements**—A right of use over the property of another. A conservation easement is a legal agreement between a landowner and a land trust or government agency that permanently limits use of the land in order to protect its conservation values.
- **Utility Corridors**—Linear corridors housing electric and gas lines that are generally kept open and are between 30 and 150 feet wide, which facilitates the development of trails.
- **Greenway Trail Types**
  - **Equestrian Trails**—Trails that accommodate horseback users. Where feasible and compatible, the Greenway Trail System should accommodate equestrian use on trails that have sufficient land area and minimal user conflicts.
  - **On-Road Trails**—These trails are usually in the form of wide sidewalks (~10') with signage indicating the presence of bicyclists and other non-pedestrian users. Can be constructed where there is little to no right of way for constructing an off-road trail.
  - **Shared-Use Hard Surface Trails**—These trails are appropriate for greenway corridors located outside of environmentally sensitive areas, normally 10'-12' in width, and should be designed with a crowned surface to drain surface water away.
  - **Shared-Use Natural Surface Trails**—Trails intended for use by low-impact user groups (e.g. hikers). Appropriate for conservation corridors, these trails are 4'-6' wide for single-use trails and 8'-12' for shared-use.
  - **Shared-Use Paved Trails**—May apply to on-road or off-road facilities. Off-road paved trails may be used in flood-prone areas. Trails can be between 8'-12' wide.
  - **Trailheads**—Where trails begin or end. All trailheads will have appropriate signage, including the name of the trail, its length, a simple map, and the funding, ownership, and management entity.
  - **Water-Based Trails (Blueways)**—A water path or trail that is usually developed with launch points, camping locations, and points of interest for canoeists, paddle boarders, and kayakers.

The Plan identifies 32 total greenway trail projects, with each described by name, length, area, prescribed improvements, and estimated cost. Figure depicts an example of the project page.



FIGUREA-4: TALLAHASSEE-LEON COUNTY PROJECT PROPOSAL

## Project #2: Lake Jackson Greenway

The Lake Jackson Greenway is a component of the Lake Jackson Preservation and Mobility Enhancements project. This project encompasses a holistic approach to transportation capacity improvements, regional mobility, provides connectivity to existing and proposed amenities, and enhances the water quality of the Lake Jackson basin. These connections will use public lands and corridors unless indicated otherwise.

The Okeehoopkee Trail consists of approximately one-half mile of trail connecting Okeehoopkee Prairie County Park and Lake Jackson Mounds Archaeological State Park.

### Existing Improvements

Okeehoopkee Prairie County Park is a 26-acre parcel owned and managed by Leon County that is located on the western shore of the Meginnis Arm of Lake Jackson. It is a stormwater pond intended for public access. The Lake Jackson Mounds Archaeological State Park is directly north of this park, and it is owned and managed by the State of Florida.

### Future Improvements

This greenway project includes a shared use path connecting Okeehoopkee Prairie County Park and Lake Jackson Mounds Archaeological State Park. This proposed path would be 10' wide minimum and surfaced with crushed limestone rock for durability. The only proposed improvements at this time would include signage and bollards to prevent unauthorized vehicular use. Coordination between the State of Florida and the Leon County would be required to fund and construct this trail.

### Cost Estimates

Estimated costs are summarized as follows:

| Improvement        | Length                  | Total Units | Cost Per Unit   | Estimated Total Cost |
|--------------------|-------------------------|-------------|---|----------------------|
| Hard Surface Trail | 0.7 miles               | 1           | \$100K/mile for<br>10' wide crushed stone                 | \$70,000             |
| Trailhead          | n/a                     | 1           | 15,000  | \$15,000             |
| <b>SUBTOTAL</b>    | <b>0.7 mile (trail)</b> |             |   | <b>\$91,000</b>      |
|                    |                         |             | 20 percent overhead for engineering design and permitting | \$18,200             |
| <b>TOTAL</b>       |                         |             |   | <b>\$109,200</b>     |

Projects are prioritized by staff during the implementation phase based upon their connectivity to existing conservation areas, trails, bicycle facilities, sidewalks, schools, mass transit, mobility districts, and existing or proposed regional trails, as well as connectivity between existing residential, commercial, and employment areas.

The plan and its activities are funded primarily part by a 1-cent sales tax for infrastructure. Since 1992, the City and County have acquired nearly 7,500 acres of land and used nearly \$68 million across 39 different projects in support of greenways in the region.

## St. Charles County Greenway Master Plan: A Blueprint for Greenway Development

St. Charles County’s Greenway Master Plan seeks to build a network of greenways in St. Charles County, Missouri – located just northwest of St. Louis – that are not fragmented, are designed to be easily maintained, have locations, destinations, and designs responsive to resident desires, and are readily accessible to the greatest number of people. The plan defines greenways as having at least one of four elements: trails, conservation projects, amenities, and connectivity to neighborhoods, businesses, and entertainment. This plan is comprised of five overall chapters:



1. **Data Collection** — Information gathered including demographics, natural and cultural resources, transportation infrastructure, existing greenways facilities, previously completed studies, land use and employment centers, and topography.
2. **Data Analysis** — Map-based analysis of potential greenway destinations and connections based on the previous section. Potential destinations were determined via extensive public outreach, where hundreds of trails were proposed. This section resulted in evaluation factors applied later in the plan.
3. **Concept Development** — The results of the first two chapters, synthesized into potential corridors.
4. **Concept Refinement** — The identified corridors, with applied evaluation criteria, and resulting in a quantitative ranking of priority.
5. **The Master Plan** — All data collected and analyzed and compiled into a greenway profile for each corridor. This profile consists of the current state of each corridor, community feedback and evaluation matrix results, and the next steps needed for implementation.

Each corridor was profiled with a description, community and matrix ranking, unique features and key destinations, current status and next steps, and implementation partners. Evaluation criteria, which are shown applied as Figure A-5 and A-6, for the corridors included:

*Does it **connect** to existing greenways, trails, and parks?*

*Is it located in a **densely populated** area?*

*Is it **safely** located away from roadway traffic and crossings?*

*How **costly** will acquisition, construction, and maintenance be?*

*Is this supported by the **community**?*

*Is it **sustainable** and environmentally conscious?*

*Is it **accessible**, with limited elevation change and many access points?*

*Is it located near **natural resources**, and what, if anything, will need to be done to protect or restore those resources?*

*Is it located near **cultural resources**, and what, if anything, will need to be done to protect or restore those resources?*

*Is there **equitable** access to historically underrepresented communities?*

FIGURE A-5: ST. CHARLES COUNTY PROS AND CONS MAP SERIES

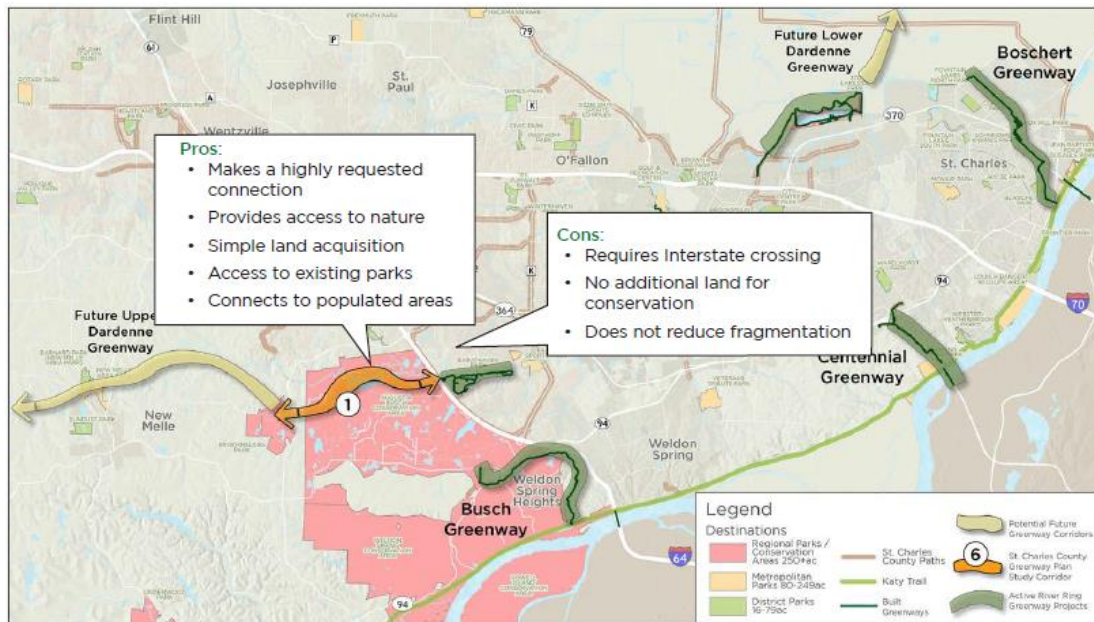


Figure 5.2: Corridor 1 - Dardenne /Busch Greenway - Broemmelsiek Park to BaratHaven Park. Source: PDS



FIGURE A-6: ST. CHARLES COUNTY EVALUATION MATRIX

| St. Charles County Greenway Plan      |   |  |   |   |                                      |   |  |  |                                       |  |
|---------------------------------------|---|--|---|---|--------------------------------------|---|--|--|---------------------------------------|--|
| Greenway Corridor Evaluation Criteria | Option                                    |  |   |   |                                      |   |  |  |                                       |  |
|                                       | 1   | 2  | 3   | 4   | 5                                    | 6   | 7  | 8  | 9                                     |  |
|                                       | 1 - Dardenne - Broemmelsiek to Barathaven | 2 - Dardenne - Bluebird Meadow to Legacy | 3 - Dardenne - Gettemeyer to 370 Lakeside | 4 - Boschert - 370 Lakeside to Fountain Lakes North | 5 - Centennial - 364 to 370 Lakeside | 6 - St. Charles Community College to Katy Trail | 7 - Busch - Weldon Springs Heights to Barathaven | 8 - Busch Conservation Area to Rotary Park | 9 - Heartland Park to Brown Road Park |  |
| Rating Scale = 0 - 3                  | Key<br>0-35% -1<br>36%-70% -2<br>71+% -3  |  |   |   |                                      |   |  |  |                                       |  |
| Corridor Total                        | 23  | 23                                       | 21  | 24  | 26                                   | 24  | 22   | 22   | 23                                    |  |
| Existing Greenways, Trails and Parks  | 2   | 3  | 3   | 3   | 3                                    | 3   | 2  | 2  | 2                                     |  |
| Population Density                    | 1   | 2  | 2   | 2   | 3                                    | 3   | 1  | 3  | 3                                     |  |
| Safety                                | 3   | 3  | 2   | 3   | 3                                    | 1   | 3  | 3  | 2                                     |  |
| Cost                                  | 3   | 2  | 2   | 2   | 2                                    | 3   | 3  | 1  | 1                                     |  |
| Community Preference                  | 3   | 2  | 3   | 2   | 2                                    | 2   | 3  | 1  | 2                                     |  |
| Sustainability                        | 3   | 1  | 1   | 3   | 2                                    | 3   | 2  | 3  | 2                                     |  |
| Accessibility                         | 2   | 3  | 2   | 2   | 3                                    | 3   | 2  | 3  | 3                                     |  |
| Natural Resources                     | 3   | 3  | 3   | 3   | 3                                    | 2   | 3  | 3  | 3                                     |  |
| Cultural Resources                    | 2   | 3  | 2   | 2   | 3                                    | 3   | 2  | 2  | 3                                     |  |
| Equity                                | 1   | 1  | 1   | 2   | 2                                    | 1   | 1  | 1  | 2                                     |  |

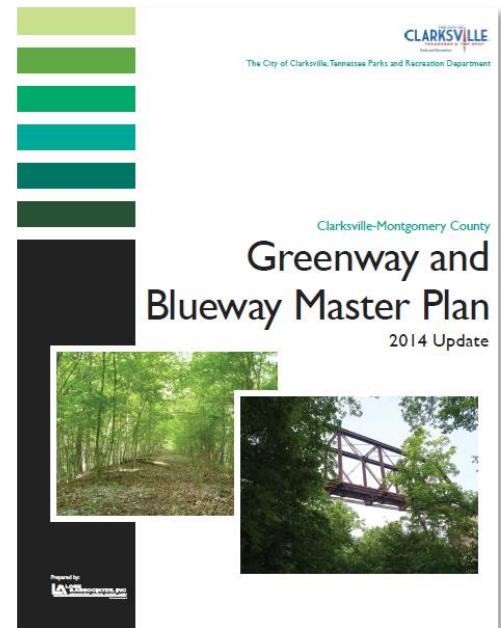
Figure 6.1: Summary of the Greenway Evaluation Matrix Results

The plan concludes by recommending formal adoption by the County and encouraging implementation partners to continue to take steps to move forward with planning and design, funding acquisition, and maintenance. A key to this is recognizing what phase each trail is currently in (e.g., further study needed, funding needed, ready for development, etc.). Phasing the plan into smaller projects that can be implemented and opened to the public will build momentum and community support for the plan. Incremental, but steady progress is what will lead to successful plan implementation.

### Clarksville-Montgomery County Greenways and Blueways Master Plan 2014 Update

Clarksville-Montgomery County, which is located just northwest of Nashville, Tennessee, adopted the most recent update of their Greenways and Blueways Master Plan in 2014. The Plan places facilities in one of three general categories: greenways, blueways, and bike lanes and sidewalks. The plan defines and describes these elements as follows:

- **Greenway** — A linear trail established along a natural corridor for non-motorized users. Greenways can be paved or maintained as hard surface and are at least 10’ wide. Key features include public access points called trailheads, located in or adjacent to existing or planned parks so that public amenities are already available.
- **Blueway** — A water-based trail system for paddlers. These systems have designated access points and routes. Key features include public access points at suitable distances, typically with sites located every 5-6 miles, and adequate facilities including signage, parking, and restrooms.
- **Sidewalks and Bike Lanes** — Sidewalks at least 5’ in width and bike lanes located along existing roadways can be connected with established greenway routes to form a continuous network.



The plan provided extensive and detailed design standards that address standards and guidelines for greenways, blueways, and trail elements such as crossings, safety and security features, and signage. These specific infrastructure include:

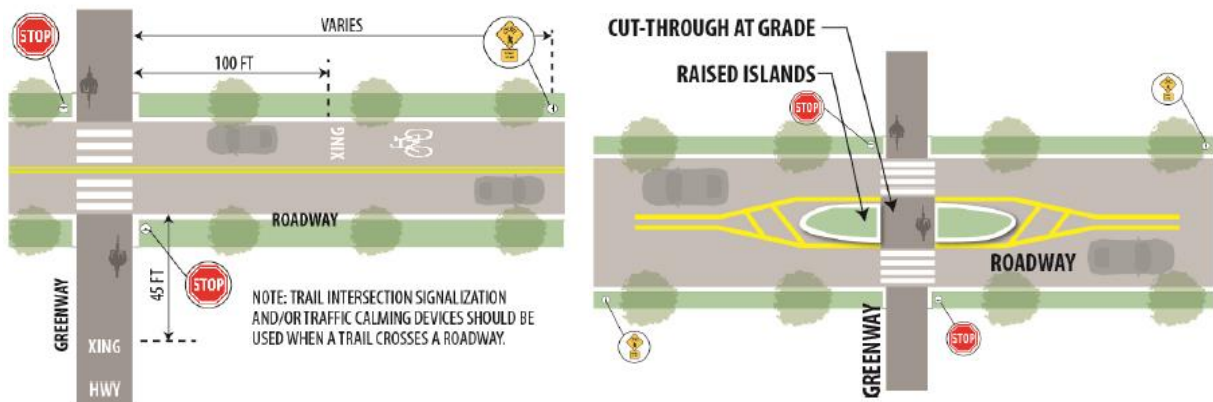
- **Greenway** — A greenway is any shared-use path used by pedestrians and cyclists that is typically 10’-15’ wide. A greenway must be independent of roadways, and often follows natural and manmade corridors such as waterways or utility easements.
- **Multiuse Path** — A multiuse path is a shared-use path for pedestrians and cyclists. Also typically 10’-15’ wide, multiuse paths are differentiated from greenways by being located within rights-of-way. However, they maintain a meandering layout that does not align parallel to roadways.
- **Shared-Lane Bike Path** — A shared-lane bike path utilizes an existing travel lane to provide a marked route shared between motorists and bicyclists, designated by signage and pavement markings. This facility is commonly referred to as a sharrow.
- **Separate-Lane Bike Path** — A separate-lane bike path establishes a distinct lane for bike traffic along a roadway. This lane is typically 5’ wide, runs parallel to an adjacent vehicular lane, and is delineated through signage and pavement markings.
- **Sidewalk** — A sidewalk is a paved pathway that runs parallel to roadways. It typically varies from 5’-10’ wide and is intended for pedestrian use only.
- **Blueway** — A blueway is a designated travel route that follows an aquatic corridor utilized by paddlers such as canoers and kayakers.

The plan establishes a three tier trail hierarchy: Primary, Secondary, and Tertiary. Primary Trails are highly used and connected to other trails and elements such as parks or neighborhoods, Secondary Trails are connected to fewer destinations and have lower utilization, and Tertiary Trails are the least formal, located in rural areas with fewer destinations, draw the fewest users.

Intersections between trails and roadways are identified the most dangerous points of access for trail users and a crucial component of the Clarksville-Montgomery County system. When designing trail crossings, careful consideration of predictability and the orderly operation between modes of traffic are emphasized. On this subject, the report provides details on the guidelines regarding approach treatments, restricting motor vehicle traffic, and traffic calming devices. When a trail must cross an area with motorized vehicles, there are several types of crossings:

- **Mid-Block Crossing** — This crossing type is meant to provide adequate spacing between vehicular lane transitions, intersections, and other elements to promote the safety of the person crossing. Even though mid-block crossings are not as desirable as crossing at a controlled intersection, infrastructure such as HAWKS or RRFBs may be used to stop vehicles when there is oncoming nonmotorized traffic.
- **Crossing Islands** — These are used in situations where high volumes of traffic make it difficult to cross, roadway width is excessive, or the roadway crossing is three or more lanes in width.

**FIGURE A-7: CLARKSVILLE-MONTGOMERY COUNTY MID-BLOCK AND ISLAND**



- **Grade-Separated Crossings** — These cross of bridges or underpasses and are used when roadway travel speeds and volumes are very high, making a signalized crossing or crossing island insufficient. A minimum of 10 feet in width is desirable, but the adjacent topography is the greatest factor when choosing the best option.

The plan also thoroughly addresses best safety and security practices, including lighting and the list of elements below:

- Installation of distance markers at 0.25-mile intervals to aid in identifying trail location in the event of an emergency
- Establishment of a safety committee or coordinator
- Preparation of a trail safety manual for employees and agencies



- Establishment of user rules and regulations
- Development of greenway and trails emergency procedures
- Preparation of a safety checklist
- Preparation of a trail user response form
- Development of a system for reporting accidents
- Development of a regular maintenance and inspection program
- Development of a site review program
- Development of a public information program
- Implementation of an employee training program for safety and emergency response
- Conducting ongoing research and evaluation of program objectives

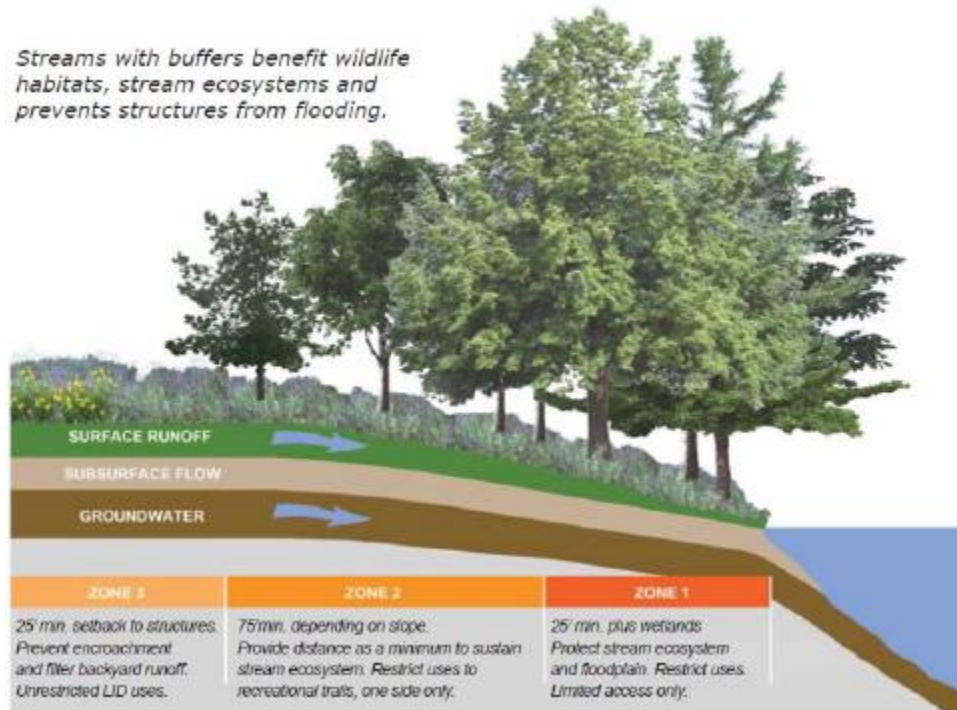
Regarding signage, four categories are identified:

- **Regulatory** — Signs providing operational requirements and used for traffic controls, such as stop signs.
- **Warning** — Warning signs identify existing or potentially hazardous conditions on or near the trail, such as the presence of wild animals.
- **Guidance** — Guidance signs provide trailside information to orient users geographically, such as maps or other wayfinding.
- **Educational** — Signs located along a trail that identify the significance of the trail from an environmental or cultural perspective, such as a historical marker.

Blueways are universally classified from Class I to Class VI rapids, depending on the challenge level and navigational difficulty. Separate segments of the same blueway may be classified as well as categorized by user experience:

- **Gateway Experience Segment** — Flatwater or Class I Rapids, these provide the most predictable experience for users and are tailored for beginners.
- **Recreational Experience Segment** — Categorized as Class II Rapids, these may require more skill and experience. During normal flow conditions, some boat maneuvering around hazards may be needed.
- **Challenge Experience Segment** — Categorized as Class III through VI Rapids, these blueways are not meant for beginners. Under normal conditions, users will experience a moderate to high number of hazards.
- **Wilderness Experience Segments** — These are the most intense facility type, and users should be prepared for a multiple-day experience where primitive camping facilities may be available.

FIGURE A-8: CLARKSVILLE-MONTGOMERY COUNTY AQUATIC BUFFERS



Launches are carefully considered along the blueway corridor. Launches may be between two to six miles apart and may vary in the sophistication of facilities and amenities provided. Location considerations and selection criteria, including preserving the aquatic buffers shown in Figure are listed below.

- **Location Considerations**
  - Route of the stream across the land;
  - Shape of the streambanks and bottoms; and
  - Accessibility for users and facility maintenance.
- **Selection Criteria**
  - **Armoring** — The type of infrastructure, such as riprap, used to protect the bank from erosion.
  - **Ramp Slope Steepness** — To maintain the ease of use, the ramp should be no steeper than 8% whenever possible.
  - **Push-in Section** — This is the portion of the launch ramp where the vessel enters the waterway and should be made of concrete for durability.
  - **Water height at launch** — The hardened section of ramps and shoreline armoring should extend between the bankfull and baseflow elevations. This is critical to minimize future maintenance.

Much the same as greenways, blueways have specific signage needs, including land and water navigational signs, rule signs, hazard signage, and travel distance markers.

The plan also suggests that a large part of creating an attractive and safe greenway system is incorporating support facilities along the trail. These facilities should provide relaxation, education, orientation, and recreation opportunities for a variety of users. Criteria to consider for the support facilities comprise:

- Circulation
- Connector or Feeder Trails
- Emergency Telephones
- Fences and Lockable Gates
- Landscaping
- Parking.
- Security Lighting, where appropriate
- Signage
- Site furnishings, including benches and trash receptacles
- Structures, including gazebos, picnic shelters or pavilions, restrooms, maintenance and storage facilities, information booths, and kiosks where appropriate.



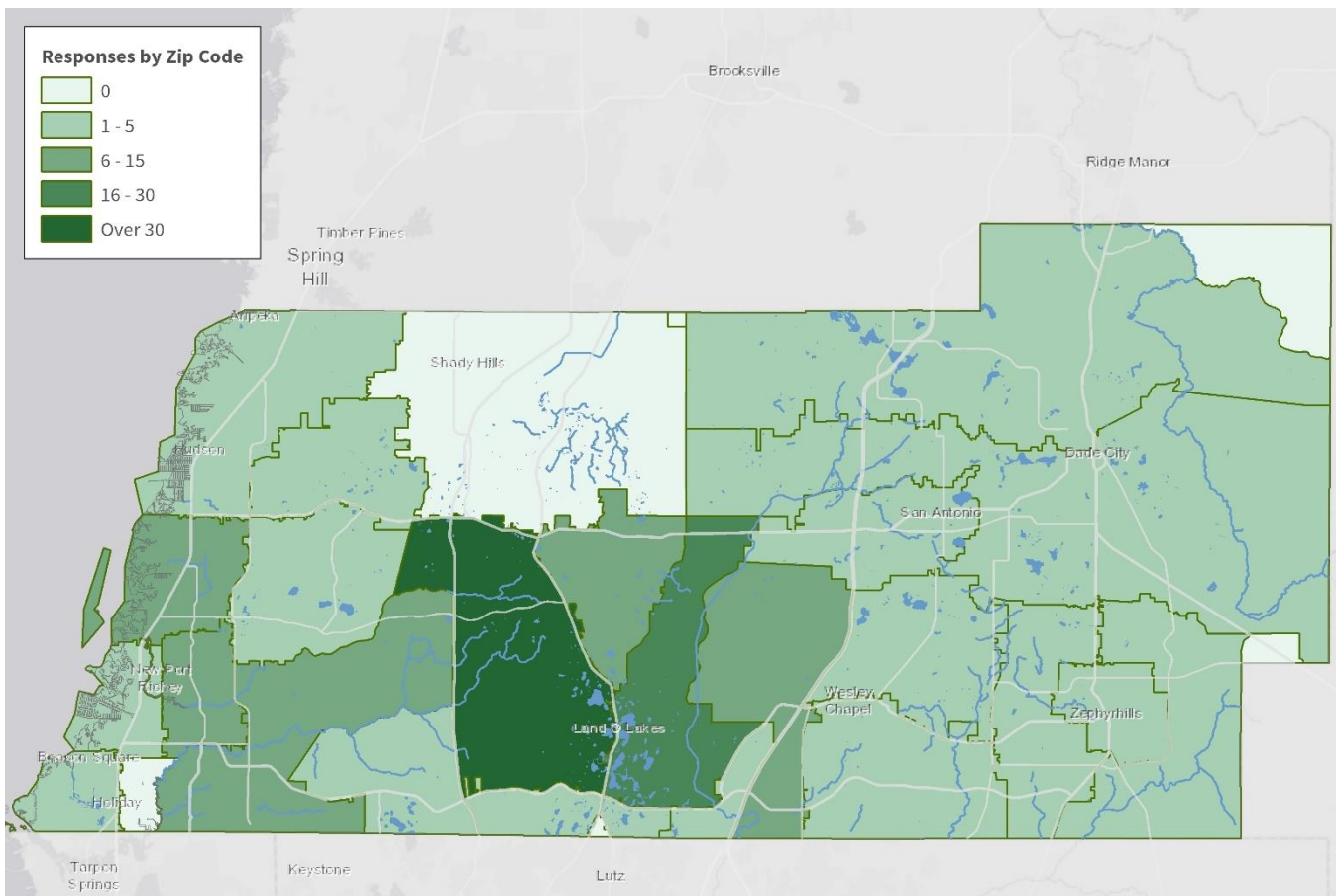
## APPENDIX B – PUBLIC AND STAKEHOLDER ENGAGEMENT SUMMARY

## ONLINE SURVEY RESULTS

As part of the Pasco GTB Master Plan effort, an online survey was open from January 23, 2023 to February 17, 2023 for greenway, blueway, and trail users to provide feedback on their preferences for the future improvement and expansion of the Pasco GTB system. The survey had 18 questions and yielded 149 responses and gave valuable insight for the Master Plan’s development.

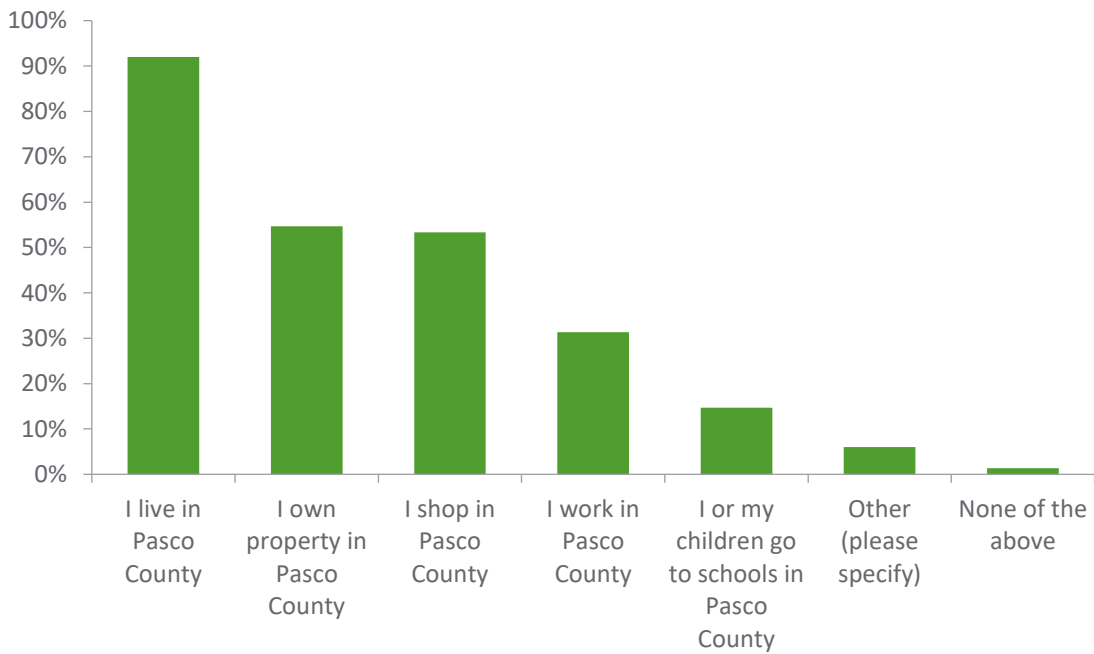
Questions 13 through 16 asked survey takers to provide some information about themselves. First, respondents provided their zip code. The highest concentration of responses came from the Land O’ Lakes and New Port Richey Areas. The geographic disbursement can be viewed in Figure B-1 below.

**FIGURE B-1: WHAT IS YOUR HOME ZIP CODE?**

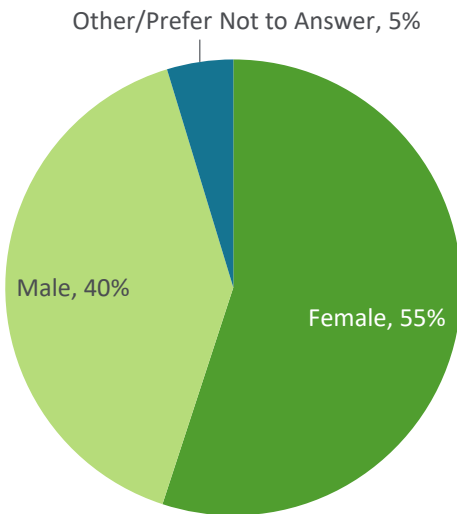


Responses show that the vast majority of people participating in the survey live in Pasco County. Additionally, just over half of respondents are female and about one-quarter of respondents are between the ages of 55 to 65, followed closely by over 65-years-old.

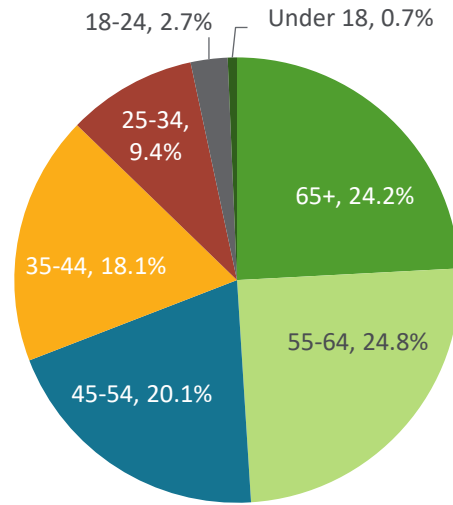
**FIGURE B-2: WHAT IS YOUR CONNECTION TO PASCO COUNTY (SELECT ALL THAT APPLY)**



**FIGURE B-3: WHAT IS YOUR GENDER?**



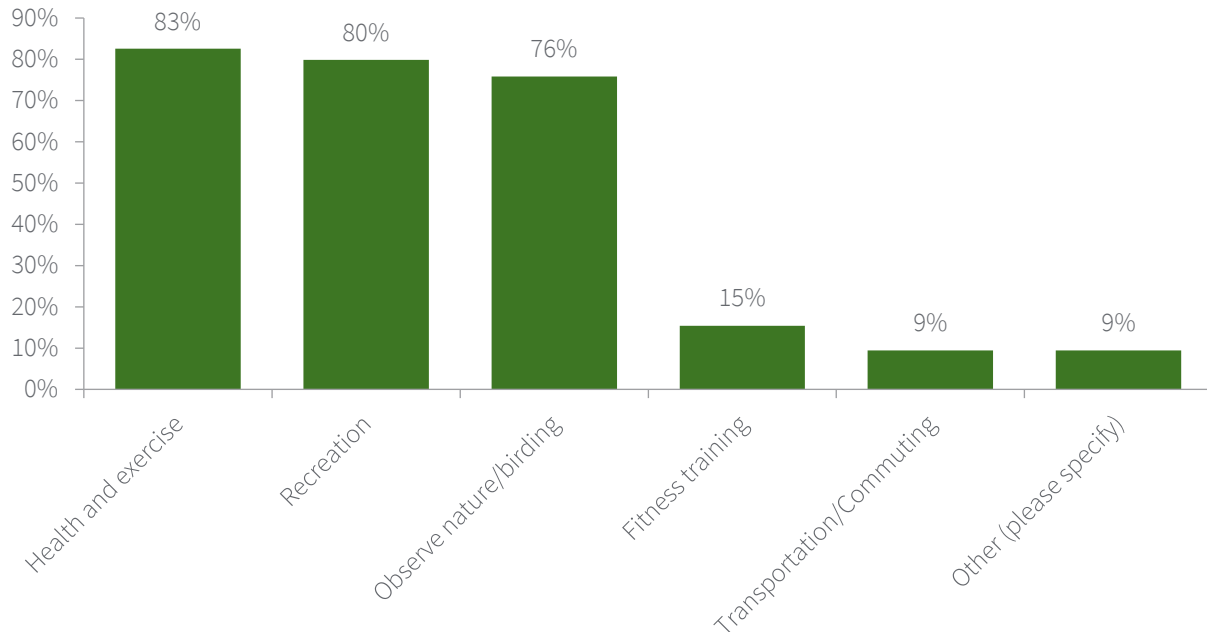
**FIGURE B-4: WHAT IS YOUR AGE?**



The first question on the survey asked participants to select all the reasons that they use greenways and/or trails. Health and exercise, recreation, and observe nature/birding were by far the most popular answers with 83%, 80%, and 76% of respondents selecting these answers, respectively. Full results in Figure B-5 below.

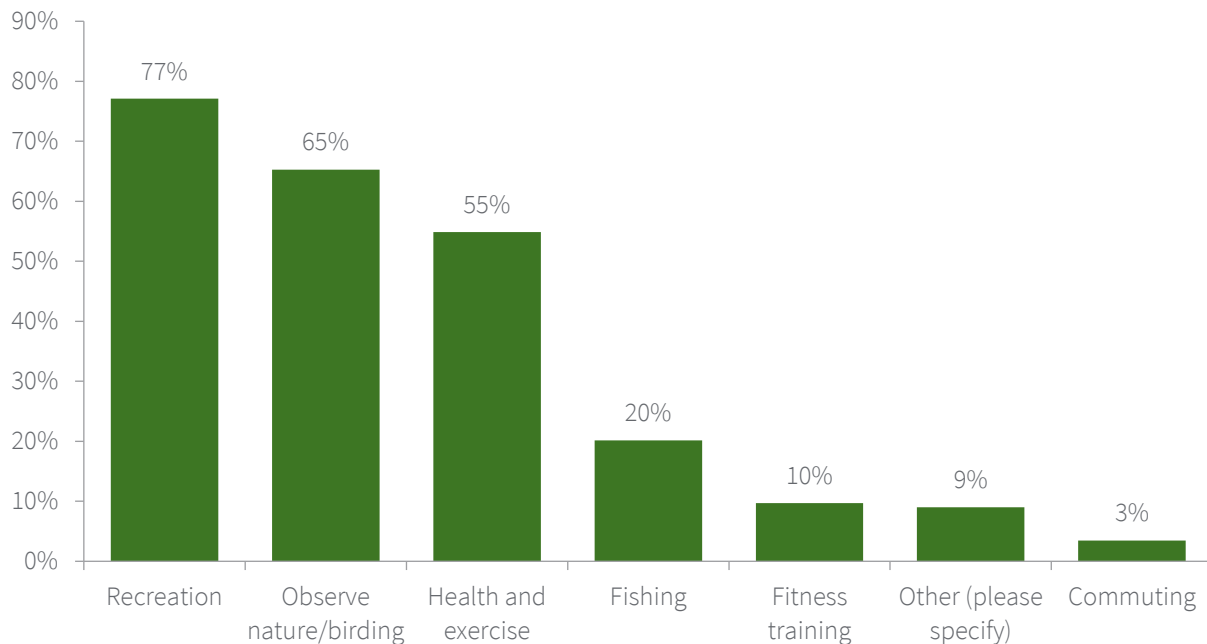


**FIGURE B-5: IN GENERAL, WHAT ARE YOUR TOP REASONS FOR USING GREENWAYS AND/OR TRAILS (SELECT ALL THAT APPLY)**



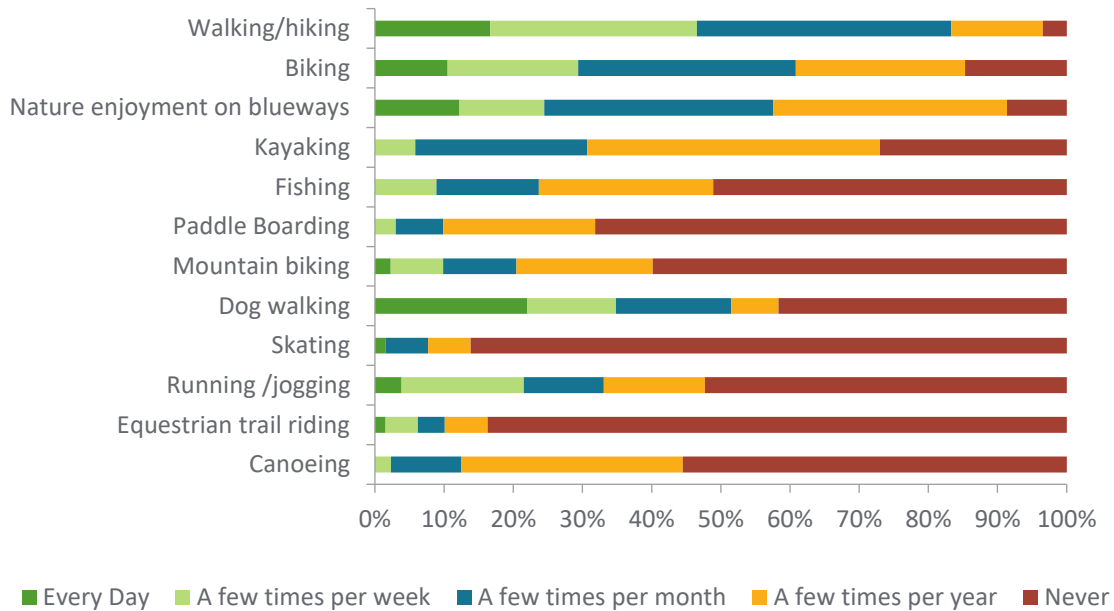
Similarly, the second question asked users to provide their top reasons for utilizing blueways. The same three choices were among the top three, with recreation as the most popular (77%), followed by observe nature/birding (65%), and health and exercise (55%). Full results in Figure B-6 below.

**FIGURE B-6: IN GENERAL, WHAT ARE YOUR TOP REASONS FOR USING BLUEWAYS? (SELECT ALL THAT APPLY)**



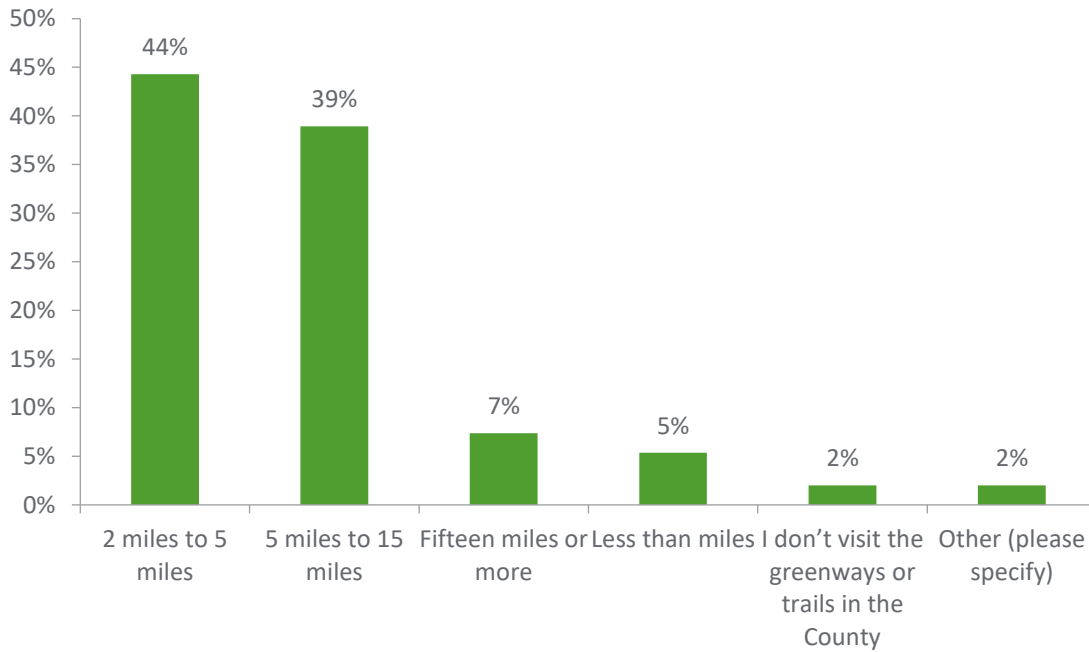
Question three asked respondents how often they participate in various activity on greenways, trails and blueways. The most popular activities across all frequencies totaled were nature enjoyment on greenways/trails (selected by 141 respondents), walking/hiking (139), and nature enjoyment on blueways (127). Respondents of the survey were least likely to participate in skating (18) or equestrian trail riding (21). The frequencies of a few times per year and a few times per month were more often selected compared to every day or a few times per week. Full results in Figure B-7 below.

**FIGURE B-7: HOW OFTEN DO YOU PARTICIPATE IN THE FOLLOWING ACTIVITIES ON GREENWAYS, TRAILS AND/OR BLUEWAYS?**



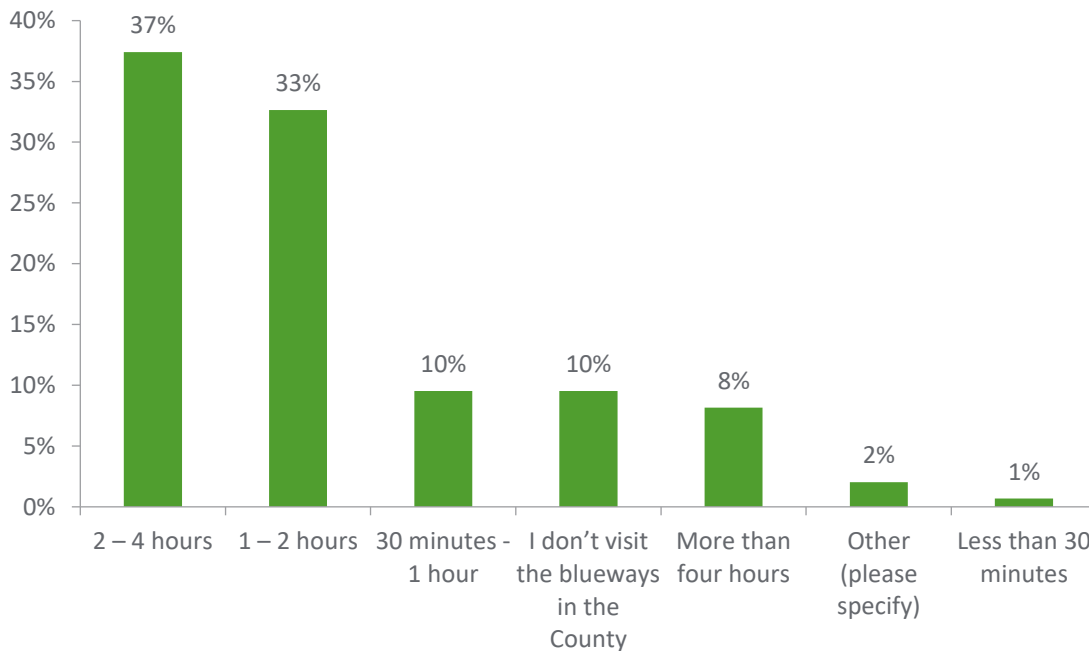
Over 80% of survey respondents reported that they typically cover two to five miles (44%) or five to 15 miles (39%). Full results in Figure B-8 below.

**FIGURE B-8: ON A TYPICAL VISIT TO A GREENWAY OR TRAILS HOW MANY MILES DO YOU COVER?**



Concerning blueways, 70% of respondents spent one to two hours (33%) or two to four hours (37%) on the blueways during their visits. Full results in Figure B-9 below.

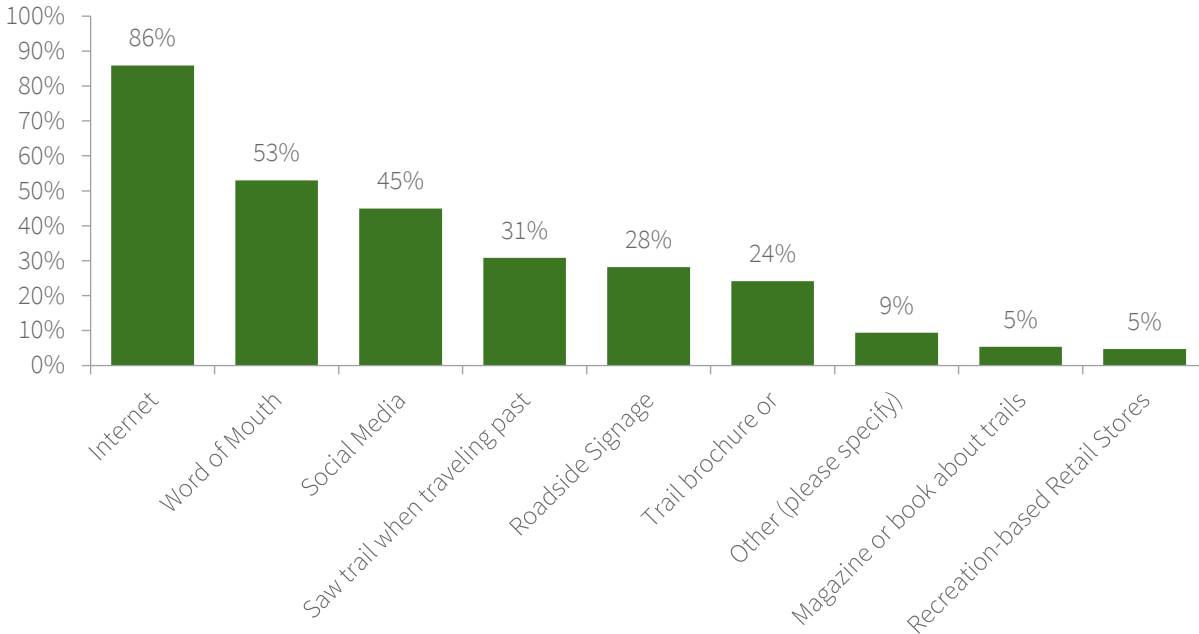
**FIGURE B-9: HOW MUCH TIME DO YOU SPEND ON A TYPICAL VISIT TO A BLUEWAY?**



Question six asked how users obtained information on the greenways, trails, and blueways that they visit. Nearly 86% of users utilize the internet for information, followed by word of mouth (53%), and social media

(45%). Users much more rarely reported obtaining information from a magazine or book about trails or recreation-based retail stores (less than 10% combined). Full results in Figure B-10 below.

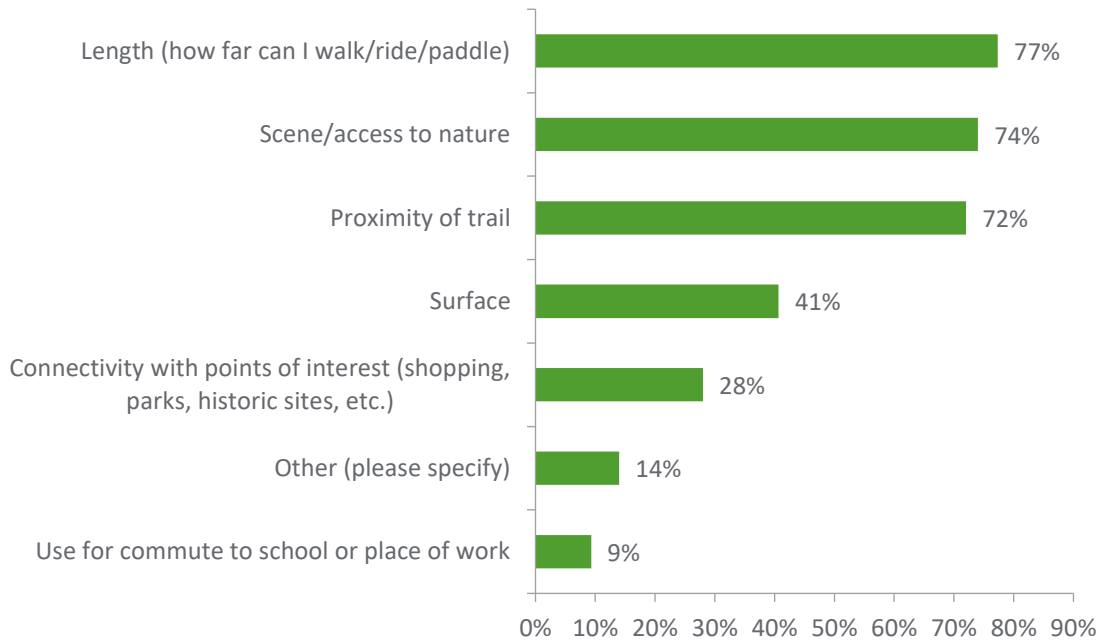
**FIGURE B-10: HOW DO YOU OBTAIN INFORMATION ON GREENWAYS, TRAILS, OR BLUEWAYS THAT YOU VISIT? (SELECT ALL THAT APPLY)**



Closely tied together, users reported length (77%), scene/access to nature (74%), and proximity of trails (72%), as the primary factors that influence their trip planning to greenways, trails, and blueways in Pasco County. Full results in Figure B-11 below.

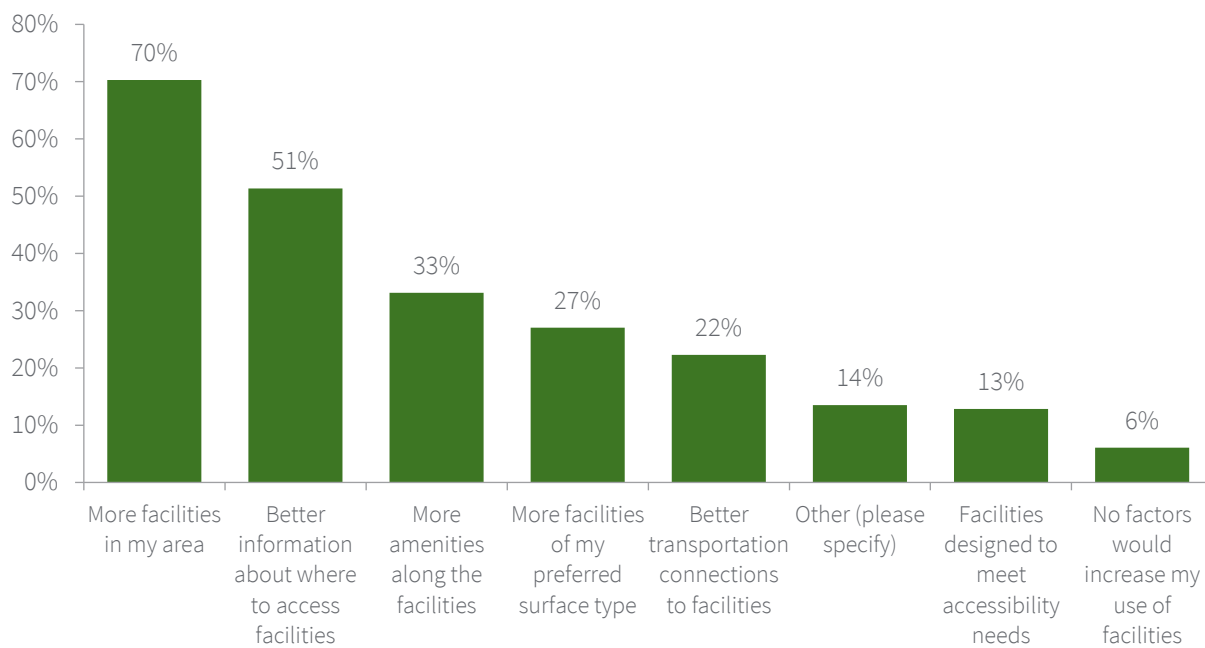


**FIGURE B-11: WHAT FACTORS DO YOU CONSIDER WHEN PLANNING A TRIP TO GREENWAYS, TRAILS, AND/OR BLUEWAYS? (SELECT ALL THAT APPLY)**



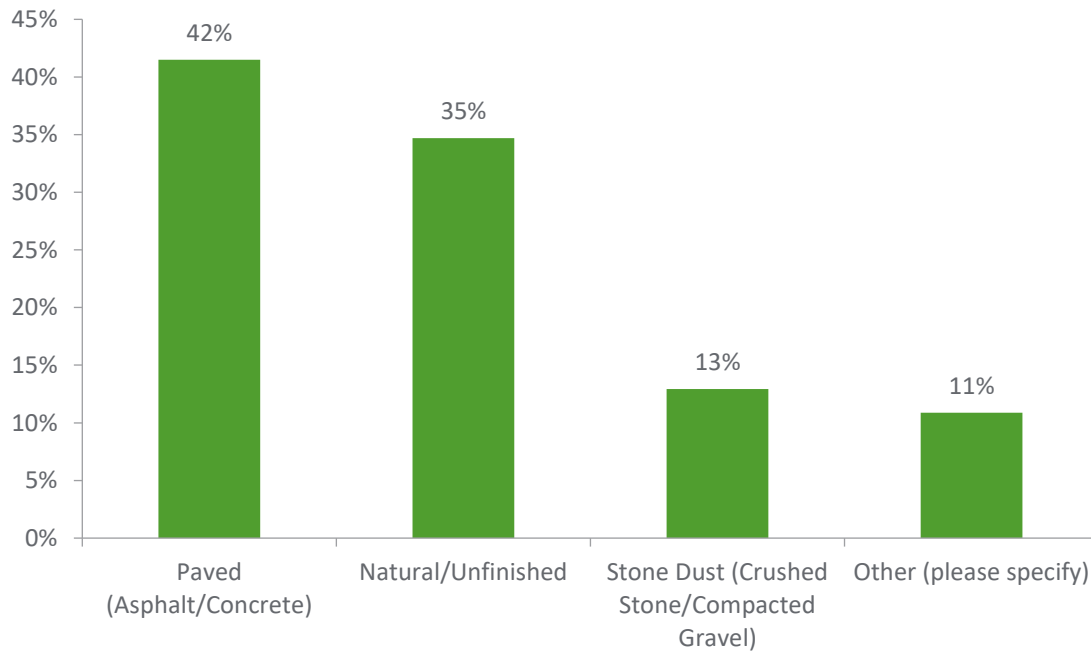
When asked what factors would increase their use of greenways, trails, and blueways, having more facilities in their area was by far the most popular answer, selected by over 70% of users. Few respondents (6%) selected that no factors would increase their use. Full results in Figure B-12 below.

**FIGURE B-12: WHAT FACTORS WOULD INCREASE YOUR USE OF GREENWAYS, TRAILS, AND/OR BLUEWAYS? (SELECT ALL THAT APPLY)**



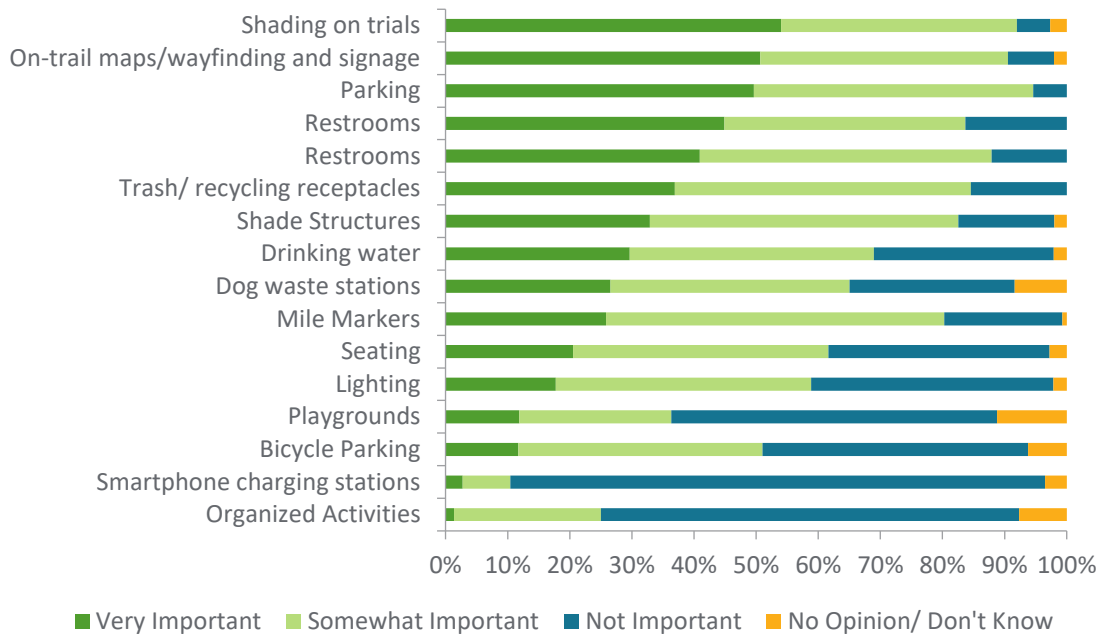
Regarding surface types for greenways and trails, there was not a clear consensus on preference. Sixty-one respondents selected paved (asphalt/concrete), 51 selected natural/unfinished, 19 selected stone dust (crushed stone/compacted gravel), and 16 selected Other. Full results in Figure B-13 below.

**FIGURE B-13: WHAT IS YOUR PREFERRED SURFACE TYPE FOR GREENWAYS AND TRAILS?**



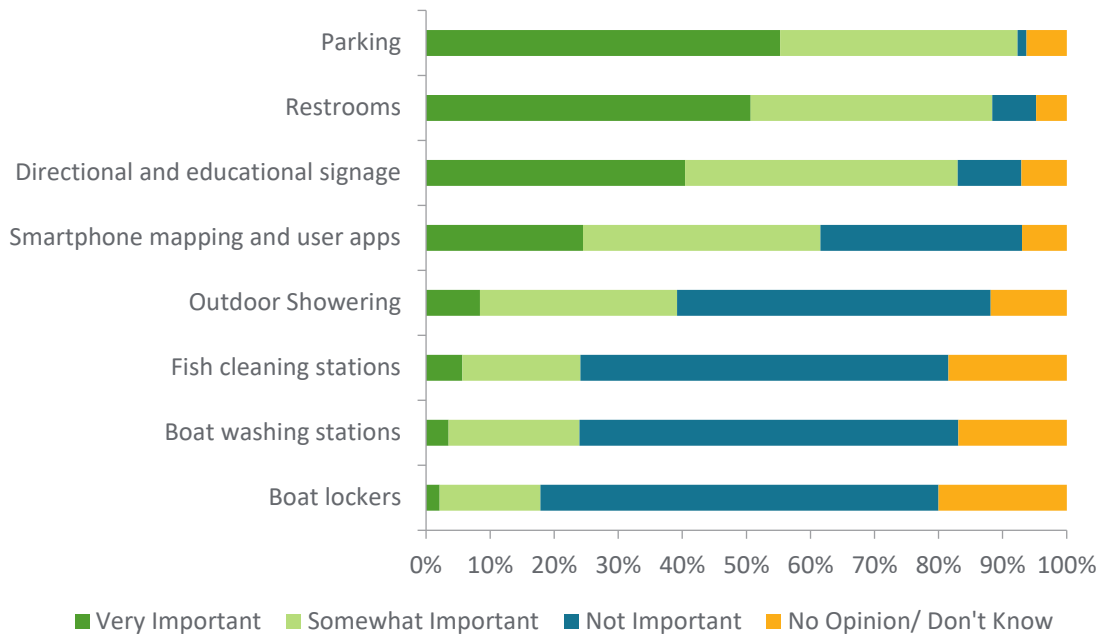
Question 10 asked respondents to rate how important various trail amenities were to them from Very Important, Somewhat Important, Not Important, and No Opinion/Don't Know. Shading on trails (81), on-trail maps/wayfinding and signage (75) and parking (74), were most often selected as Very Important. Smartphone charging stations were most often selected as being not important (124). Full results Figure B-14 below.

**FIGURE B-14: HOW IMPORTANT ARE EACH OF THE FOLLOWING AMENITIES TO YOUR EXPERIENCE ON GREENWAYS AND TRAILS?**



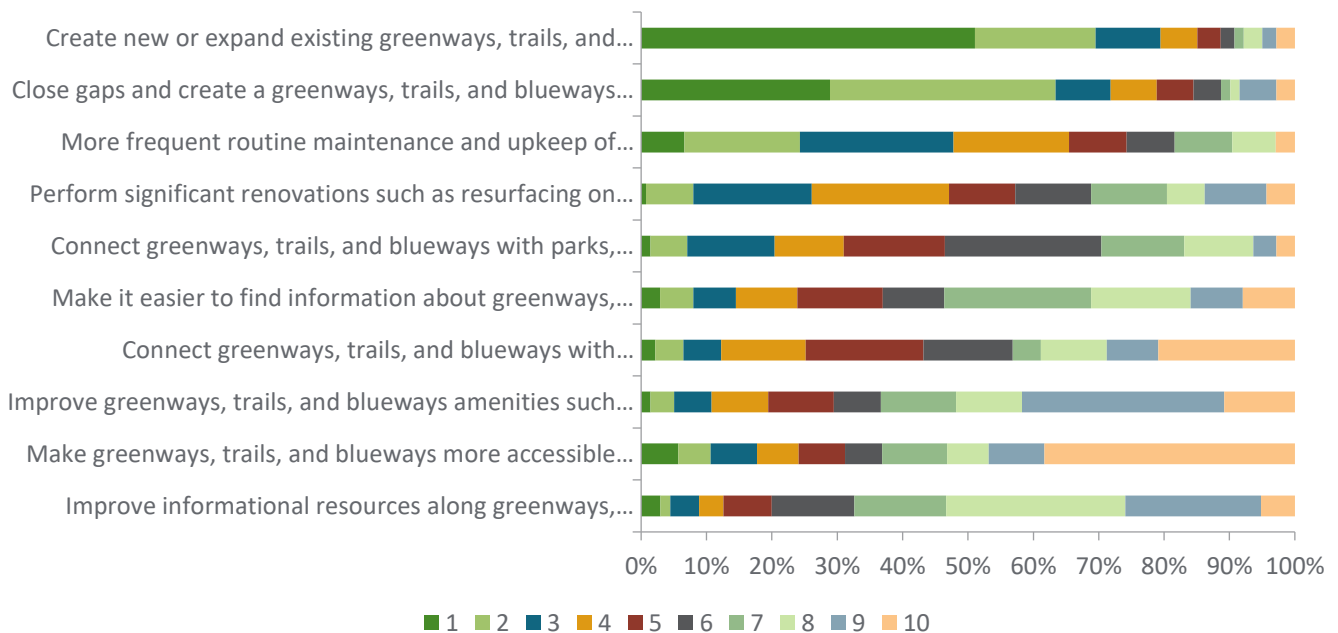
The same question was posed to blueway users to select which amenities were important for their experience on blueways. Just over half of survey respondents noted parking (55%) and restrooms (51%) as being very important amenities. Several amenities—boat lockers, boat washing stations, and fish cleaning stations—were selected by over half of respondents as not important to the blueway experience. Full results in Figure B-15 below.

**FIGURE B-15: HOW IMPORTANT ARE EACH OF THE FOLLOWING AMENITIES TO YOUR EXPERIENCE ON BLUEWAYS?**



For prioritization efforts, survey respondents largely preferred that creating new or expanding existing greenways, trails, and blueways be the first priority, and closing gaps in the system was largely preferred as the second priority. Making the system accessible to people of all ages and ability was ranked as last priority most often, though improving informational resources along the system ranked last overall. Full results in Figure B-16 below.

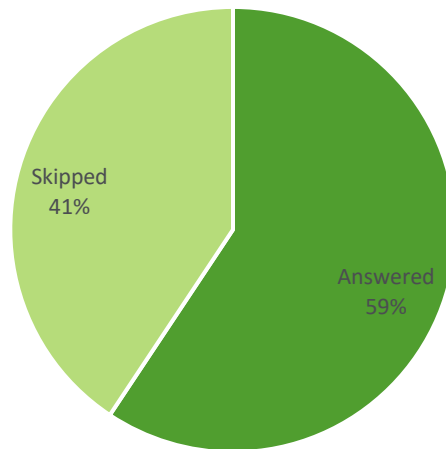
**FIGURE B-16: HOW SHOULD PASCO COUNTY PRIORITIZE THE FOLLOWING?**





Question 17 asked participants to supply their contact information if they would like to remain informed regarding the Pasco County GTB Master Plan—89 participants elected to remain informed, while 61 participants skipped.

**FIGURE B-17: IF YOU WOULD LIKE TO REMAIN INFORMED ABOUT THE PASCO COUNTY GTB MASTER PLAN, PLEASE LEAVE YOUR CONTACT INFORMATION HERE.**



The end of the survey encouraged participants to provide any additional comments. Many comments provided more detailed feedback on preferences, especially on the desire for more shade and trail development in particular areas. Participants also used this section to express thanks and say they are looking forward to seeing the results of the Master Plan. All comments can be read in Table B-1 below.

**TABLE B-1: PLEASE LEAVE ANY OTHER COMMENTS YOU MAY HAVE ABOUT THE COUNTY'S GREENWAYS, TRAILS, AND BLUEWAYS MASTER PLAN**

| Additional Comments   |
|---|
| Sandy trails are very difficult to walk on. Need a better trail walking surface.  |
| Generally happy with progress so far ... thanks in large part to Penny for Pasco. Keep up the good work!  |
| Save Serenova 🤍 I've never returned after what was done to her. So sad Pasco is losing its treasures.   |
| We have a lot of nice sidewalks that are suitable for biking walking , etc ; but you take your life in your hands crossing the highways 41;19;52 54. We need Flyovers or tunnels to connect. Start with LOL High School. Thank You  |
| Thank you for this endeavor to create more public greenways, blueways, and parks. Everyone has different preferences and I appreciate the opportunity to participate in this survey. I'm hoping to see more short nature trails and protected lakes where I can take my young children to "hike." |
| Yea invest more here. The more we can bike and avoid cars the better. Bikes need to replace cars  |
| Pasco and SWFWMD have done a wonderful job on the Starkey, Conner, Cypress Creek equestrian trails. I have not ridden the ones in East Pasco due to distance. Would like to see equestrian access/trails included in future greenways. I realize we are a small part of the user population, but  |

| Additional Comments  |
|--|
| feel it is critical to the County to keep and add equestrian accessible sites for now and future generations.  |
| Please please please plant many trees to shade the trails. 50 yards max of no shade, otherwise it becomes unusable in the summer   |
| Keep up the great work! What you do now will be appreciated for generations to come!! Kudos!!  |
| Thanks for the opportunity to comment and also for your interest in the outdoor enjoyment.   |
| Please do not bring the trails by any of the Over 55 communities. If you have showers and restrooms, we don't need the homeless close to the elderly.  |
| Thank you for your new expansion ideas & wonderful Pasco Parks!  |
| Detail markings on trail and maps throughout are important. Mostly shade trails as well  |
| While trails are nice, Pasco needs to correct traffic infrastructure due to overdevelopment!   |
| I'm really glad that the county is looking to improve these things with citizens' feedback. I think all the new housing developments are inevitable, but they need to be designed with nature in mind. Including greenways and trails in these could be helpful, preserving part of the land that is being destroyed.  |
| Could you PLEASE connect the Coastal Anclote Trail with the Pinellas Trail - it seems the land is already available.   |
| I have POTS and my service pup goes everywhere with me, access to guided activities and inclusion would be wonderful. I love biking (him pulling me) having a drop off & pick up help would be amazing. we are up to 3 miles biking to 1.5 up and then turn around. Would love to add overnight camping spots. I own property within 1.5 miles of the Suncoast bike trail next to 301. I would love to host bikers if they could use the app to locate camping spots |
| Shade is a priority. Parks with no shade suck in the summer for those of us who still want to get out and enjoy nature. Dogs are a priority. We need more dog parks in nature areas. The disabled also need way more access to these areas.  |
| Maintenance of the boat launch areas needs to be kept up. The bumpers are frequently ripped off and damaged. Boats are getting damaged as a result.  |
| I drive to Brooksville to ride the Withlacoochee trail. It is shady and beautiful. I wish we had something like that closer to us.   |
| Look to Rails to Trails for info and inspiration...  |
| Fave place to bike is Suncoast Trail between 54 & 50. Love that it connects into Starkey Park, and it's a beautiful long stretch of pure Pasco County.   |
| Please make more equitation friendly trails in lol   |
| <b>MORE TRAILS IN WEST PASCO</b>   |
| Y'all are doing a great job. Employees are always friendly.  |
| Looking forward to the changes!!! Have always felt Pinellas and Hillsborough Counties parks were far superior to Pasco   |
| Can't wait to see what's in store for Greenways and Blueways   |
| I am glad somebody is thinking about this issue. I hope the County spreads facilities and opportunities to enjoy them throughout the County.   |
| Please focus on access to NATURE with simple infrastructure to encourage outdoor recreation. It would be amazing if this also accomplished CONNECTING areas of the county to allow commuting on foot or bike (or horse or kayak) while avoiding roads and highways. Thank you  |

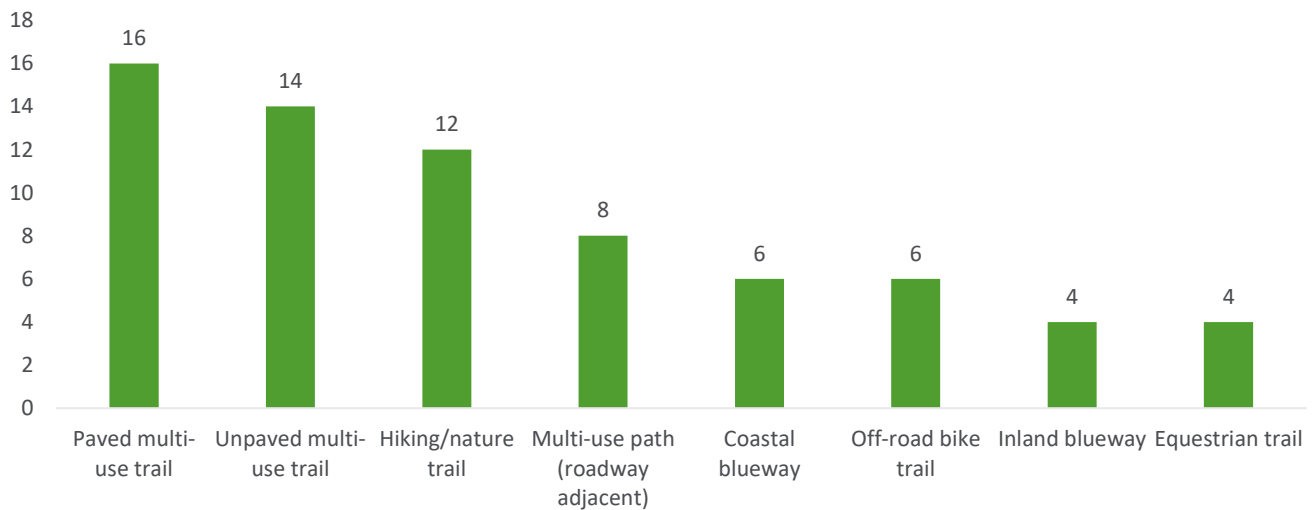
| Additional Comments   |
|---|
| We need more, more and more -- of them all -- as well as local and regional parks, preserves, and conservation lands. Please.   |
| There needs to greenways to and from all high school and middle schools. For example, along Fort King Road in Dade City, there's no pathway for kids to walk to the high school. You see them walking in the grass along the road which is often tall, choked with weeds, narrow and often very wet.  |
| Make trails wider so that bikers can bike and walkers can walk and they don't get in each other's way.  |
| Need a safer crossing at the corner of Starkey Blvd and Rt54, a bridge would be ideal. Need to connect the shared bike paths on Starkey Blvd., through Starkey Ranch to the Suncoast Trail. There is already a cleared corridor, just need to open access through there.  |
| Please don't forget about what Zephyrhills has to offer with its access to wilderness management areas and state parks.   |
| please protect the wild areas from light pollution and motorized vehicles including electric bikes  |
| Need separated facilities so bicyclists don't have to constantly dodge pedestrians. Concrete multi-use paths are bumpy and reflect sunlight back onto the person, making sunburns happen faster.  |
| I live in Northeast Pasco County. Keep it rural. Rural is not high-density development behind a bunch of shrubberies.   |
| Trails within county parks have a huge need for better trail blazes and directional signage. Many trails have no map available and there is minimal signage along the trails. Add better trail blazes, provide maps, and informational signs even at just the trail heads would provide a more positive experience (less likely to get lost down fire lines or other non-hiking trails). Adding information about the environment/wildlife would also be beneficial for public education and enjoyment. |
| Please give space for wildlife and do not cut trees in nesting season   |
| Thank you for all you do. Florida is way behind in using other forms of transportation besides cars/buses to commute, exercise, etc. Need more Colorado/Wyoming/Utah way of life incentives   |
| Please consider affect on wildlife on all projects. Pasco has too many restaurants and stores.  |
| Thanks for all you do   |
| I love the trails we have, I would love to see more of them!  |
| Really excited about the plans for new trails. I regularly use the Suncoast Trail, Starkey Park, Lutz Lake Fern. I also travel to many trails in Hillsborough and Hernando County.  |
| NE Pasco is one of the largest open areas left in Pasco and also has a very large amount of agriculture and horse ranches. This would blend perfectly with parks and trails for horses and people plus save natural resources.  |
| Plant trees wherever feasible; use native species for all plantings to support the food web and wildlife habitat.   |

## PUBLIC WORKSHOP AND OPEN HOUSE #1

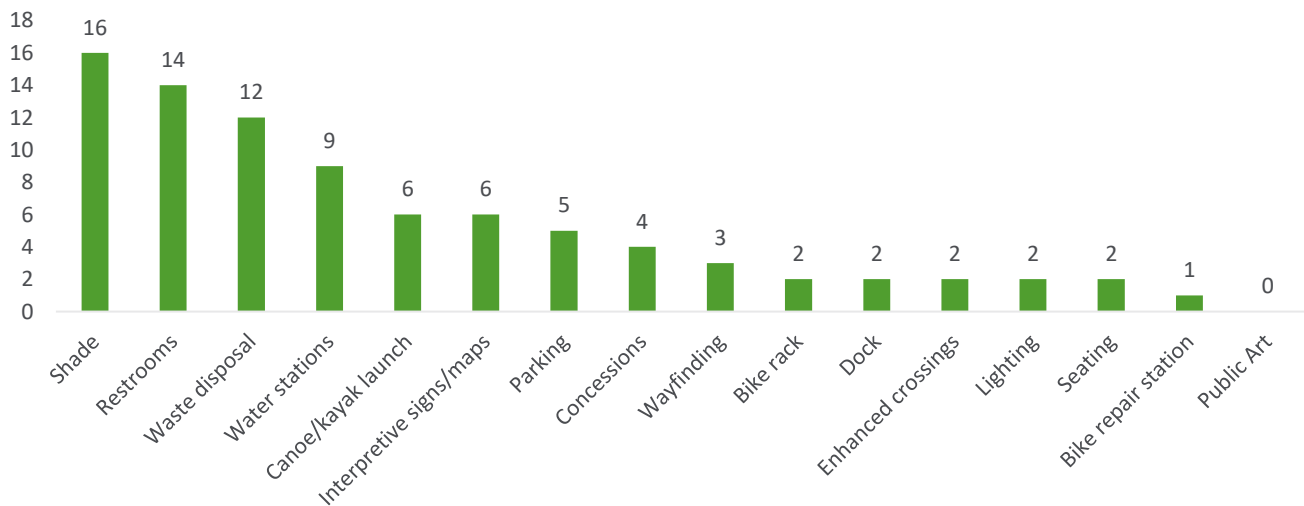
Public Workshop #1 was held at the Land O’ Lake Recreational Complex on Tuesday, January 24<sup>th</sup>, 2023 from 5pm to 7pm. Twenty-five people attended this first workshop and provided key feedback on preferred greenway, blueway, and trail types, amenities, and potential connections of the GTB system across Pasco County.

For greenway types, with their three votes each, most often selected paved multi-use trails, unpaved multi-use trails, and hiking trails as their preferred greenway types. Inland blueways and equestrian trails were selected the fewest number of times. The top three selections for amenities were shade, restrooms, and waste disposal. Bike repair stations were only selected once, and public art received no votes. Full results in Figure B-18 and Figure B-19 are below.

**FIGURE B-18: PLACE YOUR STICKERS IN THE BOXES OF YOUR TOP 3 DESIRED GREENWAY TYPES**



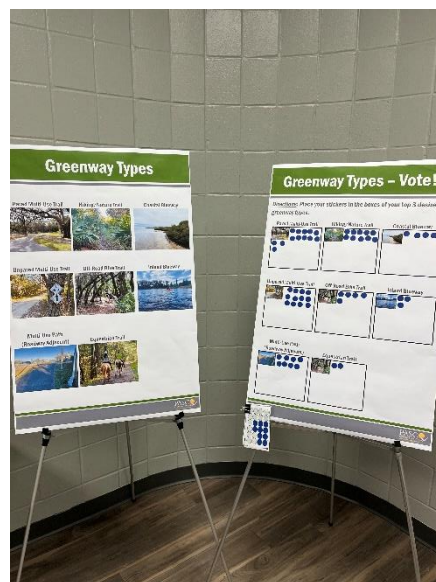
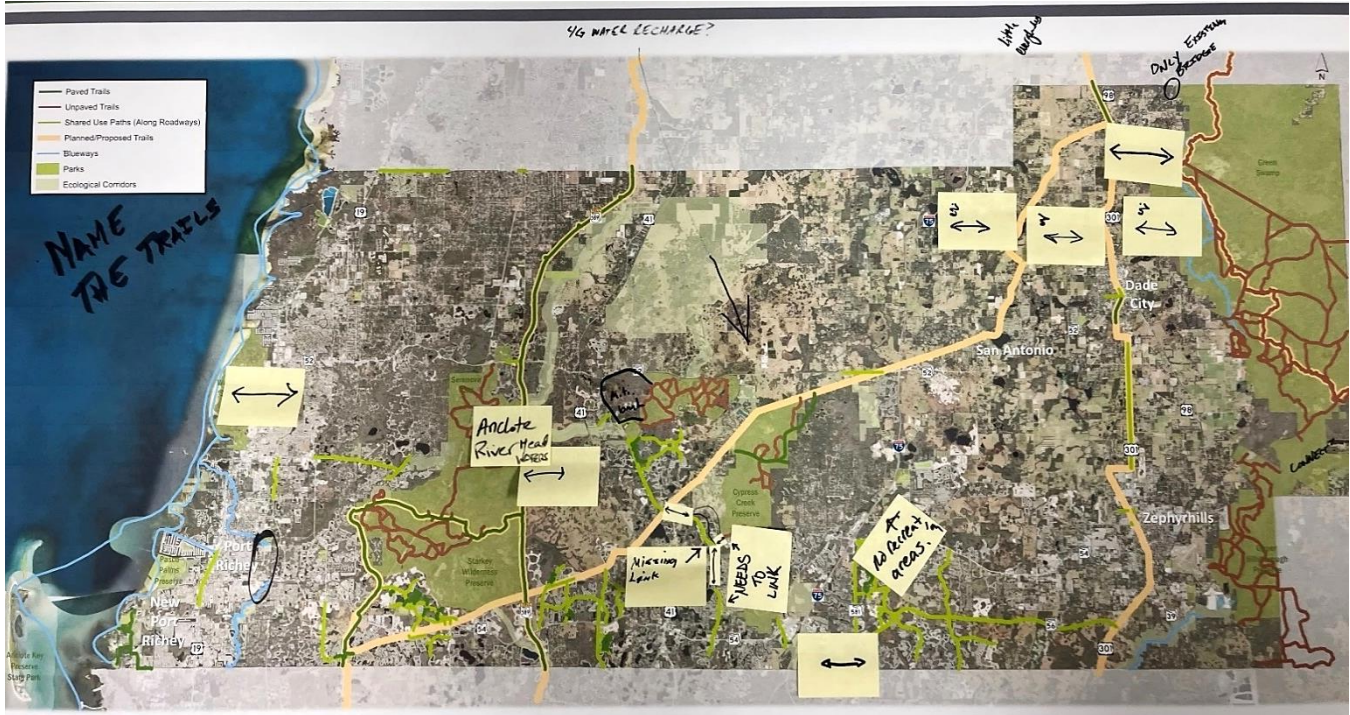
**FIGURE B-19: PLACE YOUR STICKERS IN THE BOXES OF YOUR TOP 3 DESIRED AMENITIES**





Workshop attendees were additionally asked to mark up a map of the existing GTB system to identify areas they saw connections and other expansion opportunities. The feedback received largely showed a desire for more east-west connection, especially from the proposed Withlacoochee Trail extension and the Orange Belt Trail to the Green Swamp conservation area. Several notes also indicate a desire to close gaps in existing trails, such as the one between the Pithlachascotee River and the Anclote River blueways, as well as the shared use path along Collier Parkway leading up to Cypress Creek Preserve. All comments can be viewed in Figure B-20 below.

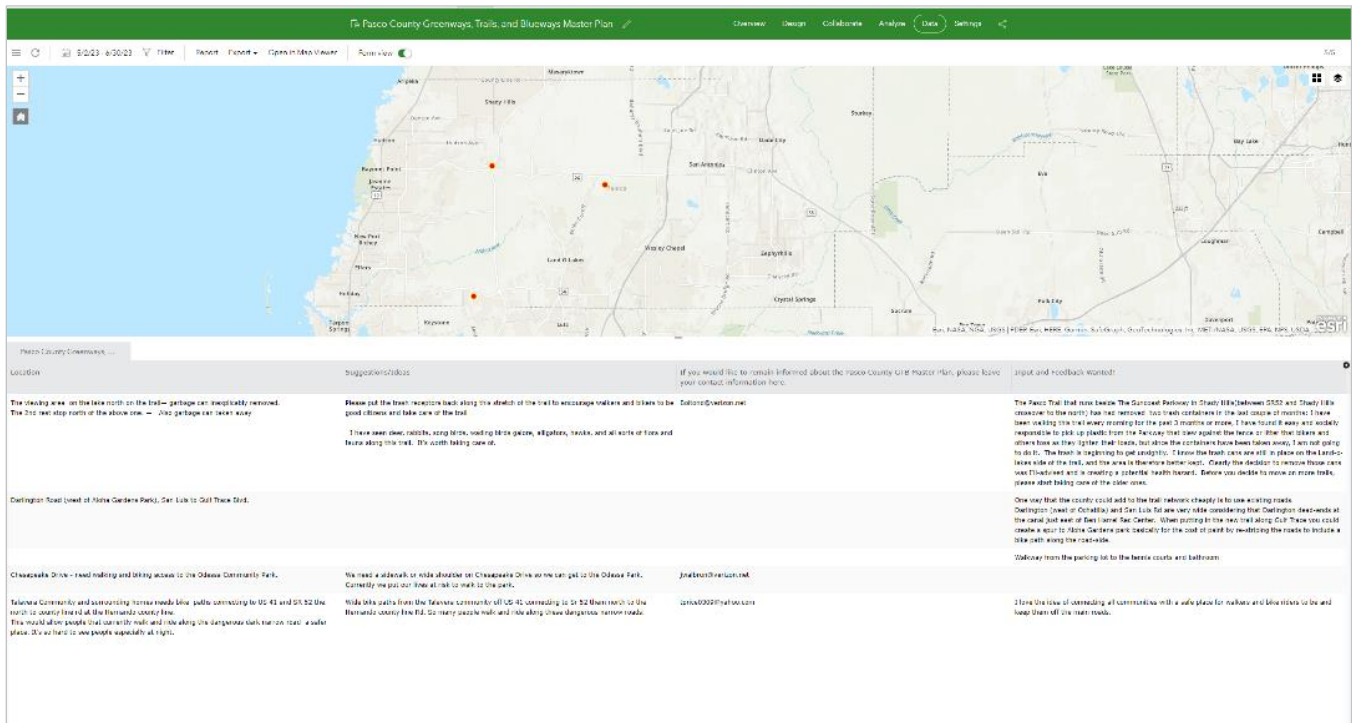
**FIGURE B-20: CONNECTIONS AND POTENTIAL OPPORUNITIES MAP MARK UP**



## ONLINE SURVEY #2

A second online survey was conducted from May 1, 2023, through June 4, 2023. The survey, which was advertised through the County’s website and social media channels, asked participants to identify locations where they would like to see future connections and improvements to the GTB network. Additionally, the survey provided participants with an opportunity to provide comments and feedback on desired connections and general comments related to the GTB network. The intent of the second public survey was to gain a better understanding of areas where the public would like to see future GTB investments. Most of the survey responses and comments focused on providing enhanced transportation (roadway adjacent) facilities and roadway crossings. The responses suggest a desire for additional shared use paths and sidewalks along roadways. One of the survey responses discussed a need for trash receptacles along existing trails. Table B-2 contains the comments from the survey participants.

**FIGURE B-21: SURVEY #2 ONLINE MAP INTERFACE**





**TABLE B-2: SURVEY #2 PARTICIPANT RESPONSE COMMENTS**

| Suggestions/Ideas  | Input and Feedback Wanted   |
|--|---|
| Wide bike paths from the Talavera community off US 41 connecting to SR 52 then north to the Hernando county line road. So many people walk and ride along these dangerous narrow roads.  | I love the idea of connecting all communities with a safe place for walkers and bike riders to be and keep them off the main roads.   |
| We need a sidewalk or wide shoulder on Chesapeake Drive so we can get to the Odessa Park. Currently we put our lives at risk to walk to the park.  | -   |
| -  | Walkway from the parking lot to the tennis courts and bathroom  |
| Darlington Road (west of Aloha Gardens Park), San Luis to Gulf Trace Blvd.   | One way that the county could add to the trail network cheaply is to use existing roads. Darlington (west of Ochatilla) and San Luis Rd are very wide considering that Darlington dead-ends at the canal just east of Ben Harrel Rec Center. When putting in the new trail along Gulf Trace you could create a spur to Aloha Gardens park basically for the cost of paint by re-stripping the roads to include a bike path along the road-side.   |
| Please put the trash receptors back along this stretch of the trail to encourage walkers and bikers to be good citizens and take care of the trail<br>I have seen deer, rabbits, song birds, wading birds galore, alligators, hawks, and all sorts of flora and fauna along this trail. It's worth taking care of. | The Pasco Trail that runs beside The Suncoast Parkway in Shady Hills (between SR52 and Shady Hills crossover to the north) has had removed two trash containers in the last couple of months: I have been walking this trail every morning for the past 3 months or more, I have found it easy and socially responsible to pick up plastic from the Parkway that blew against the fence or litter that bikers and others toss as they lighten their loads, but since the containers have been taken away, I am not going to do it. The trash is beginning to get unsightly. I know the trash cans are still in place on the Land-o-lakes side of the trail, and the area is therefore better kept. Clearly the decision to remove those cans was ill-advised and is creating a potential health hazard. Before you decide to move on more trails, please start taking care of the older ones. |

## PUBLIC WORKSHOP AND OPEN HOUSE #2

A second public workshop and series of open houses were held throughout the month of May (2023). The second workshop was held on the evening of Tuesday, May 2<sup>nd</sup>. Like the first workshop, the second workshop consisted of a brief presentation that provided an update on the development of the Master Plan followed by an open house style meeting where participants could view information boards, engage with County staff, ask questions, and provide feedback and input. Workshop participants discussed topics like identifying opportunities to purchase and secure land for future greenways that could support recreational trails, and potential funding for expansion of the trail system.

The open house for the second round of public engagement was conducted at several locations throughout the county. The open house provided information on display boards and encouraged people to participate in the online survey. The dates and locations for the second round of open houses were as follows:

- Land O’ Lakes Recreation Center, May 1, 2023 – May 8, 2023
- Wesley Chapel District Park, May 8, 2023 – May 13, 2023
- Veterans Memorial Park (Hudson), May 15, 2023 – May 18, 2023
- J. Ben Harrill Recreation Complex (Holiday) – May 18, 2023 – May 22, 2023
- Starkey Ranch Theatre Library Cultural Center, May 26, 2023 – June 5, 2023





## MASTER PLAN WEBPAGE

In addition to the previously mentioned outreach activities, Pasco County developed a dedicated GTB Master Plan webpage under the Parks, Recreation, and Natural Resources Department webpage. The GTB Master Plan webpage was maintained and updated through the Plan development process and served as a portal for people to view meeting materials, provide input, and request additional information.

Screenshot of the Greenways, Trails, and Blueways Master Plan Webpage

## ADDITIONAL PUBLIC INPUT

The following contains additional feedback and input that was received via email to County staff.

- Pasco has several beautiful rivers including the Withlacoochee, Cotee & Anclote Rivers. Also, 5 or 6 excellent coastal paddle opportunities.
- I especially wish to point out two very important Blueways opportunities.
- First is the Anclote River. From Anclote River Park to SR-54 lies 7+ miles of currently paddle-worthy river. Above SR-54 lies 3+ miles of potential trail - if brushed-out. That takes you to Starkey Road where land is likely available for a trailhead.
- Second is the Cotee River. From the Gulf heading upstream we currently have ~6 miles of clear paddling until just above the James E. Gray Preserve. From that point upstream there may be ~4 more miles of potentially useable river to reach Starkey Rd.
- Now here is a separate, and possible way more important suggestion. With all of the current, as well as planned construction of 3,500 to 4,000 new buildings within the drainage basins of these two rivers, the storm water runoff created by the impervious structures and roadways cannot currently be handled efficiently. What will it be like in 5 years. I know this as a resident within the flood zone of the Anclote River drainage basin. This is not meant to be a personal plea from me by any means but it

may be an opportunity for you to receive State & Federal grant monies that will not only allow the rivers to be properly brushed-out for drainage purposes, but for two beautiful Blueways to be created for the residents and visitors of Pasco County.

## **KICK-OFF MEETING**

A project kick-off meeting was held on August 11, 2022. The meeting served as an introduction to the development of the Plan, the team that would be working on the Plan, and established the parameters in which the Plan would be developed. The following is a more detailed account of the topics and discussions from the meeting.

### **Meeting Topics and Discussion**

#### **Defining Greenways**

A discussion of what a greenway, blueway, or trail is, or is not, was had. There was general confusion about whether or not there is an accepted standard for what amounts to a greenway or trail. Additional research should be completed to narrow down this definition.

#### **Purpose of the Greenways, Blueways, and Trails Plan**

The overall purpose of the plan was discussed. From the position of the Parks department, a desire was expressed for a framework of how to continue to develop the trails system, especially with continued growth in the county related to population, development, and roads. Ultimately, the plan should help put together a system holistically and encompassing all facilities.

Representatives from Planning and Development Services hoped that the plan identifies destinations and their connections to existing trails. It was clarified that the level of detail for this plan was at the “desire lines” level, and within a recreational framework, and would not propose specific alignments for new trails.

Representatives from the MPO expressed that they hope the plan addresses the bigger picture of how Parks, County Development Services, and MPO staff and plans interface. Specifically, that the plan identifies how connectivity is handled from a policy perspective.

#### **GTBAC**

A discussion on the potential of a Greenways, Trails, and Blueways Committee was held. Representatives from the MPO suggested reviewing their BPAC for potential members. Some discussion was held towards limiting the number of members on the GTBAC to nine.

#### **Goals and Vision**

To guide the development of the plan early in the process, a discussion of the goals and vision of the plan were held. To help guide this discussion, attendees were asked to share their perspective on what would make this plan successful. Some perspectives expressed included:

- An overall plan that identifies the spine of a trails system that connects to all neighborhoods and connects to a recreational trail.
- All users should be accommodated, providing a variety of experiences through specialty areas like equestrian trails, single-track, and gravel.
- A primary goal of the plan should be that folks can access the network without needing a car, no matter where they live in the county.
- The plan should look towards developing a spine of facilities that would then make it easier to work with development applicants on developing the system.
- The plan should look at how urban environments blend into the larger recreation system.

- The plan should look at ways to provide access to the large, undeveloped coastline that is unique to Pasco County.
- The plan should focus on providing a park-like setting for users, rather than a traditional Complete Streets approach.

### **Next Big Thing**

A discussion of what the “Next Big Thing” should be through the lens of the Greenways, Blueways, and Trails Master Plan. These suggestions amount to what future actions the plan should guide the various agencies involved towards but are not necessarily included in the scope of work for this task.

- Establishing a gravel trail network.
- Establishing off-road trails.
- Providing activity on the edges of existing wildlife corridors.
- Activating the existing shoreline, such as Rocky Creek, with blueways amenities.
- Reworking how private trails are constructed, potentially through a land development code MPUD district amendment and an incentives-based bonus program.
- Developing a Private Trails Connection Permit Process.
- Incorporating the results of the plan into the Comprehensive Plan and Long Range Transportation Plan.

### **Definition of Success**

To close out the meeting, attendees were also asked to share their definition of success for a Greenways, Trails, and Blueways Master Plan. Some suggestions included:

- Shed clarity on what the greenways program is, and funding mechanisms to do so.
- Define a process that makes sure County staff is reviewing needed connections during the development approval process.
- Ensure that projects remain as proposed, for example that wide greenways do not appear in new developments as narrow sidewalks.
- Allow flexibility for projects to be implemented as a Complete Street if they cannot be implemented as a park-like greenway.

## **WORKING GROUP MEETING #1**

Held on November 9, 2022, the first Working Group meeting served as an introduction to the GTB Master Plan, provided an overview of the Plan’s objectives and timelines, defined the role of the Working Group, defined the different types of greenways, trails, and blueways, and workshopped ideas on developing the Plan’s vision, mission, goals, and objectives.

### **Meeting Topics and Discussion**

The meeting began with a discussion on the proposed definitions for greenways, trails, and blueways as they relate to the Master Plan; there was a general agreement on the proposed definitions and facility types. Following the discussion on definitions there was a discussion on the proposed Master Plan Vision, Mission, and Goals. Feedback on the Vision, Mission, and Goals included discussions on making sure that the language wasn’t too focused on environmental areas, as these could be interpreted as being restrictive, that they should be reflective of both active and passive recreation opportunities, and that there should be a balance between attracting users and preventing overuse of facilities. Additionally, a general discussion on the use of

ATVs, motorcycles, golf carts, and electric bicycles and scooters along trails was held; it was determined that most of these are concerns that will be addressed by the PRNR Department outside of the Master Plan.

## **WORKING GROUP MEETING #2**

The Working Group met a second time on January 17, 2023, to provide an update on the development of the Master Plan including revisions to the Plan’s vision statement and goals and objectives. The Working Group reviewed existing trails and blueways and discussed opportunities for new connections and expansion of the trails and blueways network. The group also discussed preferences related to various trail types, supporting infrastructure, and amenities.

### **Meeting Topics and Discussion**

The meeting included an announcement of the upcoming public workshop and open house events that were scheduled for the following week, members were encouraged to help share the meeting invitation and were encouraged to attend the workshop. A status update on the Plan development was provided and included an overview of the Plans and Best Practice Review, data collection efforts, a revised Vision Statement, and brief discussion on the development of design guidelines. The existing GTB facilities were presented and discussed, it was explained that the Plan was utilizing existing available data and members were asked to review the existing facilities and note whether there were any gaps in the data and if they could provide any additional information. An open discussion on desired/priority connections, types of trail and blueway facilities, and desired amenities was held. The Orange Belt Trail and the new Ridge Road extension were identified as new and desired connections. As for types of trails the discussion mostly focused on a desire to expand paved multi-use trail opportunities, some discussion was held on unpaved multi-use trails and specialty trails like mountain bike facilities. The discussion on desired amenities largely focused on maintaining the existing infrastructure and that new amenities would come with additional maintenance and upkeep costs, members recognized that people may want certain amenities but without additional funding it may be hard to provide them on a large scale.

## **WORKING GROUP MEETING #3**

During the third meeting, held on March 28, 2023, the Working Group was provided with an overview of the feedback received during the first public workshop/open house and the first online survey results. Additionally, general design standards/guidelines for various trail types were presented to the group for discussion and comments.

### **Meeting Topics and Discussion**

The third Working Group meeting spent time diving into the feedback that was obtained during the first public engagement workshop and open house and the online survey. Results from the interactive workshop activities and desired connections map were reviewed and discussed. Results from the online survey were reviewed, discussed, and compared to the input that was received during the workshop. The meeting shifted to a review and discussion of the proposed facility design guidelines. General design guidance on items like accessibility, environmental design, sustainable design, and transportation-focused design standards were presented and discussed. Proposed standards for paved multi-use trails, unpaved multi-use trails, hiking



trails, off-road bicycle trails, equestrian trails, and blueway access was presented. There was general agreement with the proposed guidance, discussion on overall corridor width and the need for construction and maintenance equipment often dictate the clear and corridor widths of facilities. Next a discussion on establishing guidance for providing amenities based on the type of facility was held, there was general agreement with the proposed guide, but with a sentiment of needing additional funding to construct and maintain larger infrastructure items like restrooms. The meeting concluded with a status update on the Plan development with a review of the chapters and their status and then an announcement to be on the lookout for information on the second public workshop and open house events.

## APPENDIX C – COMPREHENSIVE PLAN AND LAND DEVELOPMENT CODE REVIEW

## COMPREHENSIVE PLAN REVIEW

The County's Comprehensive Plan sets the goals, objectives, and policies that guide current and future growth through an established longer-term vision. The Comprehensive Plan covers topics such as economic development, transportation, parks, natural resources, public infrastructure, and how land is used, developed, and conserved. Chapter 3 (Conservation Element), Chapter 5 (Recreation and Open Space Element), and Chapter 7 (Transportation Element) all have Goals, Objectives, and Policies associated with greenways, trails, and blueways. The following is an overview of the GTB-related elements along with suggestions for how the Comprehensive Plan language could be changed, shown as strikethrough and underlining, where applicable.

### Chapter 3 – Conservation Element

#### Goal Con 1: Regional Conservation Strategy

Protect, conserve, enhance, and manage the natural land and water resources of Pasco County through a regional conservation strategy that protects the most significant natural resources of the County through a combination of standards for specified critical linkages, land acquisition, land use strategies, managing and preserving public lands, land use policies, wetlands, and water resources.

##### **Objective Con 1.1: Natural Resources Protection**

Protect natural communities, including upland and wetlands; connect natural linkages, conserve viable populations of native plants and animals; protect habitat for listed species; protect water resources and wetland systems; protect unique natural resources; enhance resource-based recreational opportunities; and expand environmental education opportunities.

##### **Objective Con 1.2: Critical Linkages**

To identify and protect corridors or linkages that maintain a contiguous network of wildlife habitat between existing public lands as identified in the March 2002 Habitat Study, Assessment of Measures to Protect Wildlife Habitat in Pasco County, as amended on July 10, 2007, as critical linkages and depicted in Map 3-4: Critical Linkages Map. 4

##### ***Policy Con 1.2.2: Permitted Uses/Development Standards***

Pasco County shall amend the Land Development Code by 2010 to adopt implementation measures for proposed density or intensity increases in critical linkages. The implementation measures in the Land Development Code shall include, but not be limited to, the following:

- g. During the development review and approval process, Pasco County will review opportunities to maintain and enhance the critical linkage within existing developed areas.
- i. Development and redevelopment projects adjacent to critical linkages must demonstrate site planning and orientation which maximizes the preservation and function of the critical linkage.

##### ***Policy Con 1.2.4: Public Property***

Pasco County shall ensure that future uses on County-owned land within designated critical linkages preserve the natural resource value of the land. These uses may include ecological restoration and management, environmental education, and passive recreation.

**Objective Con 1.4: Environmental Lands Acquisition and Management Program**

Seek to permanently protect environmentally sensitive lands through the County’s Environmental Lands Acquisition and Management Program.

***Policy Con 1.4.1: Purchase of Environmentally Sensitive Lands***

Pasco County shall continue to purchase environmentally sensitive lands through the Environmental Lands Acquisition and Management Program which is designed to:

- a. Protect natural communities including uplands and wetlands, connect natural linkages, conserve viable populations of native plants and animals, protect habitat for listed species, protect water resources and wetland systems, protect unique natural resources, enhance resource-based recreational opportunities, and expand environmental education opportunities.
- b. Provide opportunities for both existing residents and future generations to enjoy these lands for resource-based recreation and educational uses.

***Policy Con 1.4.8: Multiple-Use Opportunities***

Pasco County shall provide multiple-use opportunities on County-owned environmentally sensitive lands that are consistent with natural resource protection and conservation goals to provide for passive recreation, wildlife habitat, watershed protection, erosion control, maintenance, or enhancement of water quality, aquifer recharge protection, and other such natural functions.

**Chapter 5 – Recreation and Open Space Element**

**Goal Rec 1: Ensure provision of outstanding parks and recreational facilities designed to satisfy the active and passive recreational needs of all the County’s existing and future citizens, and promote the health and welfare of the entire community.**

**Objective Rec 1.1: Level of Service and Concurrency**

Achieve and maintain the Level of Service standards for recreation and open space to meet the demands of the existing and future population of Pasco County.

***Policy Rec 1.1.X: Adopted Level of Service for Trails***

**Pasco County shall implement the adopted Level of Service standard for trails and trail access.**

*Consider establishing a proximity-based level of service standard, e.g., a 15-minute drive shed for trail facility access. Additionally, consider establishing a per population mileage standard for trail facilities.*

**Objective Rec 1.2: Coordination**

Communicate with municipalities, the District School Board of Pasco County, the Southwest Florida Water Management District, the Florida Department of Environmental Protection, community development districts, and County residents to prevent overlapping of recreational programs and facilities in adjacent areas and to maximize efficient use of facilities.

***Policy Rec 1.2.1: Coordination of Park Facilities and Recreational Services***

Pasco County shall pursue coordination of park **and trail** facilities and services with municipalities, the Southwest Florida Water Management District, the Florida Department of Environmental Protection, and others providing similar services.



**Policy Rec 1.2.4: Marketing of Parks and Recreation System**

Pasco County shall market the parks and recreation system through the County’s Public Communications Manager using the internet, radio, television, signage, and literature to enhance public awareness of the County’s diverse parks and recreation system.

**Objective Rec 1.3: Funding Opportunities**

Provide funding for the park, trail, and recreation infrastructure needed to support existing and new residential development in a manner that is comprehensive, economical, and efficient.

**Policy Rec 1.3.1: Impact Fee for Parks and Recreation**

The Pasco County Parks and Recreation Impact Fee shall be based on an Impact Fee Study and continue to be collected for the acquisition, design, and development of new parks and recreation facilities identified in the Capital Plan in order to meet the demands of future residential development.

**Policy Rec 1.3.2: Park and Recreation Expenditure Priorities**

In the allocation of the County’s general funds for parks and recreation, Pasco County shall prioritize expenditures as follows:

Priority 1: Operation, maintenance, and renovation of existing County parks and recreation facilities.

Priority 2: Acquisition and development of new parks and recreation facilities and expansion of existing park facilities.

**Policy Rec 1.3.3: Park and Recreation Grants and Cooperative Agreements**

The County shall continue to aggressively pursue State and Federal grants and cooperative agreements with other governmental, quasi-governmental, nonprofit, and civic organizations for parks, trails, and other recreation facilities.

**Policy Rec 1.3.4: Bonding and Municipal Service Taxing Units**

Pasco County should consider the use of bonding and municipal service taxing units to provide for the funding of capital and maintenance improvements and expansion of parks, trails, and other recreation facilities.

**Policy Rec 1.3.5: User Fees**

The County shall continue to evaluate By 2010; parks and recreation user fees shall be evaluated to determine if they are appropriate to recover a portion of all of the cost of programs associated with the fee.

**Objective Rec 1.4: Private Development**

Maximize private development assistance in providing parks and recreational opportunities to meet current and future parks and recreational demands.

**Policy Rec 1.4.1: Requirements for Adequate Land for Neighborhood Parks**

Pasco County shall continue to implement Land Development Regulation that require private developers to provide land, construct, and maintain neighborhood parks and/or trails and trail connections as part of new developments or redevelopment activities that contain 25 dwelling units or more.

**Policy 1.4.2: Incentives for provision of Adequate Land and Improvements for Parkland**

Pasco County shall consider the adoption of additional incentives for private developers to provide adequate land and improvements for any useable upland dedicated to Pasco County for parks and trails. These incentives may include, but are not limited to, density bonuses or transfer of development rights.

*(Density bonuses for parks, trails, and other recreational facilities should be added to the Future Land Use Element of the Comprehensive Plan)*

**Objective Rec 1.6: Access and Connectivity of Parks and Trails**

Provide public access and connectivity for all existing and future trails, public parks, and recreational facilities through the Year 2025.

**Policy Rec 1.6.1: General Connectivity**

Pasco County shall promote the linkage and connectivity of parks and recreation facilities, including trails, to neighborhoods, schools, and libraries by requiring that the design for the development of new or redevelopment of existing parks, schools, libraries, and neighborhoods includes the consideration of trails, bicycle paths, and mass transit linkages where feasible.

**Policy Rec 1.6.2: Connectivity of New Development**

Through land development regulations, the County shall require and/or incentivize shall develop implementing land development regulations addressing access and connections connectivity to the County trail system as shown in the Greenways, Trails, and Blueways (GTB) Map, Map 5-1, where feasible. Map 5-1 shall not have any regulatory effect until such implementing land development regulations are adopted.

**Policy Rec 1.6.5: Trails/Greenways/Blueways**

Pasco County recognizes that trails, greenways, and blueways are a component of the overall parks and recreation system of Pasco County. The planning and development of parks will consider the opportunity for connectivity to the overall trail/greenway/blueway system within Pasco County and the adjacent counties.

**Policy Rec 1.6.6: Greenways, Trails and Blueways Master Plan**

Pasco County has prepared a Greenways, Trails and Blueways Map, Map 5-1, in coordination with the Parks, Recreation and Natural Resources Department, the Pasco County Metropolitan Planning Organization (MPO), and a citizens' GTB master plan committee. Map 5-1 shows the Metropolitan Planning Organization's trail network, and shall be used as the guiding reference for greenway/trail/blueway connectivity and access, consistent with the current MPO Long Range Transportation Plan.

**Policy Rec. 1.6.X: Establish Greenway Corridors**

Establish the Greenway Corridors (Ecological Corridors, ELAMP, existing and future County parks, and other public land) by evaluating opportunities for trail and trail facilities within and/or adjacent to the corridors, including the corridors themselves and connections to existing parks/preserves through planned trails and shared use paths. The development of the Greenway Corridors should include the

following: County-owned and managed properties, other public lands through partnerships, greenway requirements through future development, and land acquisition.

### **Objective Rec 1.7: Corridor Design Standards**

Enhance the visual quality and provide a framework of ideal standards and classifications for roadways to promote interconnectivity of the parks system.

#### ***Policy Rec 1.7.1: Recreational Purpose of Public Roadways***

In recognition that public roadways serve a recreational purpose (also referred to as a linear park), the County shall evaluate the development design standards to establish a vision for the roadway network.

#### ***Policy Rec 1.7.4: Joint Projects***

The County shall pursue interlocal agreements and joint projects with municipalities, private agencies, and the Florida Department of Transportation for the implementation and funding of roadway programs for greenways, scenic roadways, and/or other enhancements where appropriate.

### **Objective Rec 1.9: Common Open Space**

Protection of lands, defined as open space, from incompatible land uses, and maintenance of the function and value of such lands as resources for passive recreation.

#### ***Policy Rec 1.9.1: Preservation of Open Space***

Pasco County shall continue to define and preserve as open space areas, those areas designated as CON (Conservation Lands) on the Future Land Use Map; jurisdictional wetlands, including any associated buffers which may be established; significant habitats of threatened and endangered species; and any species-management areas for species of special concern. Where appropriate, utilize such areas for passive recreation.

#### ***Policy Rec 1.9.2: Acquisition of Lands Adjacent to Bays, Rivers, Lakes, and the Gulf of Mexico***

Pasco County shall continue to identify and evaluate for acquisition, lands adjacent to bays, rivers, lakes, and the Gulf of Mexico for use as public areas suitable for open space.

### **Objective Rec 1.10: Conservation Areas**

Increase utilization of public lands within conservation areas for appropriate recreation and open space activities.

#### ***Policy Rec 1.10.1 Publicly Owned Land for Passive Recreation Opportunities***

Pasco County shall encourage the use of publicly owned land within conservation areas for passive recreational opportunities, where appropriate, in settings designed to manage the natural resources on such lands.

#### ***Policy Rec 1.10.2: Use of State Funds for Recreational Resources***

Pasco County shall coordinate with the Florida Department of Environmental Protection and the Southwest Florida Water Management District to facilitate the use of State funds to develop appropriate, recreational resources on land within Pasco County, particularly within the conservation area.

#### ***Policy Rec 1.10.3: Agreements to Ensure Passive Recreational and Open Space Opportunities***

Pasco County shall continue to negotiate and enter into agreements with municipalities, the Southwest Florida Water Management District, the Florida Department of Environmental Protection, and other State and Federal agencies to make public properties available to the public for appropriate, passive recreational and open space uses.

***Policy Rec 1.10.4: Prohibition on Uses in Conservation Areas***

Publicly and privately provided recreational opportunities within conservation areas shall be limited to passive recreational uses.

## **Chapter 7 – Transportation Element**

**Goal Tra 1: Develop an integrated, multimodal, transportation system that provides for the safe, efficient, and effective movement of people, goods, and services in Pasco County.**

### **Objective Tra 1.1: Multiple Modes**

***Policy Tra 1.1.1: Integrated Transportation Systems***

Pasco County shall maintain and update, as necessary, development regulations and design standards that integrate motorized and nonmotorized transportation systems into the transportation planning process including, but not limited to, roadway, intersection, bikeway, and sidewalk regulations. Transit-oriented design strategies shall be emphasized in the Urban Concentration Area.

***Policy Tra 1.1.7: Coordinated Transportation Planning***

In order to maintain consistency between the Comprehensive Plan Transportation Element and the currently adopted Pasco County Metropolitan Planning Organization Long-Range Transportation Plan, Pasco County shall identify and document inconsistencies between the adopted Metropolitan Planning Organization Long-Range Transportation Plan and the ~~current~~ Comprehensive Plan for the purpose of preparing amendments to the Transportation Element. The amendments will be prepared and adopted during the County’s biannual Comprehensive Plan Amendment process and during the Evaluation and Appraisal Report and Comprehensive Plan update process. The amendments will utilize the data and analysis of the Long-Range Transportation Plan or other data and analysis as needed to promote consistency between the Comprehensive Plan and Long-Range Transportation Plan. The amendments to update the Transportation Element will occur within one year of the Pasco County Metropolitan Planning Organization approval of any future Long-Range Transportation Plan.

### **Objective Tra 1.4: Roadway Design and Maintenance Standards**

Ensure consistency between design standards and adjacent land uses and design roadways that are aesthetically pleasing.

***Policy Tra 1.4.4: Use of Right-of-Way***

Pasco County shall design new and expanded roads to accommodate many uses; e.g., sidewalks, bikeways, transit infrastructure, frontage roads, landscaping, drainage, utilities, and other activities that support the transportation system, as appropriate.

### **Objective Tra 1.5: Bicycle Facilities, Sidewalks, and Multiuse Trails**

Provide safe and convenient bicycle, sidewalk, and multiuse trail networks.



***Policy Tra 1.5.1: Development Regulations to Incorporate Bikeways and Bicycle Facilities***

Pasco County shall maintain and update, as necessary, development regulations that incorporate bikeways and other bicycle facilities into new residential, commercial, and industrial developments.

***Policy Tra 1.5.2: Encourage Use of Bicycles***

Pasco County shall encourage the use of bicycles as an alternative transportation mode for recreational, shopping, and work-related travel by including, in the County Capital Improvement Plan and the Metropolitan Planning Organization’s adopted Transportation Improvement Program, the construction of bicycle facilities on State and County road widening projects in the urban area and, as appropriate, in rural and transitioning areas.

***Policy Tra 1.5.3: Recreational Bikeway System***

Considering available funding, Pasco County shall establish an adequate, safe, cost effective, and efficient recreational bikeway system with special emphasis given to connecting attractors of children, such as parks and schools, with residential areas.

***Policy Tra 1.5.4: Provision of Bicycle Facilities in Planning and Design of Transportation Facilities***

Pasco County shall maintain public works' project-design standards that include the provision of bicycle facilities in the planning and design of transportation facilities for all roadway improvement projects involving widening or new construction.

***Policy Tra 1.5.5: Design Standards that Include Pedestrian Facilities***

Pasco County shall maintain and update, as necessary, public works' project-design standards that include pedestrian facilities in the planning and design of transportation facilities ~~in urbanized areas and consider them in suburban and rural areas.~~

***Policy Tra 1.5.6: Regulations and Design Standards that Require Pedestrian Facilities***

Pasco County shall maintain and update, as necessary, development regulations and design standards that require pedestrian facilities within residential and nonresidential developments.

***Policy Tra 1.5.7: Design Standards for Pedestrian Crossings***

Pasco County shall maintain and update, as necessary, public works' design standards that require pedestrian crossings to be well marked and signalized, where warranted.

***Policy Tra 1.5.8: Establish Efficient System of Pedestrian Facilities***

Pasco County shall establish an adequate, safe, cost-effective, and efficient system of pedestrian facilities with special emphasis given to connecting attractors of children, such as parks and schools, within residential areas.

***Policy Tra 1.5.9: Encourage Use of Pedestrian Facilities***

Pasco County shall encourage the use of sidewalks and other pedestrian facilities as an alternative transportation mode for recreational, shopping, and work-related travel by including, in the County Capital Improvement Plan and the Metropolitan Planning Organization's adopted Transportation Improvement Program, the construction of sidewalk and other pedestrian facilities on State and County road widening projects ~~in the urban area and, as appropriate, in rural and transitioning areas.~~

**Policy Tra 1.5.10: Expand Regional Multiuse Trails**

~~By 2010~~, Pasco County shall prepare and maintain a trails/blueways master plan in coordination with the Parks, ~~and~~ Recreation, and Natural Resources Department, the Pasco County Metropolitan Planning Organization, and a citizen's trails/blueways master plan committee. The Metropolitan Planning Organization's 2025 Long-Range Transportation Plan trails component shall be used as an interim master plan for trails/blueways until such time as the trails/blueways master plan is complete. Map 7-31 is the Metropolitan Planning Organization's 2025 Long-Range Transportation Plan trail network and shall be used as the interim guiding reference for trail/blueways connectivity and access (consistent with Policy REC 1.6.7).

*Change reference to the MPO's 2025 LRTP following the adoption of this Master Plan update.*

**Objective Tra 1.6: Mobility Measurement**

Establish numerical indicators on which the mobility of the transportation system can be measured and report the current and past condition of the transportation system to the Board of County Commissioners on a periodic basis.

**Policy Tra 1.6.3: Bicycle System Measures**

Pasco County shall report, from the Long-Range Transportation Plan update, the planned miles of bicycle lanes, bicycle trails, or other designated bicycle facilities that have been implemented on collector and arterial roadways.

**Policy Tra 1.6.4: Pedestrian System Measures**

Pasco County shall report, from the Long-Range Transportation Plan update, the planned miles of sidewalks, pedestrian trails, or other designated pedestrian facilities that have been implemented on collector and arterial roadways.

**LAND DEVELOPMENT CODE REVIEW**

The Pasco County Land Development Code (LDC) is required to be consistent with the Comprehensive Plan and applies to all uses, structures, and development proposed within the County. The LDC shall be construed and implemented to achieve the following intentions and purposes of the Board of County Commissioners:

- E. To establish the regulations, procedures, and standards for review and approval of all proposed development in the County.
- F. To foster and preserve public health, safety, and welfare and to aid in the harmonious, orderly, and progressive development of the County in accordance with the adopted Comprehensive Plan.
- G. To implement a development review process that is:
  - 6. Efficient, in terms of time and expense;
  - 7. Effective, in terms of addressing the natural resource and public facility implications of proposed development;
  - 8. Equitable, in terms of consistency with regulations and procedures;
  - 9. Equitable, in terms of preservation of the rights of property owners; and
  - 10. Equitable, in the consideration of the interests of the citizens of the County.
- H. To implement the Comprehensive Plan.

The LDC review primarily focused on Chapter 500 (Zoning Standards), Chapter 800 (Natural, and Cultural Resources Protection), and Chapter 900 (Development Standards) with an emphasis on how the development process is used to support the expansion and connections to the GTB network. The following overview, like the Comprehensive Plan review, highlights the more pertinent code regulations and where applicable makes recommends changes to the LDC in an underline and strikethrough format.

## **Chapter 500 – Zoning Standards**

The intent and purpose of zoning districts and standards are for guiding and accomplishing coordinated, adjusted, and harmonious development in accordance with existing and future needs; protecting, promoting, and improving public health, safety, comfort, order, appearance, convenience, morals, and general welfare through permitting, prohibiting, regulating, restricting, encouraging, and determining the uses of land, watercourses, and other bodies of water, and the size, height, bulk, location, erection, construction, repair, maintenance, alteration, razing, removal, and use of structures; and areas and dimensions of land and bodies of water to be occupied by uses and structures, as well as courts, yards, and other open spaces and distances to be left unoccupied by uses and structures; and the density of population and intensity of use. The zoning review focused on the Master Planned Unity Development (MPUD), Employment Center Master Planned Unit Development (EC-MPUD), and Conservation Subdivision Master Planned Unit Development (CS-MPUD) zoning districts.

### **Section 522: Master Planned Unit Development (MPUD)**

One of the purposes of MPUD districts is to encourage the effective use of open space and recreational areas and to encourage more flexible land development which will respect and conserve natural resources such as streams, lakes, floodplains, groundwater, wooded areas, steeply sloped areas, and areas of unusual beauty or importance to the natural ecosystem.

Permitted uses within the MPUD district include all residential uses, professional offices, commercial uses, and parks, among many others. The MPUD districts include several development and site design standards that address compatibility of use, setbacks, street design, and open space requirements. The following provides a description of the Open Space Requirement for MPUD districts:

There shall be provisions which ensure that the open space shall continue as such and be properly maintained. The owner/developer shall indicate ownership and provide for the responsibility for maintenance of such open space land or provide for and establish one or more organizations for the ownership and maintenance of all common open space. In the case of multiple organizations for ownership and maintenance, each organization shall be a nonprofit homeowners' corporation or Community Development District formed pursuant to Chapter 190, Florida Statutes. Where practical, it shall be designed as a contiguous area easily accessible to the residents and preserving natural features.

### **Section 522.5: Employment Center Master Planned Unit Development (EC-MPUD)**

These employment centers have been designated in an effort to ensure that the lands within the County that have the greatest access to publicly funded infrastructure investments are developed consistent with the growth management vision of the County. The EC-MPUD district is intended to provide employment opportunities within a mix of corporate business park, target primary industrial, support commercial and

office, and multifamily uses. Aside from a requirement that “safe and convenient pedestrian linkages” be provided, there are no stated trail requirements under this district.

### **Section 522.7: Conservation Subdivision Master Planned Unit Development (CS-MPUD)**

The Conservation Subdivision Master Planned Unit Development district is intended to provide development opportunities for clustered residential uses in rural areas while encouraging the preservation of large amounts of open space. Under the CS-MPUD designation, both Multiuse Paths and Multiuse Trails are defined. Within this district, Multiuse Paths are a 10’ paved path located on one side of a roadway, while Multiuse Trails are a 12’ to 15’ paved trail within 22’ of right-of-way and not connected with a roadway.

### **Section 522.8: MUTRM-MPUD (Mixed-Use Trip Reduction Measures) Standards**

The Mixed-Use Trip Reduction Measures Master Planned Unit Development district is intended to promote compact, mixed-used development patterns that encourage multimodal trips and reduce automobile dependency and vehicle miles traveled. Projects under this designation defer to Code Section 901.13, which defines trip reduction measures. Applicants under this framework can follow the actions prescribed by the plan or demonstrate a reduction in VMT utilizing the URBEMIS (urban emissions) model. Although no explicit requirement to provide greenway, trail, or blueway facilities is present, multi-use paths are encouraged to be provided throughout the entire project. Although roadway typical sections are provided, each depicts only a 5’ sidewalk.

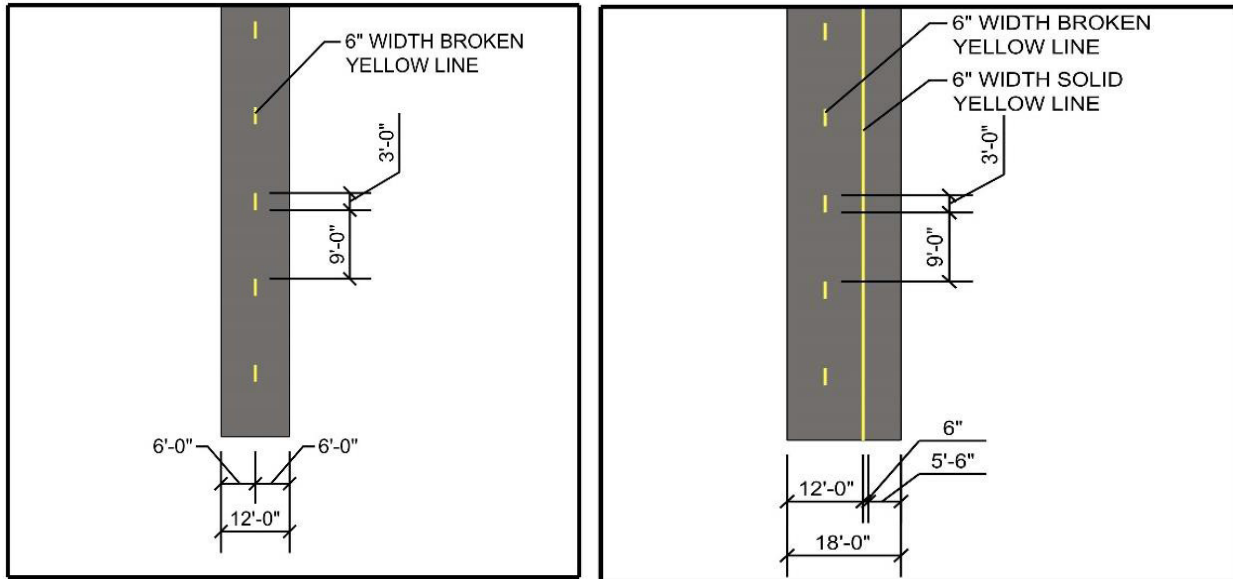
### **Section 522.9: Connected City Stewardship District**

The Connected City Master Planned Unit Development district, authorized under Senate Bill 1216, promotes the development of communities that use advanced technologies for economic development and improved quality of life for residents, business owners, and employees. The district is strictly intended as “People First,” meaning that high levels of non-automobile connectivity should be placed ahead of vehicular infrastructure.

To pursue a CC-MPUD designation, applicants must demonstrate consistency with the *Master Roadway Plan* and *Alternative Transportation Vision Plan* as they relate to multipurpose paths or trails. Further, applicants are required to provide a cohesive alternative transportation system of multipurpose paths or trails with, if practical, connections to adjacent existing developments.

Within this district, Multipurpose Paths and Trails must be a minimum of 12’ in width, with the former being with a roadway right-of-way and the latter being outside of a right-of-way. Paths and Trails are to be constructed of either natural, colored, or fiber-reinforced broom-finished concrete, at least 3,000 psi in strength over a minimum four-inch subgrade. Designated lane markings should be provided as shown in the diagrams below.





## Chapter 800 – Natural, and Cultural Resources Protection

Chapter 800 of the LDC is intended to protect, conserve, and enhance the natural and cultural resources of the County in a manner that cultivates and preserves a unique sense of place while fostering economic well-being. The regulations and codes within this chapter look to implement the Comprehensive Plan with particular emphasis on preserving and protecting biodiversity and the ecological values and functions of uplands, wetlands, open bodies of water and flowing streams, floodplains, groundwater, and other significant geological features, soils and slopes, and flora and fauna. Additionally, this chapter outlines regulations aimed at protecting critical linkages, maintaining adequate quality and quantity of water and open space, and provides standards for development that do not contribute to increasing vulnerability to natural and man-made hazards.

Section 804 defines the County’s ecological corridors, outlines the uses permitted within them, and addresses how development with these areas, including the ability to provide for transfer of development rights and compensation options.

### Section 804.5 – Ecological Corridor Designations

The Ecological Corridors defined below have been identified to maintain a contiguous network of wildlife habitat between existing public lands to protect and conserve native vegetative communities, endangered and threatened species, and natural functions of wildlife habitats, including wetlands.

### Section 804.8 – Permitted Uses within Ecological Corridors

Once the increase in density or intensity that is subject to this Section is approved, the allowable uses within the Ecological Corridor shall be as follows:

- A. Permitted Uses. The following uses shall be permitted within the Ecological Corridor:
  - 1. Recreational Fishing

2. Exotic Species Removal
  3. Passive recreational uses such as, canoeing, kayaking, hiking, birding, and nature study
  4. Excludes uses pursuant to this Code, Section 804.3.C
- B. Permitted Uses with Specific County Approval. The following uses may occur within the Ecological Corridor, if consistent with the intent and purpose of these uses as further defined in the Guidelines for Ecological Corridors, only with specific written approval by the BCC or the County Administrator, or designee:
1. Trapping and/or removal, in compliance with State game laws and management guidelines, of feral hogs and other exotic animal species (e.g., tegu lizards, Tupinambus species) that are declared a nuisance by the Florida Fish and Wildlife Conservation Commission (FFWCC).
  2. Control and/or removal of exotic pest plant species that are declared exotic pest plants by the most recent Florida Exotic Pest Plant Council Invasive Plant List, both Category I and Category II.
  3. Boardwalks, pervious or semi-pervious walking/hiking trails, interpretive nature trails, equestrian uses, observation platforms and fishing docks.
  4. Selected agricultural activities that do not affect the biological integrity and natural functions of the habitats included within the corridor.
  5. Wetland mitigation through wetland creation, preservation, enhancement, and restoration as indicated in an Environmental Management Plan in accordance with Section 804.12. Wetland creation shall not consist of the removal of wetland organic soil and/or natural plant communities.
  6. Selective logging and vegetative removal if it enhances the corridor's natural condition.
  7. Wildlife crossings.

The criteria for permitted uses in this subsection shall be met in accordance with the Guidelines for Ecological Corridors.

### **Section 805.5 – Upland Buffers**

- A. A minimum of a 25-foot upland buffer is required around postdevelopment Category I wetlands unless the applicant has an unexpired SWFWMD, FDEP, or ACOE Permit and/or a County site development plan issued prior to January 26, 2007. These upland buffers are integral to maintaining wetland structure and function and are necessary to protect the natural wetland ecosystem from significant, adverse impacts.
- The upland buffer is not required at the location where an impact to a wetland is permitted, because it is not appropriate to have greater wetland impacts in order to provide upland buffers. However, project design shall recognize the importance of upland buffers to wetland function.
- B. Activities/Items Within Upland Buffers Around Category I Wetlands.
1. Drainage features such as spreader swales are permitted.
  2. Wetland creation/mitigation areas and floodplain compensation areas are permitted if the presence of such areas enhances the function of the wetland.

3. Stormwater retention and detention facilities are discouraged. Any retention or detention facilities allowed shall be planted with native plantings that require minimal maintenance (no mowing or fertilizer).
  4. The County may require, or the developer/landowner may elect, the planting and maintenance of suitable native species to promote recovery of impaired or previously damaged wetlands or to offset any impact/removal of vegetation for drainage features allowed.
  5. Elevated boardwalks where specific approval is granted by the County Administrator or designee.
- C. For Category II and III wetlands, upland buffers and allowed/prohibited uses within said upland buffers shall be as required by the SWFWMD, FDEP, or other regulatory agencies with jurisdiction.

## Chapter 900 – Development Standards

### Section 905.1 – Neighborhood Parks

- A. *Intent and Purpose.* The intent and purpose of this section is to advance the health, safety, and welfare of the residents of the County through by providing ~~common areas as~~ neighborhood parks, trails, and trail connections in residential developments in which to engage in recreation and play.
- B. *Applicability.* This section shall apply where more than 25 dwelling units are proposed. For purposes of this requirement, a development shall be aggregated with contiguous or nearby developments developed by the same or related developer or owner that have not provided neighborhood park(s) in accordance with this section. For the purpose of this section, a dwelling unit shall consist of single-family, multiple family, and mobile homes.
- C. *Exemptions.* This section shall not apply to any development which received preliminary plan approval prior to November 8, 2002, any development which submitted a complete application for preliminary plan approval prior to November 8, 2002, or any existing unexpired PUD or MPUD project that as of November 8, 2002, received preliminary plan approval for at least 80 percent of the PUD or MPUD project.
- D. *Not Impact Fee Creditable.* The provision of neighborhood park(s) pursuant to this section is not impact fee creditable against any portion of the fees set forth in Chapter 1200.
- E. *Amount of Land Required.* The amount of land required to be provided and maintained as neighborhood park(s), trails, and/or trail connections is as follows:
  1. One acre for 26 to 100 dwelling units;
  2. An additional 1/100 of one acre for each additional dwelling unit over 100 units.
  3. Trails and trail connections can be included in calculating the required acreage in 1. and 2. above.
- F. *Neighborhood Park and Trail Standards.*
  1. *Type of Land.* The land provided for use as neighborhood park(s) shall be developable uplands exclusive of required setbacks from wetland or environmental areas and shall not contain any restrictions or encumbrances that prevent its use as a neighborhood park. Non-paved trails and connections may be located within wetland/upland buffer.

2. *Uses Prohibited.* The following uses/land area(s) shall not be included in the required neighborhood park(s) acreage:
  - a. Clubhouses;
  - b. Floodplain mitigation areas;
  - c. Drainage/stormwater detention areas (except for drainage/stormwater detention areas used solely for required neighborhood park amenities);
  - d. Parking areas (except for parking areas required to satisfy minimum parking requirements for required neighborhood park amenities);
  - e. Landscape easements; and
  - f. Sidewalks and bike/multimodal paths constructed to satisfy the minimum requirements of this Code. This does not include unpaved recreational trails nor does it include ROW trails/shared use paths
3. *Accessibility.* The land provided for each neighborhood park and/or trail shall be easily accessible to the residents of the development by automobile, foot, and bicycle. The required neighborhood park acreage shall be located no greater than one-half mile from 50 percent of the dwelling units to be served by the neighborhood park and/or trail or no greater than one-quarter mile from 50 percent of the dwelling units to be served by the neighborhood park and/or trail if the neighborhood park or trail is separated from the development by a collector or arterial roadway.
4. *Uses Within Neighborhood Parks.* Neighborhood parks may include, but are not limited to, sports fields, tennis courts, basketball courts, hiking and biking trails, community pools, playgrounds, and other areas where members of the development may congregate for recreational uses.
5. *Open Play Area Required.* Twenty-five percent of the required neighborhood park acreage, but not less than one-half acre of each required neighborhood park, shall consist of an unpaved, open-play area without trees and structures that impair open play. The required unpaved, open-play area portion of the neighborhood park(s) must:
  - a. Be set back a minimum of 50 feet from wetlands, lakes, or other water bodies or separated from all wetlands, lakes, or other water bodies by a transparent fence or landscape buffer four feet in height; and
  - b. Have a minimum width of 100 feet and length of 100 feet.
  - c. Trails and trail connections are not subject to a. and b. above.
6. Where a project is adjacent to a planned or existing trail identified in the Comprehensive Plan, the development shall provide, construct, and maintain a connection to such trail. This connection shall count towards the minimum park requirement in this section.
7. *Minimum Size.* The required neighborhood park acreage may be composed of a single or multiple neighborhood parks; however, each required neighborhood park shall be a minimum of one-half acre in size.
8. *Minimum Dimension.* The required neighborhood park acreage shall have a minimum dimension of 30 feet. As noted above, the open play area shall be a minimum of 100 feet x 100 feet.



9. Paved trail and trail connection dimensions shall be a minimum width of 8' with a preferred width of 12'.
  10. *Equipment.* If the neighborhood park includes playground or other recreational equipment, such equipment shall comply with the applicable American Society for Testing and Materials (ASTM), Americans with Disabilities Act, and Consumer Products Safety Commission standards.
- G. *Neighborhood Park and Trail Maintenance.* The developer of a development that includes the neighborhood park and/or trail shall be required to maintain and pay taxes on the neighborhood park(s) at no expense to the County, or convey such park(s) to a nonprofit homeowners' association; community development district; or open space trust. Neighborhood park(s) and trails must be continuously maintained in a safe manner and consistent with safety standards established by the Consumer Product Safety Commission and ASTM, where applicable. If a homeowners' association, community development district, or open space trust is formed, the developer shall provide documentation acceptable to the County demonstrating that such organization is governed according to the following:
1. The organization is organized by the developer and operating with financial subsidization by the developer, if necessary, before the sale of any lots within the development.
  2. Membership in the organization is mandatory for all purchasers of dwelling units therein and their successors.
  3. The organization shall be responsible for maintenance of and insurance and taxes on the neighborhood park(s).
  4. The members of the organization shall share equitably the costs of maintaining and developing neighborhood park(s) in accordance with procedures established by them.
  5. The organization shall have or hire adequate staff to maintain the neighborhood park(s).
  6. In the event that the organization established to own and maintain the neighborhood park(s) or any successor organization shall at any time fail to maintain the neighborhood park(s) in reasonable order and condition, the County may serve written notice upon such organization and upon the residents and owners of the development setting forth the manner in which the organization has failed to maintain the neighborhood park(s) in reasonable condition. The said notice shall include a demand that such deficiencies of maintenance be cured within 30 days thereof. If the deficiencies set forth in the original notice shall not be cured within the said 30 days or any extension thereof, the County, in order to preserve the taxable values of the properties within the development and to prevent the neighborhood park(s) from becoming a public nuisance, may, upon approval by the Board of County Commissioners at a public hearing, enter upon the said neighborhood park(s) and maintain the same for any duration deemed appropriate by the County. The said entry and maintenance shall not vest in the public any rights to use the neighborhood park(s) and shall not cause the County to incur any liabilities or obligations related to such neighborhood park(s). The cost of such maintenance by the County, together with the cost of an insurance policy covering such maintenance (with the County as a named insured), shall be assessed ratably against the properties within the development that have a right of enjoyment of the neighborhood park(s)

and shall become a tax lien on the said properties. The County, at the time of entering upon the said neighborhood park(s) for the purpose of maintenance, shall file a notice of such lien in the Office of the Clerk and Comptroller of the county upon the properties affected by such lien within the development. Notwithstanding the foregoing, the County shall be under no obligation to maintain any neighborhood park and nothing herein shall preclude the County from exercising any other available legal remedy for the failure to maintain neighborhood park(s).

- H. *Alternative Standards.* Alternative standards that meet or exceed the intent and purpose of this section may be approved.

## APPENDIX D – FUNDING OPPORTUNITIES

| Program  | Agency                | Level   | Max Funding   | Match                  | Description   | Remarks   | Allowable Actions  |
|--|-----------------------|---------|---|------------------------|---|---|--|
| <b>Penny for Pasco</b>   | Pasco County          | Local   | Varies by project                                   | -                      | Penny for Pasco is a Local Government Penny Sales Tax (sale amount up to \$5,000) intended to fund economic development, public safety vehicles and equipment, conservation of land and natural resources, transportation infrastructure improvements, and enhancements for educational facilities. The program is expected to generate \$1 billion through 2039.   | Pasco County voters decided in the November 2022 General Election to renew the Penny for Pasco through 2039   | <ul style="list-style-type: none"> <li>Land and ROW acquisition</li> <li>Multi-modal needs studies</li> <li>Planning, design, and construction of multi-modal transportation improvements</li> </ul>   |
| <b>Pasco County Multimodal Mobility Fee Program</b>                                  | Pasco County          | Local   | \$627 million (est.) by 2045                        | -                      | Pasco County's mobility fee is a one-time capital charge to recover the proportionate cost of transportation improvements needed to serve the demand generated by new development projects. It funds mobility improvements to roads, mass transit, sidewalks, trails, and bicycle paths; pays for the impacts of new development; promotes infill development and discourages sprawl to focus infrastructure resources on the urban service boundary.   | -   | <ul style="list-style-type: none"> <li>Activities related to expanding the capacity of the transportation system</li> </ul>  |
| <b>Bipartisan Infrastructure Law (BIL) Surface Transportation Block Grant (STBG)</b> | FHWA                  | Federal | Varies by pass-through funding agency               | -                      | STBG provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects.  | 55% of a State's STBG apportionment is to be obligated to urbanized areas in proportion to their relative shares of the State's population:   | <ul style="list-style-type: none"> <li>Maintenance and restoration of existing recreational trails</li> <li>Projects to enhance travel and tourism</li> </ul>  |
| <b>Recreational Trails Program (RTP)</b>   | FHWA                  | Federal | \$500,00 (non-motorized)<br>\$2,500,000 (motorized) | 50:50, 60:40, or 80:20 | The federally funded Recreational Trails Program of the United States Department of Transportation's Federal Highway Administration (FHWA) provides competitive, matching-grant funds to renovate, develop, or maintain recreational motorized, nonmotorized, and mixed-use trails and trailside facilities.  | Greater points are given on the competitive application to those that can commit to a higher match.   | <ul style="list-style-type: none"> <li>Construction of new trails</li> <li>Maintenance and restoration/renovation of existing trails</li> <li>Development and rehabilitation of trailside, trailhead facilities, and trail linkages</li> </ul>   |
| <b>Land and Water Conservation Fund (LWCF) State and Local Assistance Program</b>    | National Park Service | Federal | Varies by pass-through funding agency               | Up to 50%              | Provides matching grants (up to 50%) to state, local and tribal governments to create and expand parks, develop recreation facilities, and further local recreation plans. Each year, funds are distributed to every U.S. state and territory using a population-based formula.   | -   | <ul style="list-style-type: none"> <li>Acquisition of land or water for outdoor recreation</li> <li>Development of new park and recreation facilities</li> <li>Redevelopment or renovation of existing park infrastructure to ensure it meets current standards</li> </ul>                                     |
| <b>Rebuilding American Infrastructure with Sustainability and Equity (RAISE)</b>     | USDOT                 | Federal | \$5 million minimum, up to \$45 million             | 20%                    | The Rebuilding American Infrastructure with Sustainability and Equity (RAISE) program helps urban and rural communities move forward on projects that modernize roads, bridges, transit, rail, ports, and intermodal transportation and make our transportation systems safer, more accessible, more affordable, and more sustainable.  | Projects located in a rural area, a historically disadvantaged community, or an area of persistent poverty may have a lower match requirement.  | <ul style="list-style-type: none"> <li>Planning, design, and construction of intermodal and non-motorized surface transportation projects</li> </ul>   |
| <b>Florida Forever Greenways and Trails Acquisition</b>                              | FDEP                  | State   | Varies by project                                   | -                      | The Office of Greenways and Trails receives 1.5 percent of Florida Forever money to acquire greenways and trails or greenways and trail systems. The purpose of the money is to "increase natural resource-based public recreational and educational opportunities, as measured by the miles of trails that are available for public recreation, giving priority to those that provide significant connections including those that will assist in completing the Florida National Scenic Trail." | To qualify, a project must be located within or adjacent to at least one opportunity segment on one or more of the Recreational Prioritization Maps contained in the Prioritization of Recreational Trail Opportunities for the State of Florida.                         | <ul style="list-style-type: none"> <li>Acquisition of land for the development of trails and greenways</li> </ul>  |
| <b>SUN Trail</b>   | FDOT                  | State   | Varies by project                                   | -                      | The SUN Trail program provides funding for the development of a statewide system of paved multi-use trails (SUN Trail network) for bicyclists and pedestrians, physically separated from vehicular traffic.   | Required to have location within the SUN trail network and be developed as a paved trail, be prioritized by the applicable jurisdiction(s), have a non-FDOT agency committed to providing the maintenance of the trail, and proof of consistency with local guiding plans | <ul style="list-style-type: none"> <li>Feasibility</li> <li>Preliminary and environmental planning</li> <li>Design</li> <li>Acquisition of real property/land/right-of-way (ROW)</li> <li>New construction</li> <li>Reconstruction or resurfacing of trail surfaces or bridges</li> <li>Maintenance</li> </ul> |
| <b>Florida Recreation Development Assistance Program (FRDAP)</b>                     | FDEP                  | State   | \$200,000   | -                      | This competitive, reimbursement grant program provides financial assistance for acquisition or development of land for public outdoor recreation. Eligible participants include all county governments, municipalities in Florida and other legally constituted local governmental entities with the responsibility for providing outdoor recreational sites and facilities for the general public.   | Application cycles open in August   | <ul style="list-style-type: none"> <li>Acquisition of land for public outdoor recreational purposes</li> <li>Development and/or renovation of land for public outdoor recreational purposes</li> <li>Construction and/or renovation of a public recreational trail.</li> </ul>                                 |



| Program                                      | Agency                                    | Level   | Max Funding  | Match | Description  | Remarks   | Allowable Actions   |
|--|---|---------|--|-------|--|---|---|
| <b>Coastal Partnership Initiative</b>        | Florida Coastal Management Program (FCMP) | State   | \$60,000 for construction habitat restoration, or land acquisition. \$30,000 for planning and design activities. | 100%  | Communities are encouraged to accommodate public access to coastal and marine resources while protecting fragile and overused environments. Access projects could include developing plans for land acquisition and management; developing site plans for nature trails; developing recreational surface water use policies; removing exotic species and restoring native species; and small-scale capital improvements such as dune walkovers, boardwalks, and canoe/kayak launches.  | No more than 50 percent of the match may be provided by a third party. Federal funds from any source may not be used as match for any financial assistance from the Coastal Partnership Initiative.   | <ul style="list-style-type: none"> <li>Construction projects</li> <li>Habitat restoration</li> <li>Invasive plant removal</li> <li>Land acquisition</li> <li>Planning</li> <li>Design</li> <li>Coordination activities</li> </ul>   |
| <b>Parks and Open Space Florida Forever</b>  | Florida Communities Trust (FCT)           | State   | Varies by project  | -     | These local land acquisition grant programs provide funding to local governments and eligible nonprofit organizations to acquire land for parks, open space, greenways and projects supporting Florida's seafood harvesting and aquaculture industries. The source of funding for Florida Communities Trust comes from Florida Forever proceeds.   | Development of trails are permitted on FCT sites and generally would not need a separate linear facility request.   | <ul style="list-style-type: none"> <li>Acquire land for conservation and recreation</li> </ul>  |
| <b>Trails Grant Program</b>                  | Rails to Trails Conservancy               | Private | \$5,000 to \$25,000  | -     | The RTC's Trail Grants program helps organizations and government agencies accelerate their trail network plans. The program is designed to support a broad spectrum of funding need categories that may otherwise be challenging to fund. Organizations and agencies that represent or serve low-income, or communities of color are strongly encouraged to apply.  | The project must serve or plan to serve multiple user types (e.g., bicycling, walking/hiking, horseback riding) and be considered a rail-trail, greenway, multi-use trail, or shared-use path. Preference will be given to projects that commit to increasing equitable access to trail networks. | <ul style="list-style-type: none"> <li>Project vision</li> <li>Coalition building</li> <li>Gap-filling strategy</li> <li>Mapping and analytics</li> <li>Investment strategy</li> <li>Engagement</li> </ul>  |
| <b>Doppelt Family Trail Development Fund</b> | Rails to Trails Conservancy               | Private | \$10,000 to \$30,000   | -     | The Project Transformation Grant is intended to have a substantial impact on an organization's ability to complete a significant trail development or improvement project. These funds, where appropriate, will serve as a catalyst to start such large projects and could be used to leverage other funding sources through matching opportunities.   | Projects on rail-trails and rails-with-trails will be given preference, rail-trail designation is not a requirement. However, the trail must serve or plan to serve multiple user types and be considered a trail, greenway, multi-use trail or shared-use path.                                  | <ul style="list-style-type: none"> <li>New trail construction</li> <li>Trail facility/infrastructure (e.g., trailheads, bathrooms)</li> <li>Land acquisition</li> <li>Trail signage</li> <li>Improvements to existing trails</li> <li>Significant maintenance tasks</li> </ul>  |
| <b>Powerful Communities</b>                  | Duke Energy                               | Private | \$20,000   | -     | Duke Energy has identified three focus areas that grants can be applied to, these include developing vibrant economies, climate resiliency, and justice, equity, and inclusion. To qualify for funding consideration applicants must meet the following to qualify for funding: <ul style="list-style-type: none"> <li>Have current tax-exempt status as a public charity under Section 501(c)(3), be a government entity, including school systems.</li> <li>Be a community served by Duke Energy</li> <li>Serve communities without discrimination against any individual on the basis of race, creed, gender, gender identity, age, sexual orientation, or national origin</li> <li>Have a method by which to measure, track, and report one or more program outcome and specific results that demonstrate measurable community impact</li> </ul> | Focus areas include but are not limited to the workforce, the environment, economic development, climate change, and justice, equity, and inclusion.  | <ul style="list-style-type: none"> <li>Providing access to green space in historically underserved and environmental justice communities</li> <li>Projects supporting land conservation, clean water, and biodiversity of plants and animal species</li> <li>Environmental resiliency projects to prepare for and mitigate effects of climate change</li> </ul> |
| <b>Energize the Environment</b>              | Quadratrec Cares                          | Private | \$3,500  | -     | Offers two \$3,500 environmental grants per year, one in the spring and fall to an individual or group currently pursuing a program or initiative designed to benefit the environment. Applicants must submit a 1,000 – 1,600 word essay that paints a picture of who the organization is and what they are trying to accomplish along with how the grant money will be spent.   | Any individual, group, or organization in the U.S. who has a love for all things environmental, and has an idea or event designated to help improve the environment is eligible.  | <ul style="list-style-type: none"> <li>Trail building and restoration</li> <li>Park beautification</li> <li>Litter prevention</li> <li>Sustainable land management activities</li> <li>Community environmental education projects</li> <li>Youth education engagement events</li> </ul>   |

| Program                        | Agency   | Level   | Max Funding         | Match | Description   | Remarks   | Allowable Actions   |
|--------------------------------|--|---------|---------------------|-------|---|---|---|
| <b>Trail Accelerator Grant</b> | International Mountain Biking Association (IMBA) | Private | \$5,000 to \$10,000 | 100%  | Trail Accelerator grants provide a jump-start to communities that have the interest and political support to develop trail systems but need assistance to get projects up and running. A Trail Accelerator grant offers awardees professional trail planning and consultation services to launch their trail development efforts, which can often leverage additional investment from local, regional, and national partners. | Higher preference will be given to projects that demonstrate a focus on diversity, equity, and inclusion.   | <ul style="list-style-type: none"> <li>Trail planning and design</li> </ul>   |
| <b>Community Change Grants</b> | America Walks                                    | Private | \$1,500             | -     | The Community Change Grants program supports the growing network of advocates, organizations, and agencies working to advance walkability. Grants are awarded to innovative, engaging, and inclusive programs and projects that create change and opportunity for walking and movement at the community level.  |   | <ul style="list-style-type: none"> <li>Projects that demonstrate increased physical activity, active transportation, work to engage people and organizations new to walkability efforts and include inclusive health and design.</li> </ul> |
| <b>Outride Fund</b>            | Outride  | Private | \$15,000            | 100%  | Through dollar-for-dollar matching grants, the Outride Fund supports projects related to youth cycling, including education, youth rider development, bike-cooperatives, earn-a-bike programs, and trail / bike park / pump track projects.   | Applicants will need to begin a campaign to raise money for their project through Classy Campaign. Outride will provide a 100% match to all funds raised up to \$15,000 | <ul style="list-style-type: none"> <li>Development of bike facilities and amenities</li> </ul>  |

\*Pass through grants—Funds issued by a federal agency to a state agency or institution that are then transferred to other state agencies, units of local government, or other eligible groups per the award eligibility terms, often based upon population size of the jurisdiction.



