



US 90 Multi-Use Trail Feasibility Study

Capital Region Transportation Planning Agency
April 2022

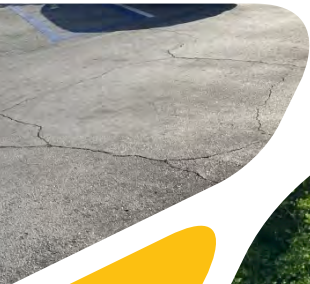




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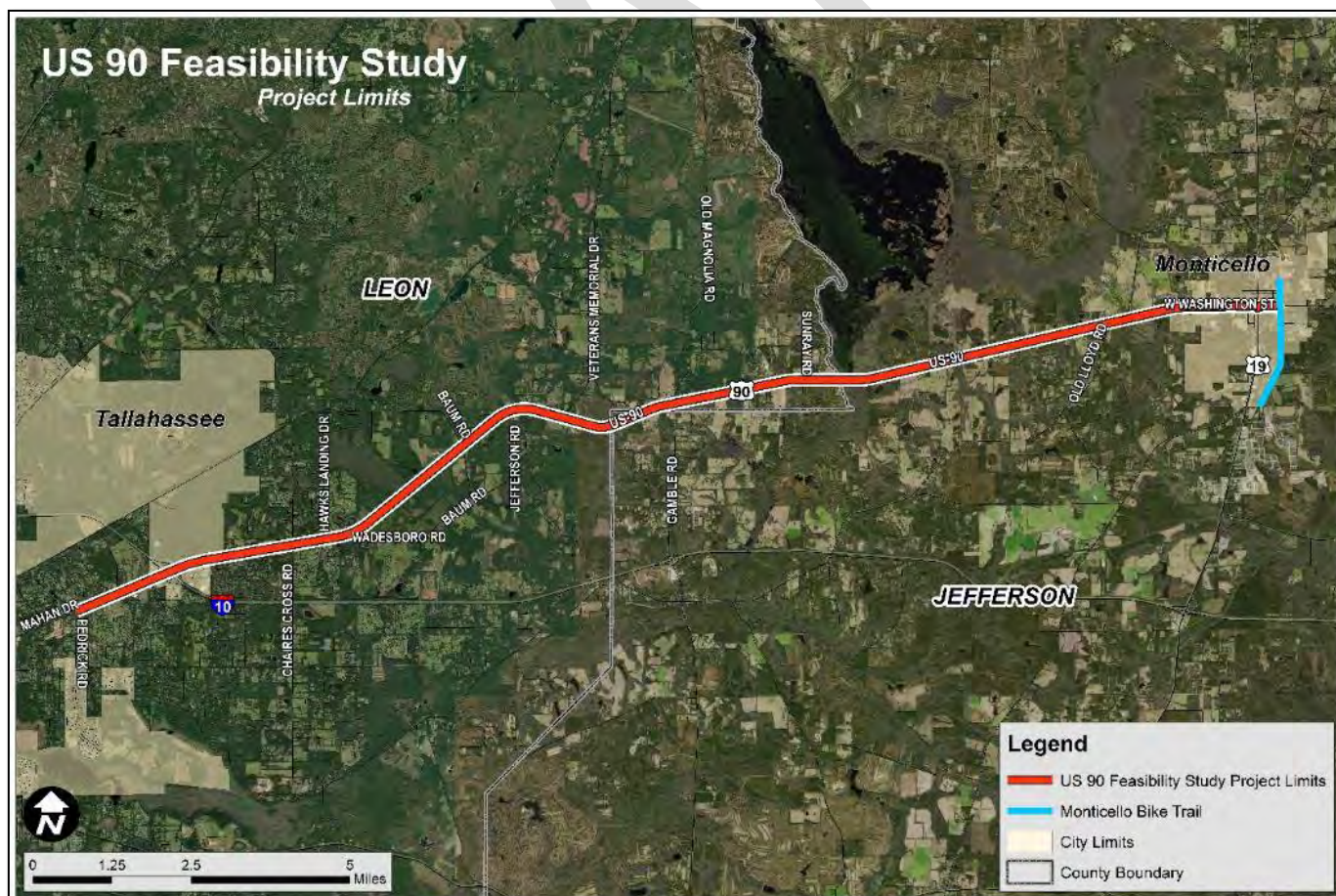
Introduction

The US 90 (Mahan Drive) corridor connects Tallahassee to Monticello and is recognized as a scenic rural corridor. Over the years, the use of this corridor by bicyclists has become increasingly popular. This feasibility study determined the practicality of constructing a multi-use trail between Pedrick Road in Leon County and the existing Monticello Bike Trail in downtown Monticello. Leon County and Jefferson County have existing trails and multimodal facilities making the connection between these two municipalities both significant and logical. This trail is identified by both the Florida Department of Environmental Protection (FDEP) in their Land Trail Priorities and by the Florida Department of Transportation (FDOT) as a high-priority paved trail corridor in its Shared-Use Nonmotorized (SUN) Trail network. This trail will contribute to the expanding regional trail network in the capital region by adding a total of approximately 21 miles. **Figure 1** shows the project study limits.



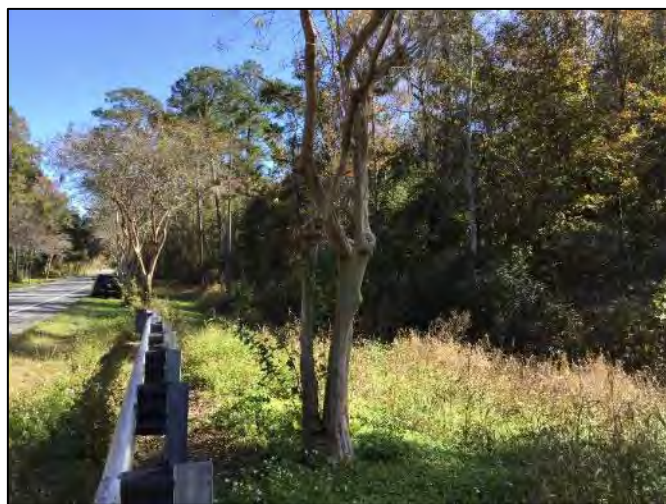
US 90 in Jefferson County

Figure 1. Project Limits



Primary Objectives

This study was developed to evaluate the feasibility of constructing a paved multi-use trail up to 12 feet wide within Florida Department of Transportation (FDOT) right-of-way along US 90 between Pedrick Road in Leon County and the Monticello Bike Trail in Jefferson County. It examined existing conditions to determine potential trail routes for connecting Tallahassee to Monticello via the US 90 corridor to create multimodal opportunities for non-motorized users. As noted previously, the trail is included in both the Florida Department of Environmental Protection (FDEP) in their Land Trail Priorities and by the Florida Department of Transportation (FDOT) as a high-priority paved trail corridor in its SUN Trail network. A trail along US 90 would provide a critical connection to the SUN Trails Regional Trail Network between existing and planned facilities in both local municipalities. The objectives of this study are shown in **Figure 2**. Additionally, a map showing the Land Trail Priorities identified by FDEP is shown in **Figure 3**, and a map of FDOT's SUNTrails program is shown in **Figure 4** to show the importance of this project to the state-wide trail network.



US 90 roadside in Jefferson County

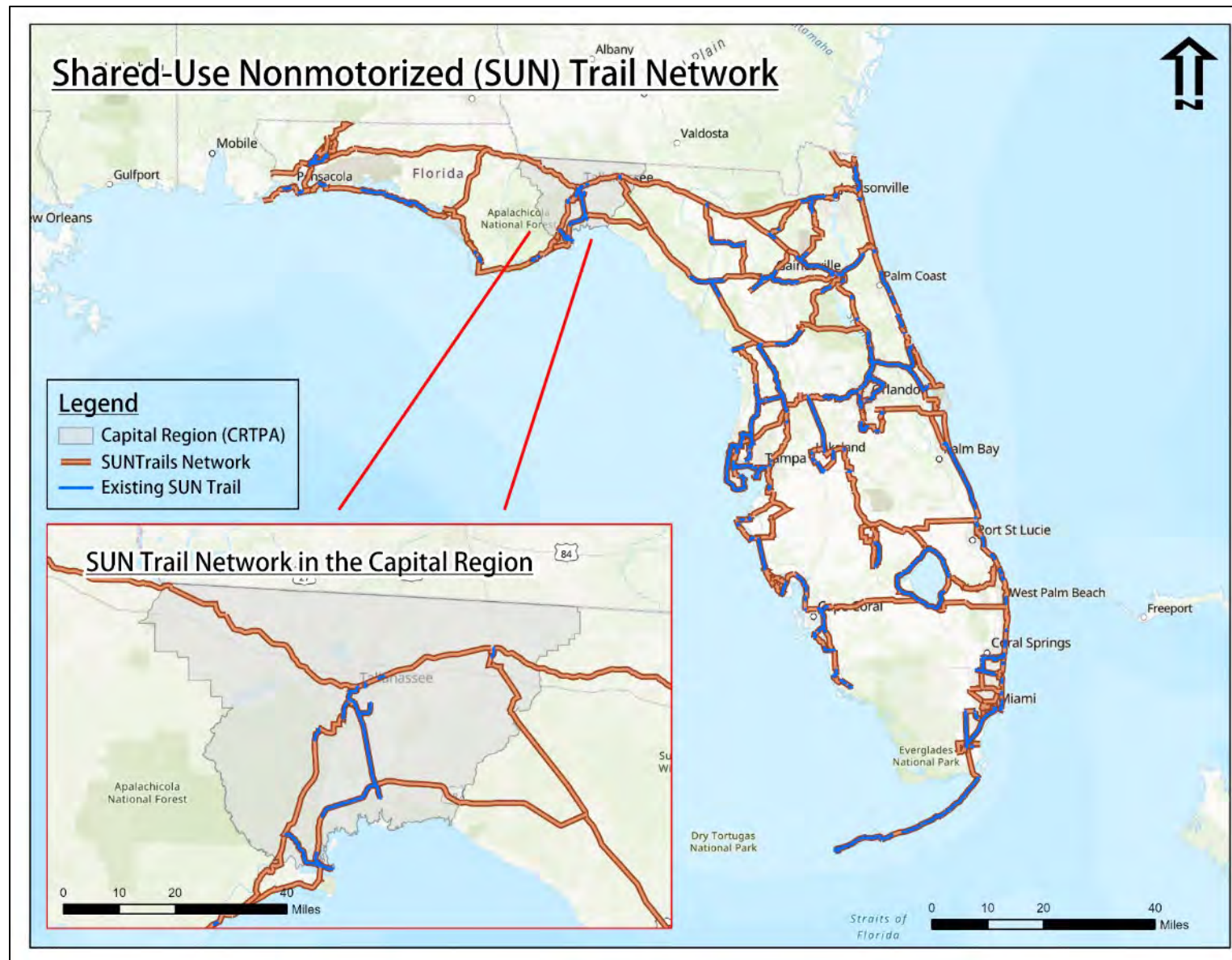
Figure 2. Project Goals



Figure 3. FDEP Land Trail Priorities Map



Figure 3. FDOT SUNTrails Network – Statewide Map (FDOT, 2021)



Project Approach

In order to determine the feasibility of a multi-use trail along US 90, existing conditions were reviewed through both field review and desktop analysis, including geographic information systems (GIS) and field verification. Both the north and south side of the corridor were evaluated. In an effort to make detailed observations along the 21-mile-long study corridor, US 90 was broken into several segments.

The segments are shown in **Figure 5** and are as follows:

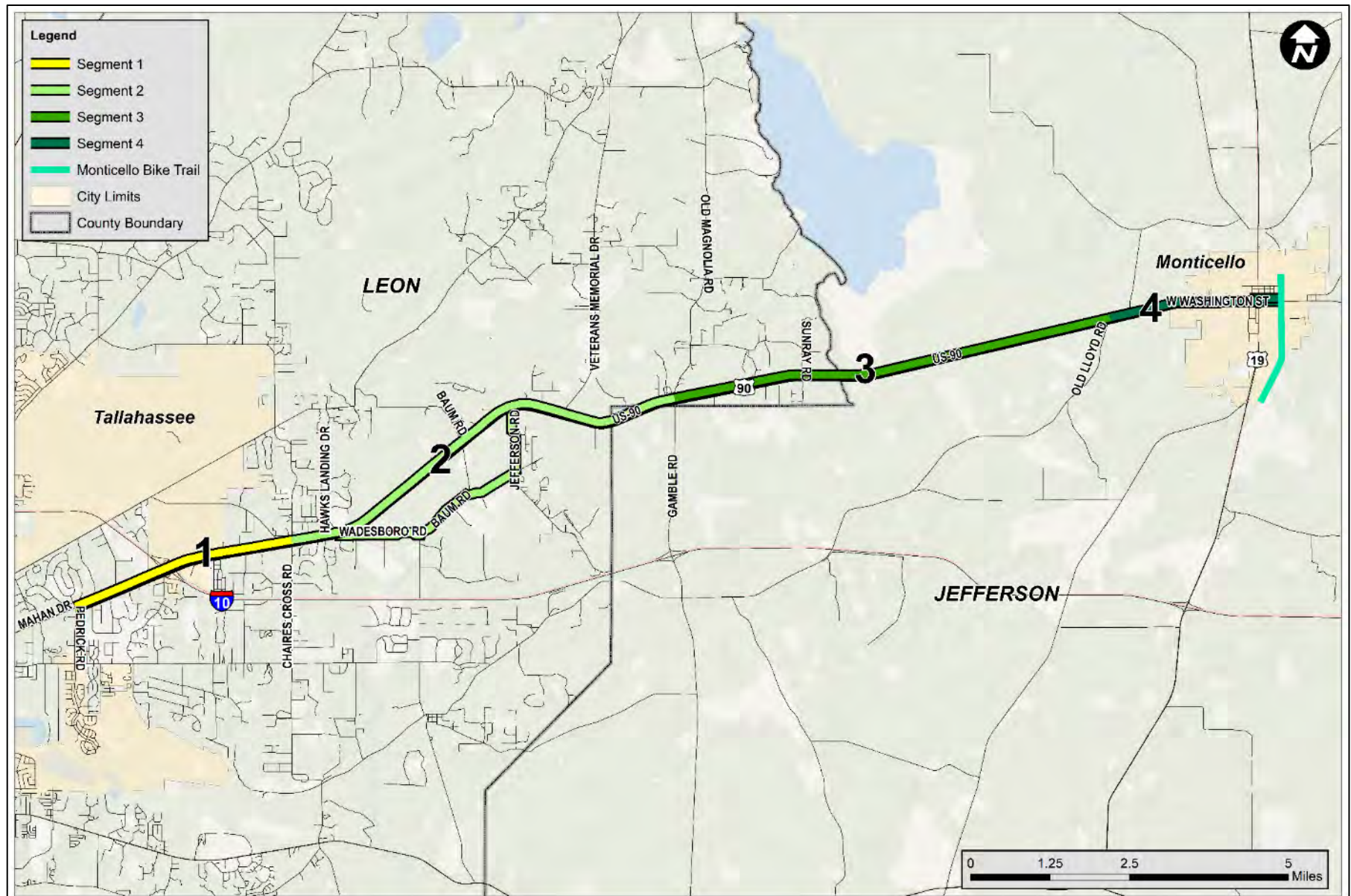
- Segment 1: Pedrick Road to Chaires Cross Road
- Segment 2: Chaires Cross Road to Old Magnolia Road
- Segment 3: Old Magnolia Road to Old Lloyd Road
- Segment 4: Old Lloyd Road to Monticello Bike Trail

Relevant data was collected and analyzed to determine challenges, opportunities, and potential solutions to trail construction. Stakeholder engagement was then conducted with business owners and local representatives to gauge interest and identify possible routes for trail alignment. Public involvement efforts occurred after initial data collection to allow the surrounding communities and general public an opportunity to share their opinions and give feedback on the proposed routes. Additional recommendations and trail design standards were also developed to provide further guidance.



US 90 in Jefferson County

Figure 4. US 90 Feasibility Study Project Area Segments



Existing Conditions

In identifying feasible routes for a multi-use trail along US 90, the following existing spatial data was collected and reviewed:

Table 1. Data Sources

<i>Data</i>	<i>Source</i>	<i>Year</i>
Average Annual Daily Traffic (AADT), Number of Lanes, Lane Widths, Speed Limit, Functional Classification, Existing Multimodal Facilities, Bridge Locations	<i>Florida Department of Transportation (FDOT)</i>	2019
Signal Four Analytics Crash Data	<i>University of Florida GeoPlan Center</i>	2015-20
Preliminary Right-of-Way	<i>Florida Department of Transportation (FDOT), Leon County Property Appraiser, Jefferson County Property Appraiser</i>	Various
Cultural Structures, Bridges, Cemeteries	<i>State Historic Preservation Office (SHPO) via Florida Geographic Data Library (FGDL)</i>	2019
Land Use	<i>Florida Geographic Data Library (FGDL)</i>	2020
FEMA Flood Zones	<i>Federal Emergency Management Agency (FEMA) via FGDL</i>	2019
Wetlands	<i>National Wetlands Inventory (NWI)</i>	2019-20
Species Data	<i>Florida Fish and Wildlife Conservation Commission (FWC), United States Fish and Wildlife Service (USFWS)</i>	Various
Elevation and Grade Data	<i>Florida Department of Environmental Protection (FDEP)</i>	2011

Transportation and Roadway Characteristics

The majority of the US 90 study corridor is a rural, two-lane highway with posted speeds ranging from 25 miles per hour to 55 miles per hour, and 5-to-7-foot paved shoulders. There are several intersections along the corridor, all having some level of stop control (signage); however, no signalized intersections exist east of Chaires Cross Road in Leon County. To promote safety, crosswalks consistent with nationally and state accepted standards will be needed where the trail crosses T-intersections and cross-intersections if ultimately constructed. The functional classification, posted speed limit, roadway characteristics, multimodal facilities, and Average Annual Daily Traffic (AADT) of each segment associated with this study were analyzed and are shown in **Table 2**. The Map ID below corresponds to the segments identified in **Figure 5**.

Table 2. Transportation and Roadway Characteristics for US 90 between Tallahassee and Monticello

Segment	Map ID	Functional Classification	Speed Limit	Roadway Characteristics	Multimodal Facilities	AADT*
Pedrick Road to Chaires Cross Road	1	Principal Arterial	Begins at 45 mph; increases to 55 mph west of Apex Drive	<ul style="list-style-type: none"> Transitions from four-lane bidirectional to two-lane bidirectional I-10 Interchange 12-foot travel lanes 5-to-6-foot paved shoulder east of I-10 Landscaped median with left-turn lane at key locations west of I-10 	<ul style="list-style-type: none"> 7-foot designated bicycle lanes on both sides until entrance at Summit East 5-6-foot sidewalks on both sides until entrance at Summit East 	13,000 - 21,000
Chaires Cross Road to Old Magnolia Road/Gamble Road	2	Principal Arterial – Interstate Rural	55 mph	<ul style="list-style-type: none"> Two-lane bidirectional 12-foot travel lanes 5-to-6-foot paved shoulder 	None	4,400 - 5,300
Old Magnolia Road/Gamble Road to Old Lloyd Road	3	Principal Arterial – Interstate Rural	55 mph	<ul style="list-style-type: none"> Two-lane bidirectional 12-foot travel lanes 5-foot paved shoulder 	None	3,700 - 4,400
Old Lloyd Road to Monticello Bike Trail	4	Principal Arterial – Interstate Rural	55 mph; drops to 45 mph at Pine Needle Trail; drops to 35 mph west of Felix Street; drops to 25 mph east of Mahan Drive	<ul style="list-style-type: none"> Two-lane bidirectional 12-foot lanes 5-to-7-foot paved shoulder, with on-street parking beginning east of Mahan Drive 	Transitions from no facilities to a 5-foot sidewalk on south side starting at Crooked Creek Lane, 5-to-7-foot sidewalk on north side beginning at Mahan Drive	4,700
*Source: FDOT, Florida Traffic Online (2019) https://tdaappsprod.dot.state.fl.us/fto/						

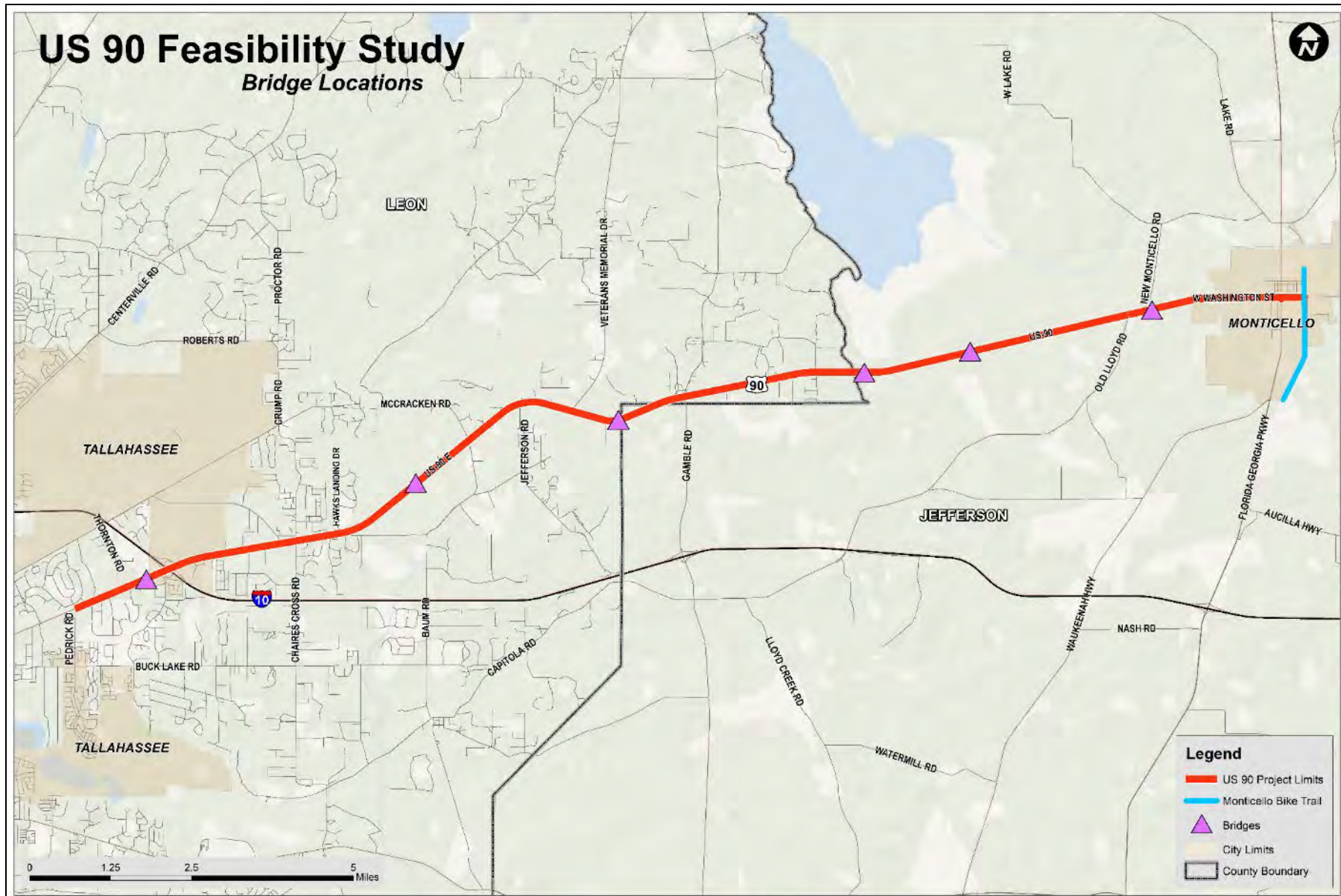
Additional roads adjacent to US 90 were also evaluated for accommodating a trail, which would offer an alternate route for the multi-use trail between Tallahassee and Monticello. These roads include Wadesboro Road, Baum Road, and Jefferson Road, as shown as Segment 2 in **Figure 5**. All these roads are located south of the US 90 corridor in Leon County. This opportunity will be described further in the **Routes Analysis** section. **Table 3** describes the transportation and roadway characteristics related to these alternate roads.

Table 3. Transportation and Roadway Characteristics for Alternate Roads

<i>Segment</i>	<i>Classification</i>	<i>Speed Limit</i>	<i>Roadway Characteristics</i>	<i>Multimodal Amenities</i>	<i>AADT*</i>
Wadesboro Road (From US 90 to Baum Road)	Minor Collector	30 mph	<ul style="list-style-type: none"> Two-lane bidirectional Residential 	None	N/A
Baum Road (From Wadesboro Road to Wadesboro Road)	Minor Collector	55 mph	<ul style="list-style-type: none"> Two-lane bidirectional 	None	700
Wadesboro Road (From Baum Road to Jefferson Road)	Minor Collector	Not posted	<ul style="list-style-type: none"> Two-lane bidirectional Residential 	None	N/A
Jefferson Road (From Wadesboro Road to US 90)	Minor Collector	45 mph	<ul style="list-style-type: none"> Two-lane bidirectional 	None	N/A
*Source: FDOT, Florida Traffic Online (2019) https://tdaappsprod.dot.state.fl.us/fto/					

Bridge locations were also determined through site reconnaissance and GIS data maintained by the Florida Department of Transportation (FDOT). There are six bridges along the corridor within the project study area where lakes, streams, or wetlands intersect with the roadway. Bridge locations are shown in **Figure 6**. In addition to bridges, smaller culverts are located along the project study area and these will be addressed in the future design phase of this project.

Figure 6. Bridge Locations (FDOT, 2019)



Right-of-Way

The availability of right-of-way (R/W) was measured along each segment using data provided by the Florida Department of Transportation (FDOT) from the I-10 Interchange to the Monticello Bike Trail on the west side of Monticello. Data was not provided for the segment from Pedrick Road to the I-10 Interchange, from east of Mahan Drive (City of Monticello) to the Monticello Bike Trail in Monticello, or for the alternate roads, prompting the project team to use property appraiser data for right-of-way approximations as needed. Based on this data, it was determined that right-of-way availability fluctuates greatly along US 90 within the project limits. Right-of-way estimates for each segment are detailed in **Table 4**, and for alternate roads in **Table 5**.

Table 4. Available Right-of-Way on US 90 Between Tallahassee and Monticello

<i>Segment</i>	<i>Total Approximate R/W*</i>
Pedrick Road to Chaires Cross Road	120 – 225 feet
Chaires Cross Road to Old Magnolia Road/Gamble Road	65 – 200 feet
Old Magnolia Road/Gamble Road to Old Lloyd Road	125 – 205 feet
Old Lloyd Road to Monticello Bike Trail	60 - 200 feet
<i>*Source: FDOT, Leon County Property Appraiser</i>	

Table 5. Available Right-of-Way on Alternate Roads

<i>Segment</i>	<i>Total Approximate R/W*</i>
Wadesboro Road (From US 90 to Baum Road)	56 – 70 ft.
Baum Road (From Wadesboro Road to Wadesboro Road)	80 ft.
Wadesboro Road (From Baum Road to Jefferson Road)	64 - 78 ft.
Jefferson Road (From Wadesboro Road to US 90)	60 – 67 ft.
<i>*Source: FDOT, Leon County Property Appraiser</i>	



Right-of-way along US 90, east of Chaires Cross Road

Available right-of-way on each side of the corridor varies. Both sides of the corridor are generally characterized by sufficient right-of-way to accommodate a 12-foot multi-use trail with appropriate buffers to adequately separate trail users from traffic. However, some specific areas are characterized by limited right-of-way, which is further constrained by obstacles located within that right-of-way, such as crepe myrtles. In addition to these constrained areas, the project team also identified three significant locations of note, which will require further analysis and are described in more detail in a later section of this report. These areas are shown in **Figure 7** and explained in **Table 6**. No significant barriers to trail construction related to right-of-way availability were observed during field

verification outside of these constrained areas and locations of note. These areas were largely avoided when proposing and evaluating different routes.

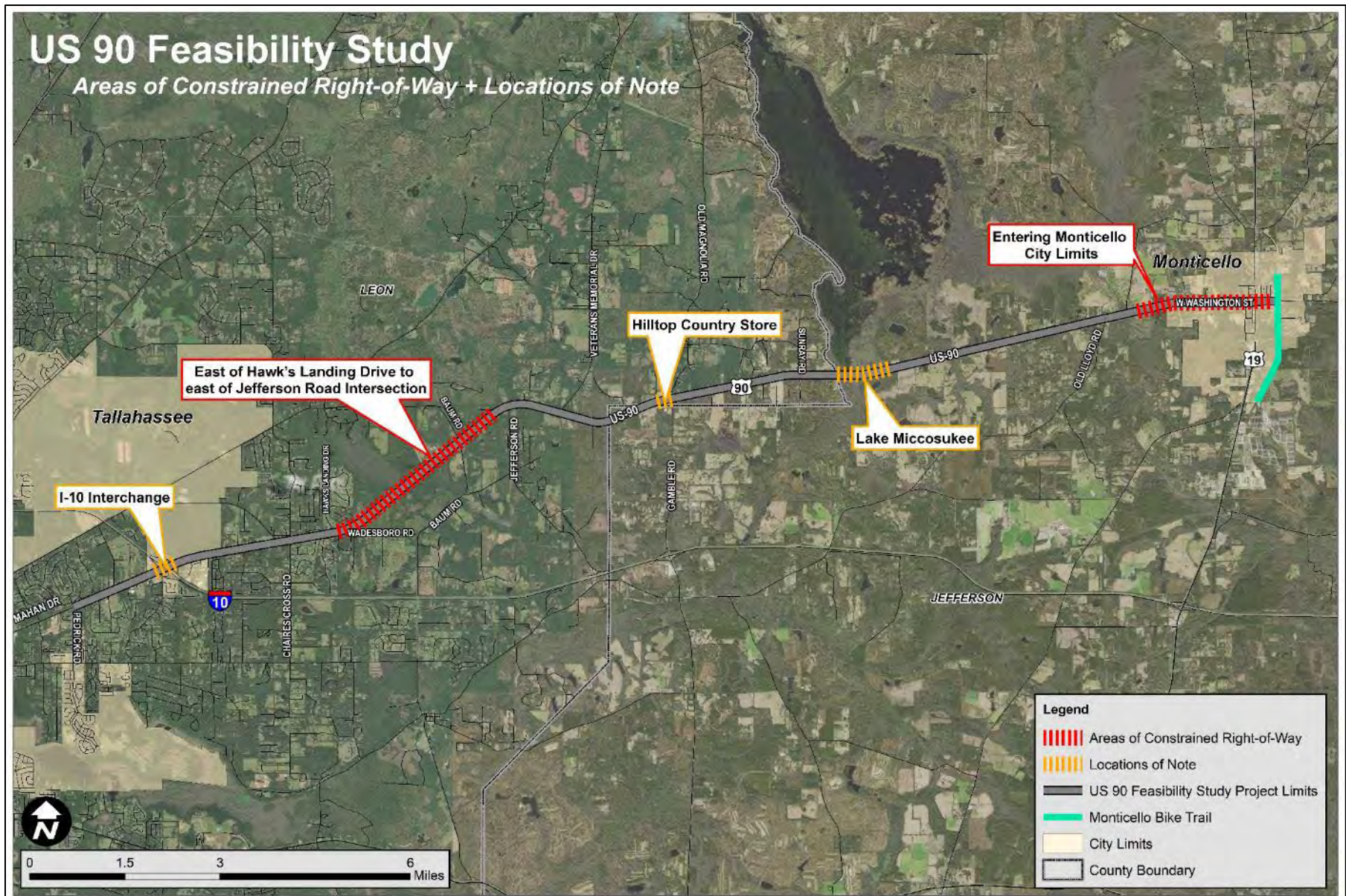
There are also several residential driveways located along both sides of the corridor. Each of the evaluated routes coincide with these driveways, and appropriate design guidelines should be followed to limit conflict between trail users and motorists, as well as preserve the established use of the driveway for property owners. These design opportunities include painted crosswalks, stop bars for motorists, and specific and unique signage to direct trail users appropriately.

Additionally, utility poles are located within right-of-way along both sides of the corridor. These utility poles were mapped for Leon County, but data for Jefferson County was not available during desktop analysis. These utility poles will likely be relocated or avoided altogether depending on right-of-way availability in each specific location.

Table 6. Areas of Constrained Right-of-Way and Locations of Note

<i>Areas of Constrained Right-of-Way</i>		
	<i>Constraints</i>	<i>Location along Corridor</i>
US 90 from Hawk's Landing Drive to east of Jefferson Road Intersection	Constrained right-of-way	North
Entering Monticello City Limits	Constrained right-of-way	Both
<i>Locations of Note</i>		
	<i>Constraints</i>	<i>Location along Corridor</i>
I-10 Interchange	Concerns of conflict between trail users and motorists due to on and off ramps and high speeds.	Both
Hilltop Country Store	Safety concerns due to parking lot and large trucks making deliveries	South
Lake Miccosukee	Potential for conflict between user types due to fishing pier and bridge on the north side of the corridor, presence of wetlands	North

Figure 7. Areas of Constrained Right-of-Way



Crashes

To understand previous and existing pedestrian and bicycles crash conditions along the corridor, Signal Four Analytics Crash data was obtained from 2015 to 2020 for the project from Pedrick Road to the Monticello Bike Trail. Signal Four Analytics data is maintained by the University of Florida GeoPlan Center, which includes crash records from several reporting agencies, including Leon County Sheriff's Office, Florida Highway Patrol, and Monticello Police Department. It is important to note that this data is unverified, and reflects an aggregation of several different data types, so while relatively accurate, some crashes may have been misreported. This data indicated that during the period evaluated, six (6) crashes involving pedestrians and two (2) crashes involving a bicyclist occurred along the project study area. The majority of crashes occurred within Leon County, with one reported on the eastern limits in Monticello, near the Monticello Bike Trail. **Table 7** below includes more details on each crash. The crash locations are also shown in **Figure 8**.

Table 7. Bicycle and Pedestrian Crashes along project study area, 2015-2020 (Signal Four Analytics)

<i>Crash Type</i>	<i>Date</i>	<i>Location</i>	<i>Fatality?</i>
Pedestrian	1/5/2015	Mahan Drive (US 90)	No
Pedestrian	7/14/2015	Mahan Drive (US 90)	No
Bicycle	3/28/2017	US 90 & near Wadesboro Road	Yes
Pedestrian	11/10/2019	Mahan Drive (US 90)	No
Pedestrian	12/7/2019	E. Washington Street (US 90)	No
Bicycle	2/23/2020	Mahan Drive (US 90) & Thornton Road	No
Pedestrian	4/6/2020	US 90 & Wadesboro Road	Yes
Pedestrian	5/6/2020	Mahan Drive (US 90)	No

During the Study's development, comments were received from members of the public expressing safety concerns related to the US 90/Baum Road intersection. Based upon these comments, a brief analysis of the intersection was conducted at this location using Signal Four Analytics. This analysis identified that there was a total of 14 crashes near this location from 2016 – 2021, none of which included incapacitating injuries or fatalities. The CRTPA has reached out to the FDOT to request that the location be reviewed for potential safety improvements

Land Use

The project study area passes through suburban outskirts of Tallahassee, rural areas, communities associated with both Leon County and Jefferson County, and the downtown area of Monticello. Several land uses exist along the project study area including:

- Agricultural
- Industrial
- Institutional
- Public/Semipublic
- Recreation
- Residential
- Retail/Office
- Vacant Residential
- Vacant Nonresidential



However, despite this variety of land uses, the majority of parcels located adjacent to US 90 are rural in nature, and include agricultural, residential, and vacant residential. Within the city limits of both Tallahassee and Monticello, retail/office, institutional, and public/semipublic parcels become more prevalent. An existing land use map is shown in **Figure 9**.

Grade and Elevation

The study area is characterized by rolling hills associated with the Red Hills Region, which covers parts of Leon and Jefferson counties as well as other surrounding counties. Elevation on the corridor ranges from approximately 220 feet at its highest point and to approximately 70 feet at its lowest point (Florida Department of Environmental Protection, 2011). Major drop offs into forested lowlands were identified in some locations, as well as sizable ascents. These features are typically not conducive to construction of a multi-use trail. However, the uniqueness of the elevation and the opportunities for scenic vistas could enhance the user experience through appropriate design features. These features will be evaluated in the design phase to ensure that trail design maintains these natural features while providing ADA compliance and opportunities for less-fit, less-skilled cyclists. If this project should move into design, this phase will also incorporate elements at key intersections by minimizing ascents and descents, and ensuring that ADA requirements are met. Specific design opportunities will depend on the route selected if the project proceeds to future phases.

Environmental Conditions

While many areas within the project limits are flanked on both sides by wetlands, trees, and natural areas, land immediately adjacent to the corridor has largely been altered for residential development or agricultural uses. Drainage swales are located throughout the study area. Property easements, conservation lands, and lakes are located adjacent to US 90, including Lake Miccosukee. Letchworth-Love Mounds State Park is also located just east of the corridor on Sunray Road East.

Flood Zones and Wetlands

The corridor and all associated alternate roads are located within Flood Zones A, AE, and X. The flood zones can be described as follows:

Flood Zone A – 1% annual chance of flooding without base flood elevations established

Flood Zone AE – 1% annual chance of flooding with base flood elevations established

Flood Zone X - .2% annual chance of flooding

These flood zones are not expected to be adversely impacted by any of the routes outlined in this study. In instances where flood zones are associated with existing wetlands, design modifications or routes such as constructing a boardwalk for the trail would likely be proposed to minimize impacts from construction and future use. Flood zones are shown in **Figure 10**.

National Wetlands Inventory (NWI) data maintained by the United States Fish and Wildlife Service (USFWS) was used to identify wetlands in the project area. Because the project study area is 21 miles in length, several wetlands traverse the corridor. Each of the routes will require that the project's design limit wetland impacts and foster continuity of the trail. A wetland evaluation will be conducted during the environmental phase of this project to determine specific requirements to mitigate wetlands impacts and project permitting. Wetlands are shown in **Figure 11**.

Species

Along the corridor, GIS data maintained by the Florida Fish and Wildlife Conservation Commission (FWC) indicated that no species of interest have been documented within the vicinity surrounding the corridor. However, this preliminary analysis indicated that the corridor is located partially within wood stork core

foraging areas and red-cockaded woodpecker consultation areas. One (1) wading bird rookery was also documented within 1,200 feet of the corridor; however, the rookery was determined to be inactive as of 1999. No eagles' nests are located along the corridor or within wooded areas adjacent to it according to the FWC Eagles Nest Locator Mapping Tool. No critical habitat for federally listed species was identified. Additional analysis will be necessary to identify the potential impact to species in the area based on the chosen route. This information is shown in **Figure 12**.

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Figure 8. Bicycle and Pedestrian Crashes 2015-2020 (Signal Four Analytics)

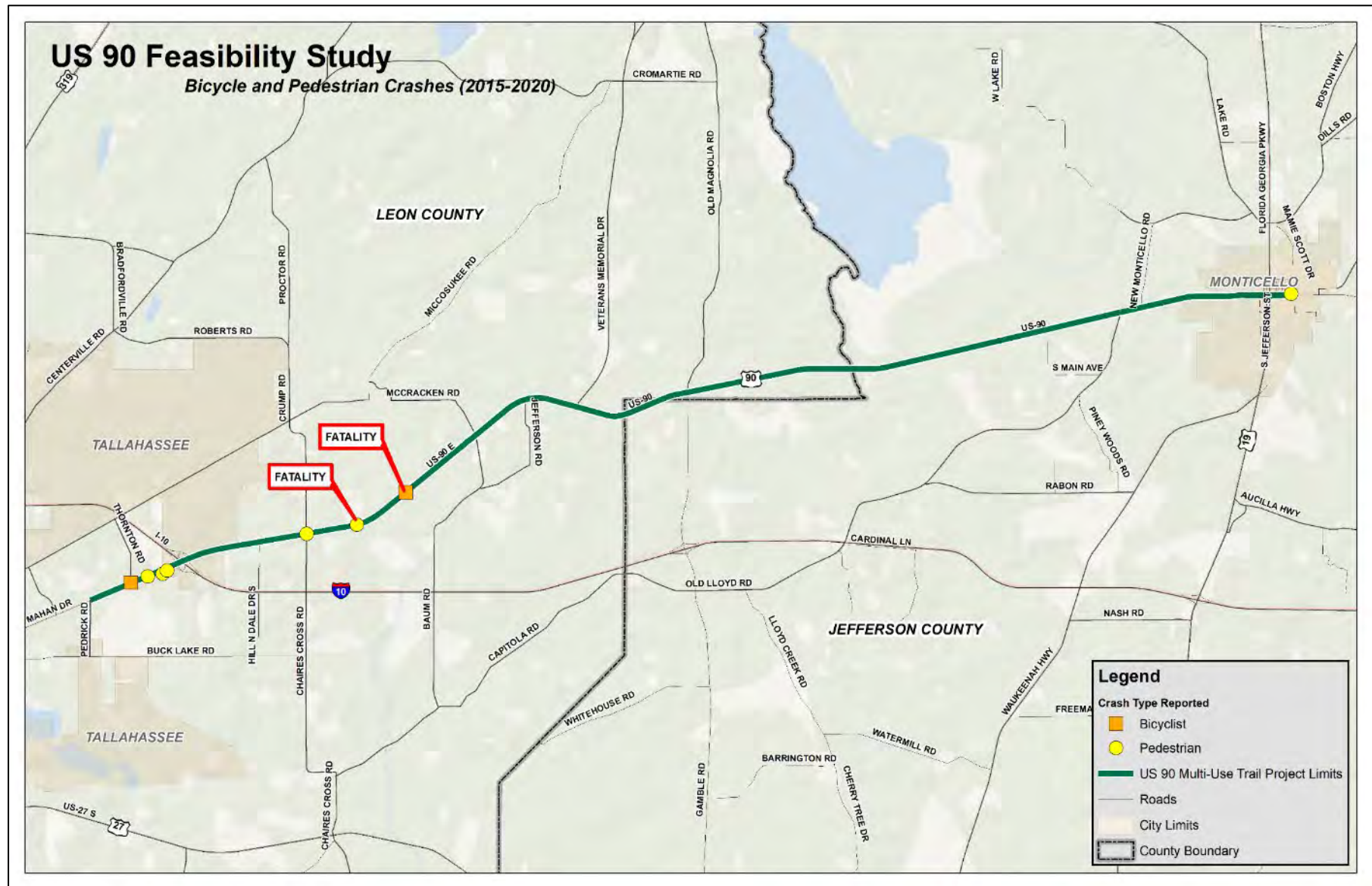


Figure 9. Existing Land Use

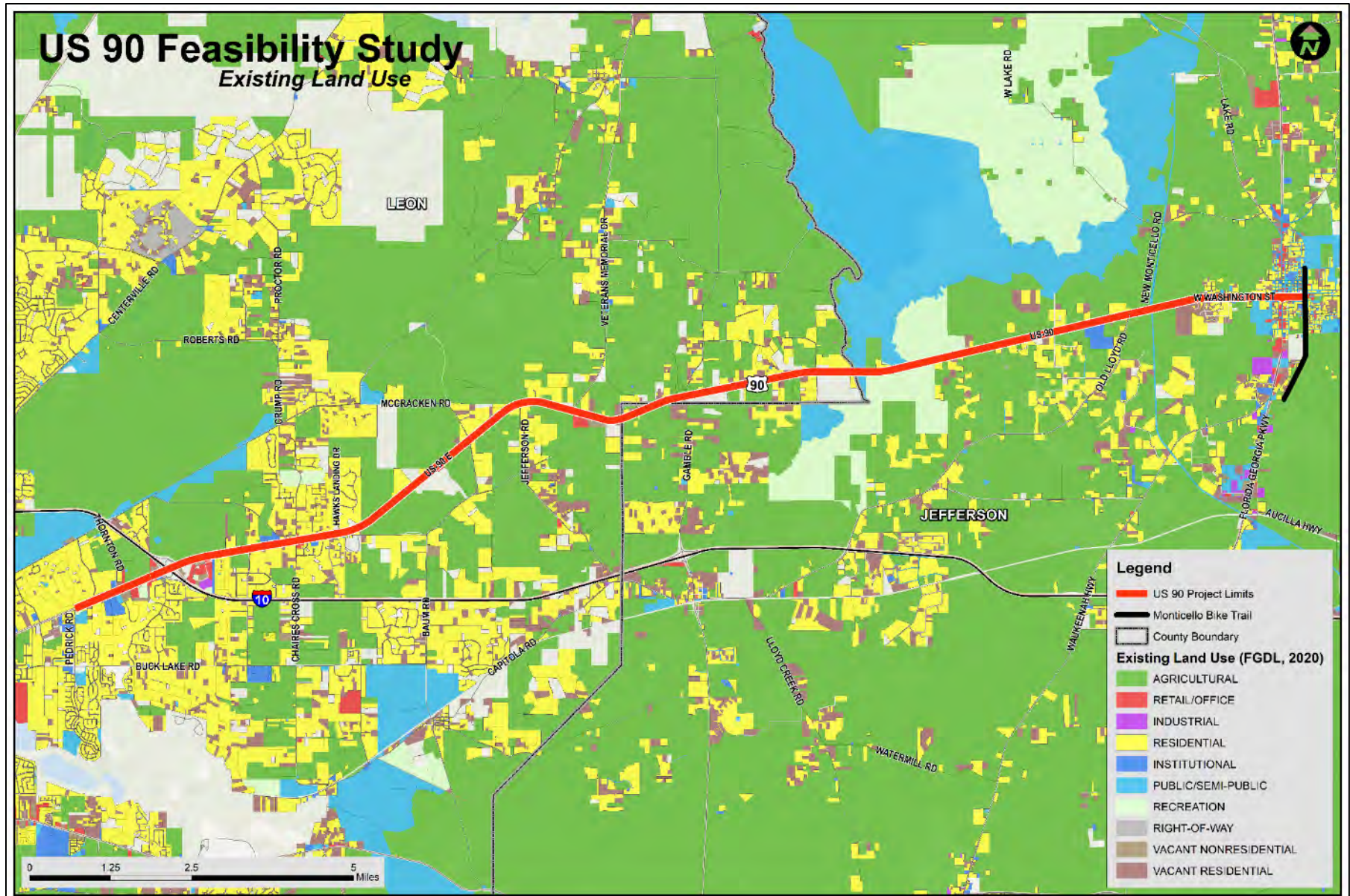


Figure 10. Flood Zones

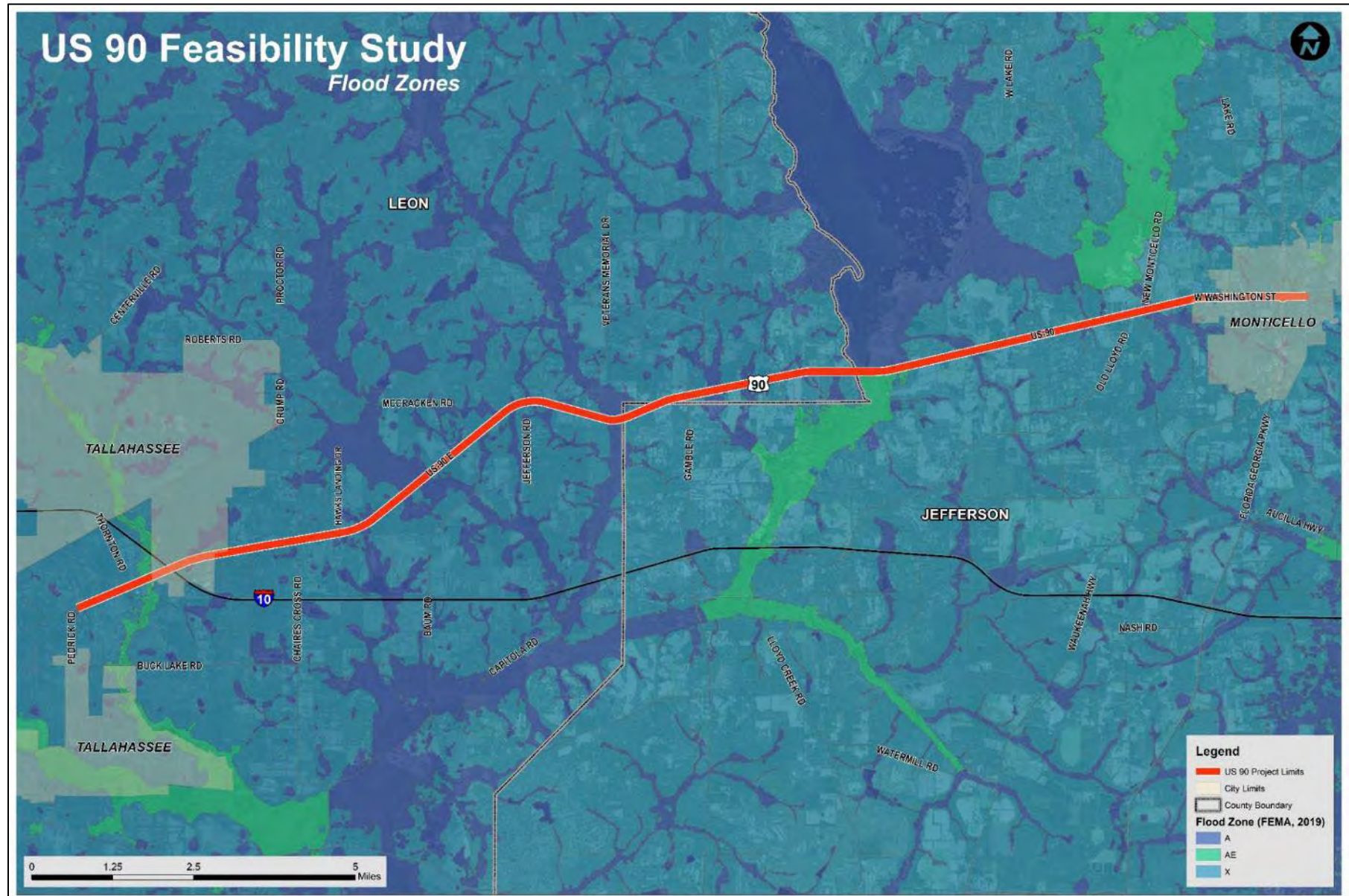


Figure 11. Wetlands

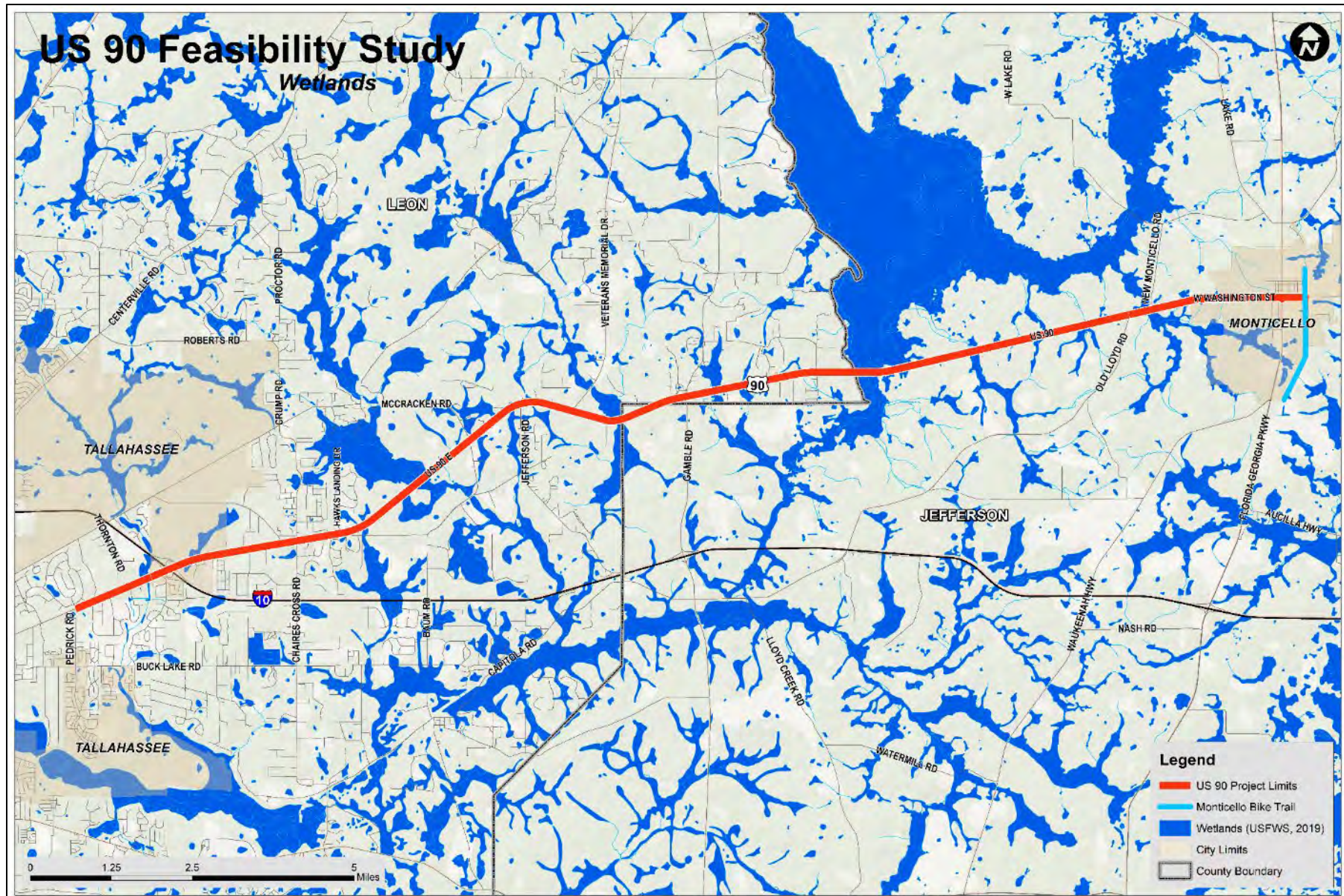
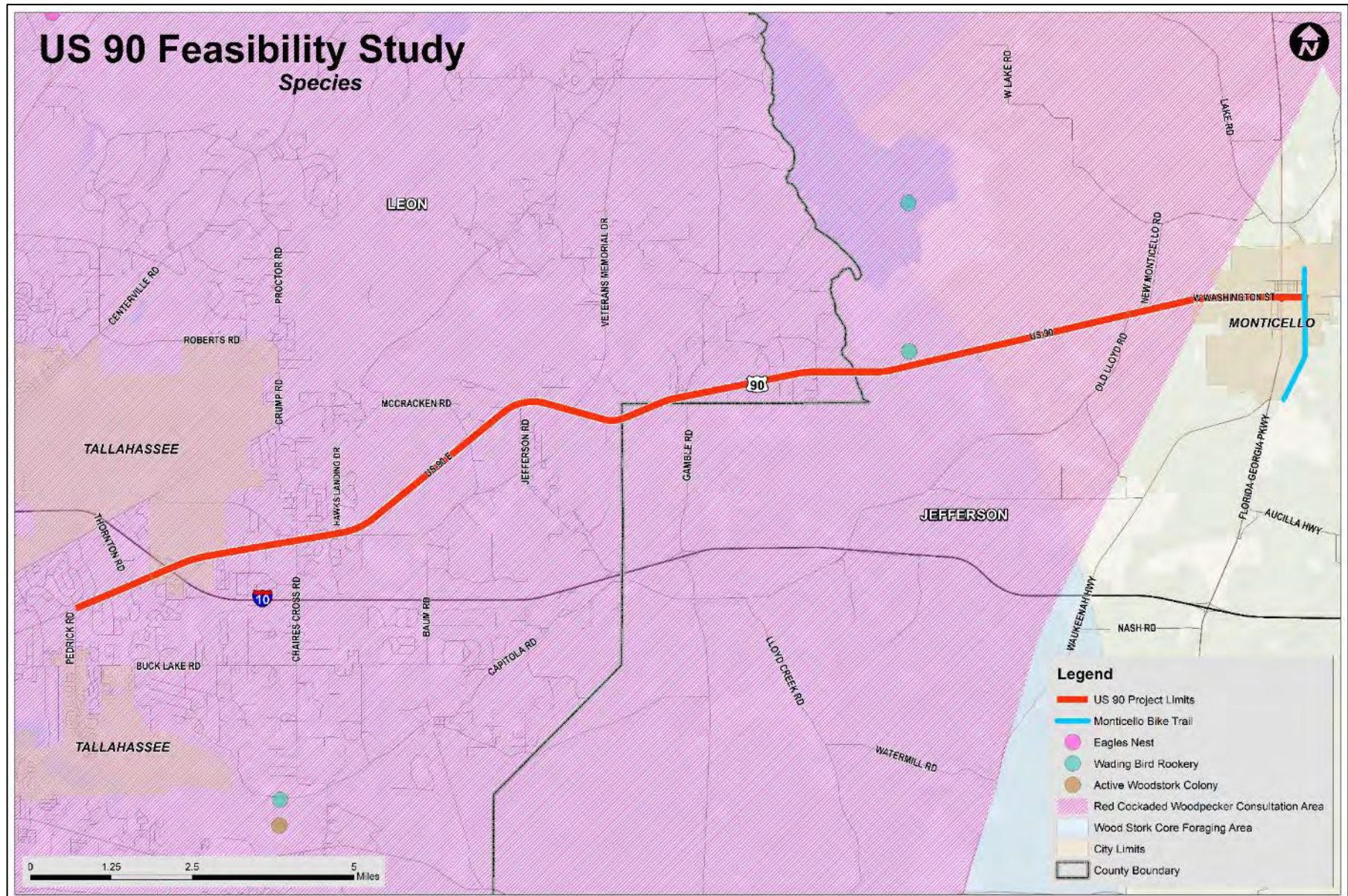


Figure 12. Species Map



Historic and Cultural Resources

Available State Historic Preservation Office (SHPO) data was mapped to locate any known historic or culturally significant resources near the corridor. Several historic resource groups and structures were identified between Pedrick Road and the Jefferson County Courthouse in downtown Monticello. **Table 8** shows all resources, structures, and districts that are eligible for National Register of Historic Places (NRHP) listing. Other structures and resource groups that have been identified by SHPO but have not yet been evaluated or are not eligible for listing are also located along the corridor, including property associated with the Welaunee Plantation near the I-10 Interchange. These sites are not listed in **Table 8**, but are shown in **Figure 13**. A Cultural Resource Assessment Survey (CRAS) will be completed during the environmental phase of this project to determine impacts to existing and potential SHPO resources and establish an Area of Potential Effects (APE).

Table 8. NRHP-Eligible Sites Along US 90

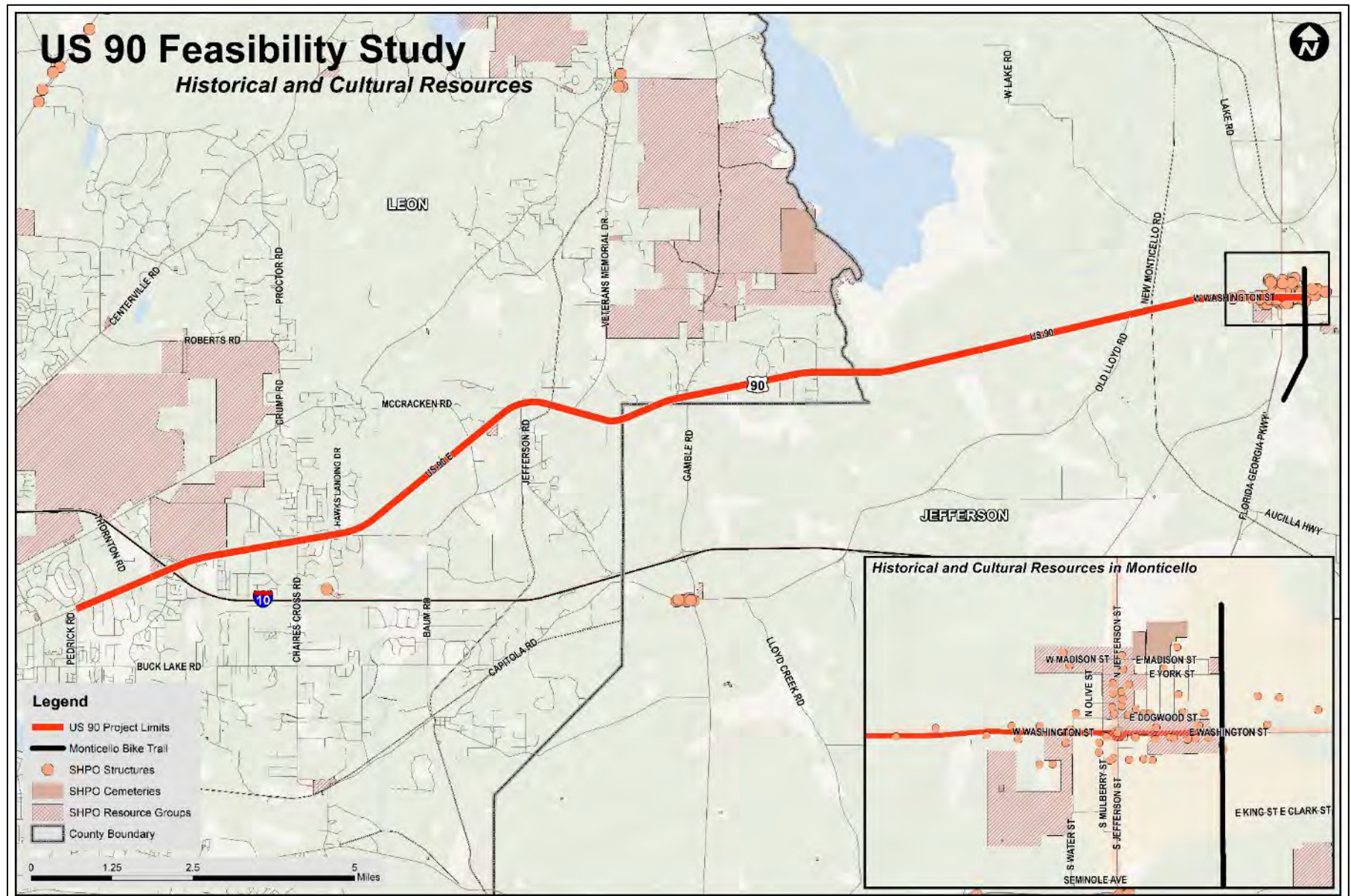
Site Number	Site Name	Type	County
LE04935	Billingsley Farm	Historical District	Leon
JE01479	Sattler-Boyd House	Structure	Jefferson
JE00586	Pasco House	Structure	Jefferson
JE00504	Mills House	Structure	Jefferson
JE00508	Finlayson-Kelly House	Structure	Jefferson
JE00498	Monticello High School	Structure	Jefferson
JE00395	Saint Margaret's Catholic Church	Structure	Jefferson
JE00129	Monticello Opera House	Structure	Jefferson
JE00560	Monticello Historic District	Historical District	Jefferson
JE00461	Jefferson County Courthouse	Structure	Jefferson
Source: State Historic Preservation Office (SHPO) via Florida Geographic Data Library (FGDL), 2019			

In addition to these sites identified by SHPO, crepe myrtles on US 90 in the study area have taken on historic and cultural significance. Some of these trees and other species of plants and shrubs were originally donated by local businessman and horticulturist Fred Mahan in the early 1930s. Additional crepe myrtles were planted in recent years between Tallahassee and Monticello, and while lacking historical significance, are equally valued by the public. Through coordination with the Tallahassee-Leon County Planning Department, and preliminary review of Jefferson County's Land Development Code regarding tree protection and native vegetation, it was determined that these crepe myrtles do not have any specific protections outlined by municipal, county, or state agencies. This is likely due to their location within established Florida Department of Transportation (FDOT) right-of-way. According to District Landscape employees for FDOT District 3, FDOT also has not outlined specific protections or regulations, but has demonstrated a commitment to preservation and conservation of the crepe myrtles through landscaping contracts and intentionally avoiding impacts when making repairs or additions to the corridor. This correspondence is included in the **Appendix**. All recommendations made in this report reflect these special considerations and will avoid impacts to the crepe myrtles as feasible.



Crepe myrtles along US 90

Figure 13. Historical and Cultural Resources



Connectivity

An existing trail network throughout the Capital Region creates opportunities for long-distance trips to other destinations in the region. Along US 90, this route allows connections to several destinations including Pedrick Pond, Lake Miccosukee, Letchworth-Love Mounds Archaeological State Park, public libraries in both Leon and Jefferson County, and numerous businesses and restaurants. Notable to the regional network, this segment of US 90 provides connectivity to the JR Alford Greenway in Tallahassee via bicycle lanes on Pedrick Road, which then allows a connection for cyclists to access Lafayette Heritage Trails and Tom Brown Park, and continue along the Goose Pond Trail and other on-road facilities as far as Cascades Park and the Capital Cascades Trail. This ultimately connects to the St. Marks Trail, which provides connections to the Coastal Trail, and other connections associated with the Capital City to the Sea Trails.

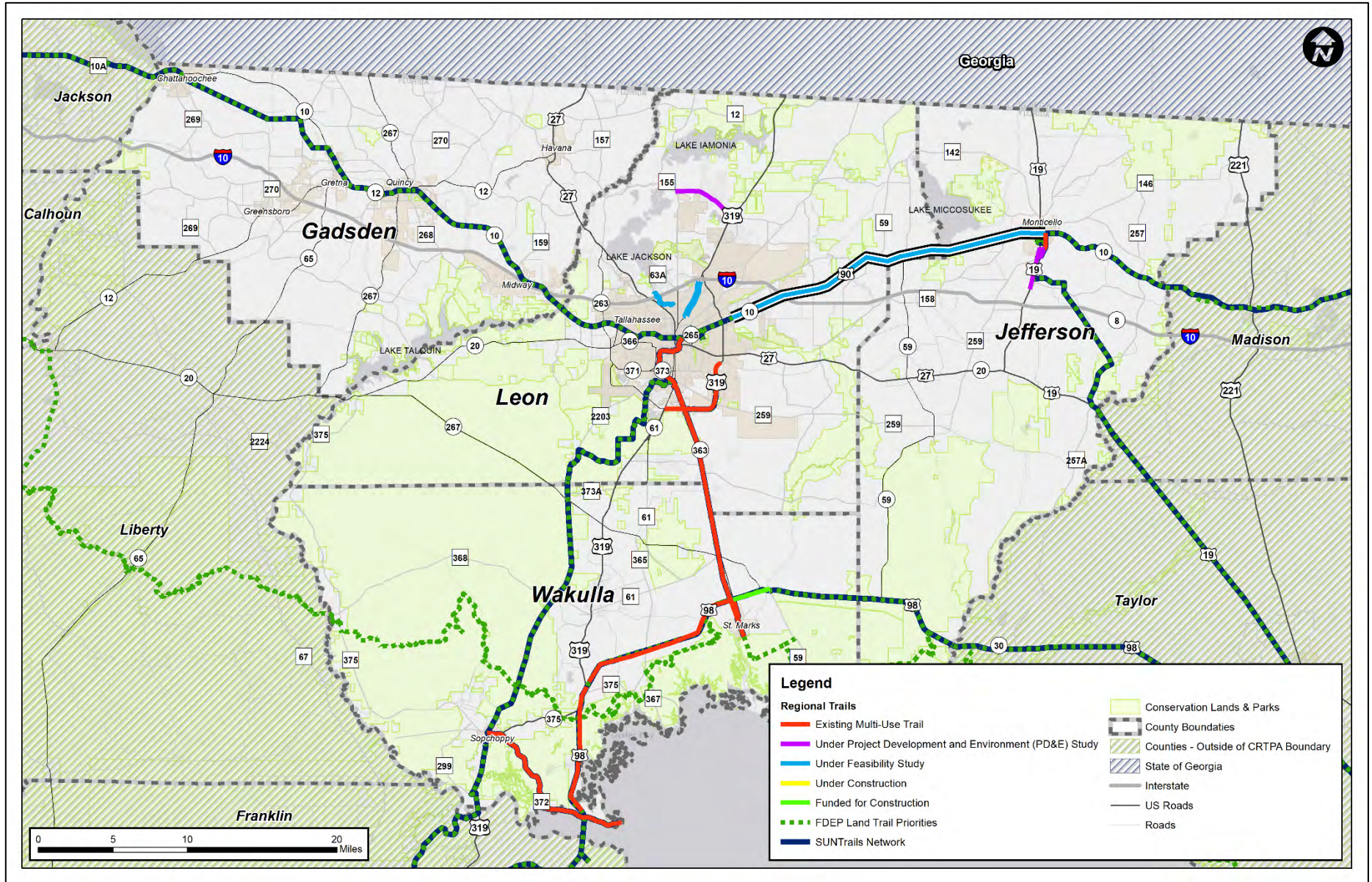
In Monticello, this segment of trail would connect to the existing Monticello Bike Trail, which includes a segment south of the existing trail that is in Project Development and Environment (PD&E) Study phase for extension to Jefferson County Middle/High School on US 19 south of town. Furthermore, as trail systems in the region are further extended, this segment of US 90 will provide connectivity between Jefferson County and trail systems in Leon and Wakulla County. By fall of 2022, the region will have more than 60 miles of planned multi-use trails within and connecting Leon County, Jefferson County, and Wakulla County. Regional trails and their current status are shown in **Figure 14**.



St. Marks Trail in Tallahassee, Florida



Figure 14. Regional Trails



Specific Locations of Note

Through the existing conditions analysis, several locations were identified as needing additional evaluation. These locations were characterized by constrained right-of-way, safety concerns for trail users, private property, and businesses nearby or within the existing right-of-way. If this project moves forward, additional analysis should be conducted, and design solutions developed to address some of these locations to accommodate a multi-use trail. **Table 9** lists these locations of note and includes the areas of constrained right-of-way identified previously in **Table 6**. This section will cover the major locations of note that are characterized by more than constrained right-of-way and will require additional design consideration, including the I-10 Interchange, Lake Miccosukee, and Hilltop Country Store.

Table 9. Locations of Note

<i>Constrained Area</i>	<i>Constraints</i>	<i>Location along Corridor</i>	<i>Discussed in this section?</i>
I-10 Interchange	Concerns of conflict between trail users and motorists due to on and off ramps and high speeds.	Both	X
US 90 from Hawk's Landing Drive to east of Jefferson Road Intersection	Constrained right-of-way	North	
Hilltop Country Store	Safety concerns due to parking lot and large trucks making deliveries	South	X
Lake Miccosukee	Potential for conflict between user types due to fishing pier and bridge on the north side of the corridor, presence of wetlands	North	X
Entering Monticello City Limits	Constrained right-of-way	Both	

I-10 Interchange

The I-10 Interchange intersects with US 90 in Leon County northeast of Walden Road, and is characterized by eight on and off ramps and an overpass as shown in **Figure 15**. Currently, the on and off ramps are not stop controlled and motorists merge on and off of the interstate at high speeds. The high number of on and off ramps and the uncontrolled high speeds of motorists present a significant safety challenge in providing a trail on US 90 in this area.

Coordination with FDOT has been ongoing to discuss possible design options to reduce the number of on/off ramps and accommodate a multimodal facility. Preliminary discussions identified some options that would be further explored with FDOT and the Federal Highway Administration (FHWA) in subsequent phases of this project. Additionally, during the course of this study it was announced that an Amazon fulfillment center will be constructed on the northwest quadrant of this interchange, north of US 90. This major development will likely impact traffic volumes and use of this existing interchange, which will influence the placement of this trail and opportunities for reconfiguring the interchange. Further analysis will be required to determine the feasibility of a trail in this area.

Despite this development, options for trail-specific infrastructure regarding the interchange are presented below. Due to the number of crossings needed, there are limited options for trail-specific infrastructure such as bridges, tunnels, or other structures, and costs were not analyzed further. However, two options exist to address the I-10 Interchange and accommodate a trail, which may ultimately be impacted by the new Amazon fulfillment center. If this is the case, other route options should be explored, such as directing the trail to Miccosukee Road via alternative low-volume roadways such as Miles Johnson Road to avoid the I-10 interchange and other Amazon related traffic altogether. It is recommended that in the event of an Interchange Modification, this option among others is further evaluated.

The options identified during this Feasibility Study are as follows:

Option 1: Construct crossings and facilities per the FDOT Design Manual

According to the FDOT Design Manual, interstates and interstate ramps are considered limited-access facilities and at-grade crossings and crosswalks are permitted at ramp terminals and signalized crosswalks (224.1.1 *Shared Use Trail Within Department Limited Access Right of Way*). For this option, the trail will need to be constructed on the southern side and includes the addition of signalized crosswalks at two on ramps and two off ramps. These crossings should be as close to the start of the ramp as possible, high-visibility, and include appropriate signage (as shown in the example photo to the left). This would include signage at the crosswalk and preceding it to give drivers advanced notice of the crosswalk. Trail users would be expected to stop before proceeding through the crosswalk. There are limited opportunities for crosswalk enhancements due to the purposes of the on and off ramps for merging onto and off of a highway. Under the interstate overpass that crosses over US 90, the trail will be constructed on the existing paved shoulder and will be separated from traffic by a physical barrier. The addition of specific signage per MUTCD recommendations and standards will be required. This option is shown in **Figure 16**.



Off-ramp crosswalk example in Jacksonville, FL

Option 2: Interchange Reconfiguration

This option calls for the removal of both the US 90 east and US 90 west loop off ramps as well as the eastbound on-ramp on the south side of the corridor. All other on and off ramps will remain but will be modified to include turn lanes and signalized intersections to slow traffic and prevent uncontrolled merging onto US 90. This reconfiguration will allow traffic to be accommodated. This option eliminates one of the four crossings associated with trail construction on the south side of the corridor and provides stop control that will slow and stop traffic and allow trail users to cross the ramps safely. This option is shown in **Figure 17**.



I-10 Overpass on US 90 (Leon County)

Figure 15. I-10 Interchange

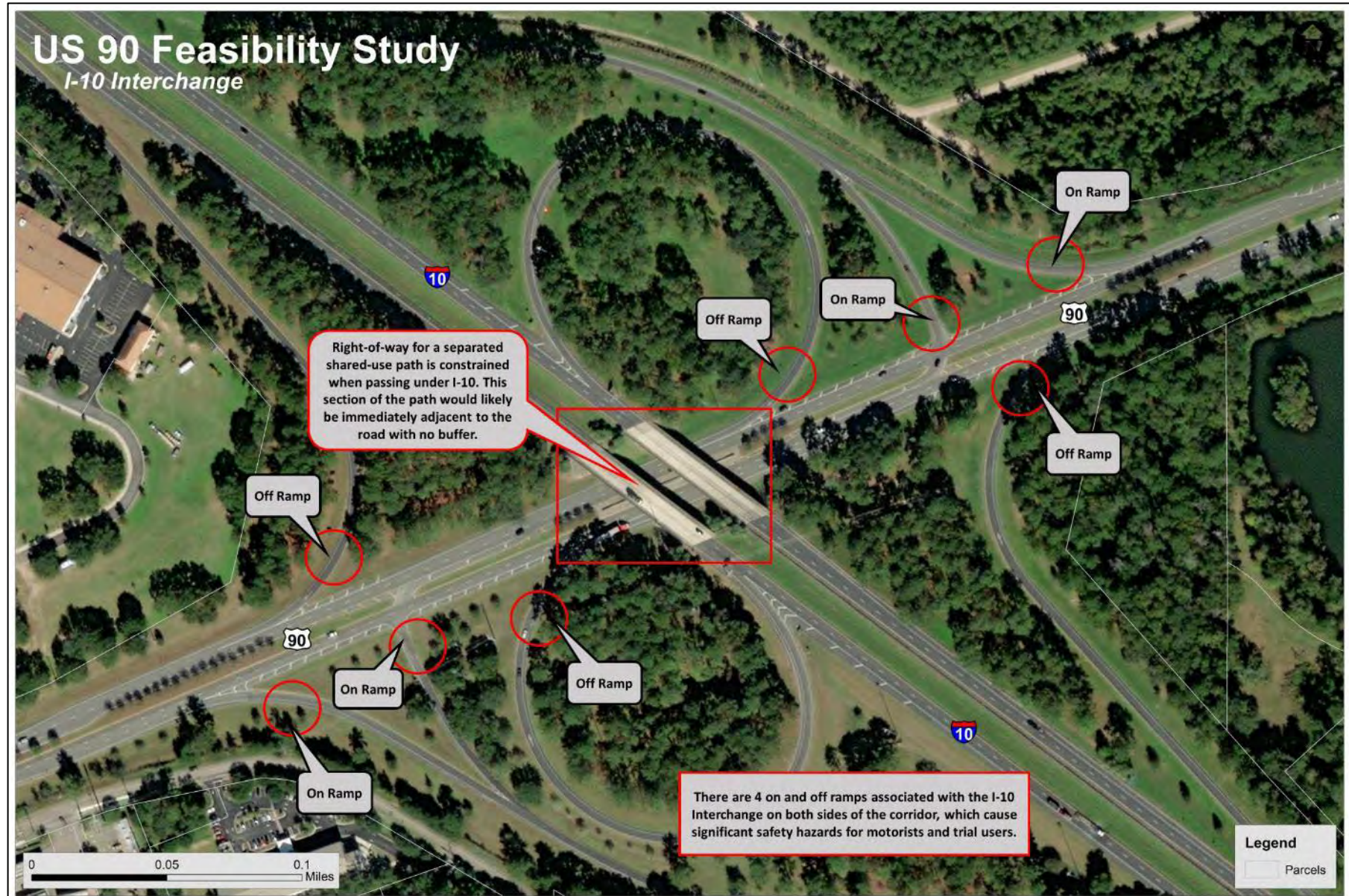


Figure 16. I-10 Interchange: Option 1

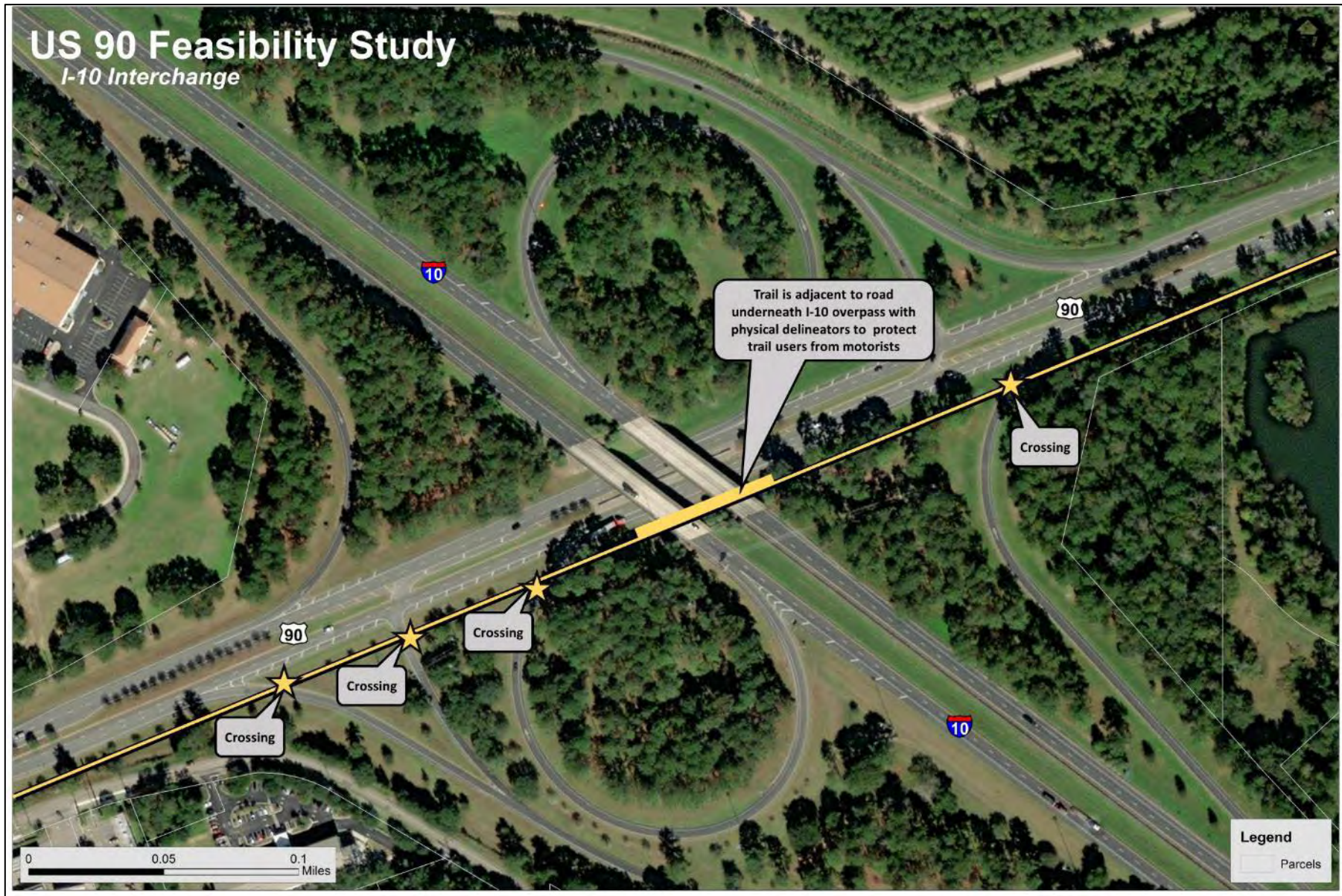
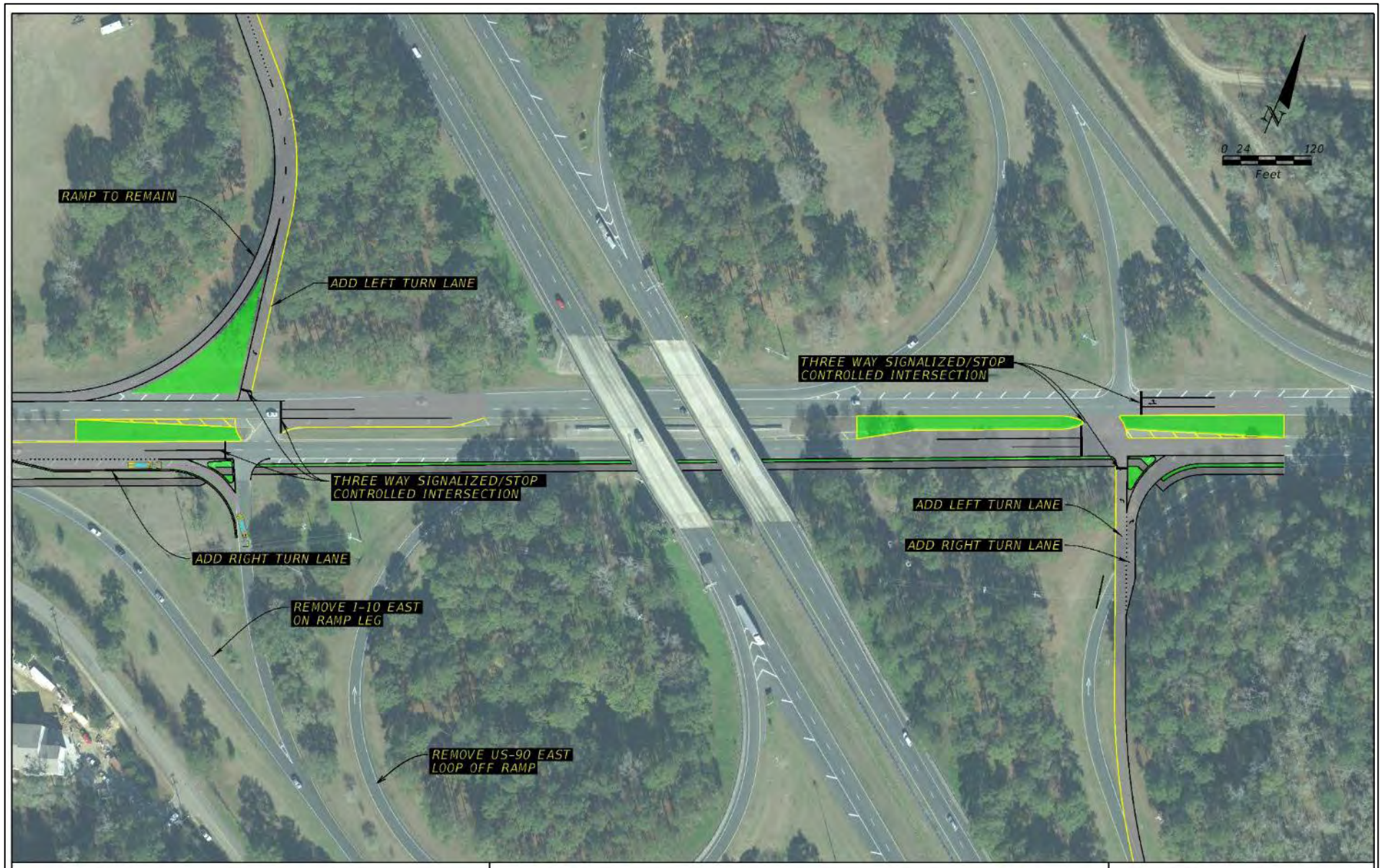
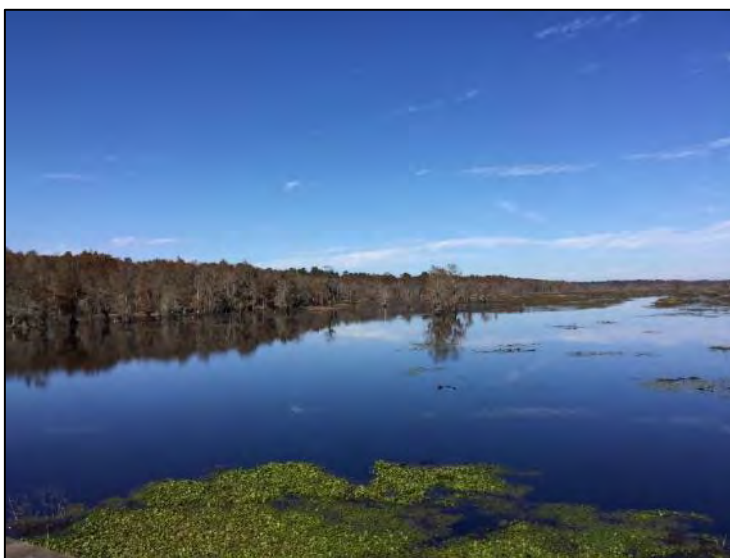


Figure 17. I-10 Interchange: Option 2



Lake Miccosukee

Lake Miccosukee is located just east of the Leon County line in Jefferson County. Where it intersects with US 90, there is an existing public-use boardwalk on the north side. However, wetlands and limited shoulder space on the bridge limit opportunities for construction and a boardwalk is recommended to accommodate the 10-foot multi-use trail. This will help reduce impacts to the existing wetlands. It will also allow trail users to be completely separated from high-speed traffic crossing the bridge. For this reason, routes are recommended to be constructed on the south side of the corridor. Boardwalk location is shown in **Figure 18**.

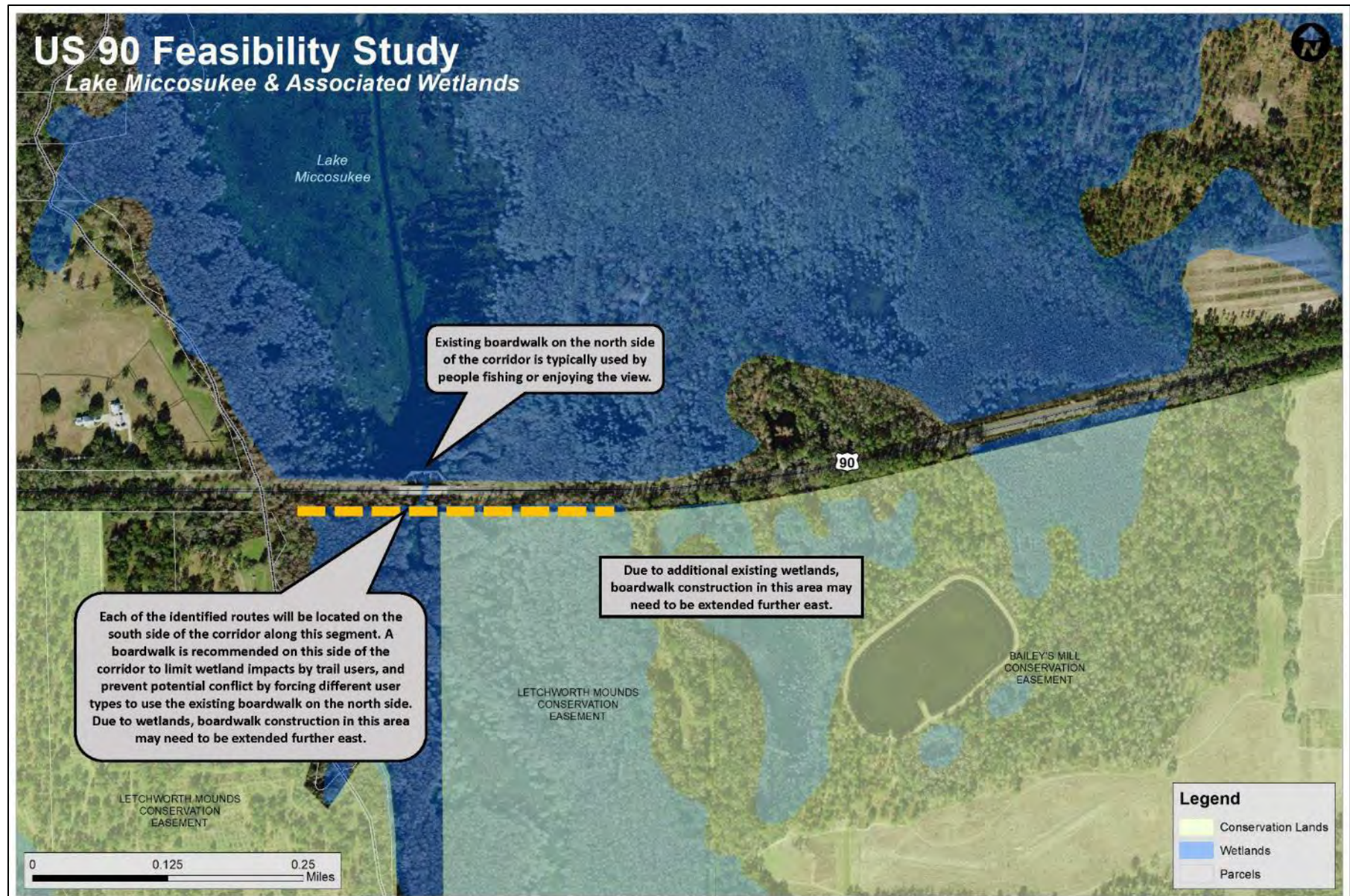


Lake Miccosukee



Examples of boardwalks along the Ochlockonee Bay Bike Trail in Wakulla County, Florida

Figure 18. Lake Miccosukee



Hilltop Country Store

Hilltop Country Store is located on the south side of US 90 west of Old Magnolia Road/Gamble Road in Leon County. Two of three routes identified follow the south side of US 90 adjacent to the store. Currently, the store commonly receives shipments from large semitrucks within FDOT-owned right-of-way



Hilltop Country Store

with customers entering and exiting at high speeds into the gravel parking area from US 90. The parking area does not have any access management or stop control. Although potential reconfiguration of the parking and loading areas at this location were developed during the Study, ultimately concerns remained about the safety of trail placement at this location. While the Study does not make specific recommendations, strong consideration should be given to placement of the potential trail at another location in order to ensure trail user safety and business access.



Hilltop Country Store Parking Area on US 90

Outreach and Engagement

As part of this Feasibility Study, the project team conducted outreach and engagement with stakeholders and the public.

Stakeholder Engagement

This project kicked off at the beginning 2020, which included limited stakeholder engagement in conjunction with the existing conditions assessment. This initial stakeholder engagement was coordinated with the owners of Hilltop Country Store, the Jefferson County Board of County Commissioners, the Leon County Board of County Commissioners, the Florida Department of Environmental Protection's Office of Greenways and Trails, the Florida Department of Transportation, and the City of Monticello. As the project progressed into the public engagement phase, this stakeholder engagement was expanded to include neighborhood and homeowner's associations. These stakeholders provided valuable feedback that allowed the project team to understand ongoing projects in the area and determine perceptions surrounding the project. These meetings were conducted both in-person and virtually. The stakeholder engagement is summarized in **Table 10** below. While several other stakeholders were contacted, no response or comment was received, and they are omitted from the list below.

Table 10. Stakeholder Engagement

Stakeholder	Date of Interaction	Type of Interaction
Agency and Government Partners		
Leon County Commissioners from District 4 & 5	2/27/2020	In-Person
Florida Department of Environmental Protection (FDEP) Office of Greenways and Trails	3/20/2020	Virtual
Jefferson County Board of County Commissioners	9/17/2020	Virtual
City of Monticello	10/2/2020	Virtual
Jefferson County	10/2/2020	Virtual
Florida Department of Transportation (FDOT)	3/24/2021	Virtual
Local Businesses		
Hilltop Country Store	6/19/2020, 9/2/2020, 4/28/2021	In-Person Meeting
Dixie Paving		
Neighborhood Associations		
Buck Lake Alliance	1/19/2021	Email
Lafayette Oaks	2/11/2021	Virtual
The Vineyards	3/7/2021	Virtual

Public Engagement

In addition to stakeholder outreach, there were several opportunities for public engagement. These opportunities were offered in two rounds; the first round in Spring of 2021, and the second in Spring of 2022. The time period between conducting the first and second round of public engagement was a function of ongoing concerns about the COVID-19 pandemic and subsequent variants. Engagement opportunities reflected these concerns, and a variety of formats were offered to allow members of the public options for engagement based on their level of comfort. These options included virtual meeting

room tools, virtual live-question-and-answer sessions, in-person pop-up events held outdoors, and standard open house formats. This approach allowed for broader participation. Each of the options offered is detailed below.

- **Virtual Meeting Room** – This offered the public an opportunity to explore a virtual meeting room that included background information and information collected up to that point. This format included PDFs, interactive videos, and links to relevant websites. There were also opportunities to comment and contact the project team.
- **StoryMap** – This opportunity offered the public a more engaging way to interact with the project materials through interactive maps and graphics. This provided all relevant project background information, and presented the evaluated routes to the public. The StoryMap offered opportunities to comment and contact the project team.
- **Live Question and Answer Sessions** – These sessions allowed the public to access a virtual meeting with the project team and ask questions or provide input regarding the project. Live question and answer sessions typically had no time limit, and the project team answered questions and took comments until all participants were completed with their input.
- **Pop-Up Event** – The pop-up event was intended to be informal and allow people with some interest and little knowledge on the project to interact with the project team. This event was held at Rev Café in Monticello during an annual bicycling event to solicit public feedback and allow for an in-person opportunity.
- **Open Houses** – The final open houses were intended to present the evaluated routes for each of the identified segments and allowed an additional in-person opportunity for the public to interact with the project team and give feedback. Two open houses were conducted; one in Jefferson County, and one in Leon County.

Table 11 lists all the public engagement opportunities offered throughout the completion of the Feasibility Study. This table also details number of participants at each event, and is listed in chronological order.

Table 11. Public Engagement Opportunities

<u>Event</u>	<u>Date of Event</u>	<u>Number of Participants</u>
Virtual Meeting Room	April 6 through May 7, 2021	175 visitors*
Live Question and Answer Session #1	April 8, 2021	5
Live Question and Answer Session #2	April 12, 2021	5
Pop-Up Event	March 6, 2021	3
StoryMap	December 8, 2021 to Current	482**
Live Question and Answer Session #3	January 13, 2022	8
Live Question and Answer Session #4	February 1, 2022	8
Open House #1: Jefferson County	February 22, 2022	16
Open House #2: Leon County	March 1, 2022	29
*Based on "Individual Visitors" to website from data analytics associated with website **Based on view count in association with StoryMap provided by ESRI ArcGIS Online as of March 4, 2022.		

Contact Methods

This project was advertised through a variety of methods throughout the Feasibility Study. These methods included postcards, social media posts, emails from the CRTPA, and newspaper articles. Postcards were sent out to advertise both rounds of public engagement in the Spring of 2021 and the Spring of 2022. The CRTPA mailouts were originally sent to property owners of all parcels within 250 feet of the US 90 corridor on both sides, between Pedrick Road and the Monticello Bike Trail. Following CRTPA board direction for another feasibility study project underway, the distribution buffer was expanded to 1,000 feet, and included full neighborhoods as appropriate. This significantly broadened the mailout area. In addition to the postcard mailouts, emails were sent to each neighborhood association identified along the corridor. **Table 12** provides additional details about postcard mailouts.

Table 12. Postcards

Type	Total Sent	Date	Purpose	How was contact information obtained?
Postcard 1	253	March 2021	To advertise upcoming public engagement opportunities and provide options for contacting the project team and leaving comments.	Leon County Property Appraiser and Jefferson County Property Appraiser data
Postcard 2	1,450	January 2022		

Key Takeaways

Throughout the engagement process, several themes emerged. These themes ranged from support to opposition, and included specific concerns or recommendations. These general themes can be summarized as follows

- **Support for the project** – Many stakeholders and members of the public were supportive of this project due to its ability to provide safe multimodal connectivity between Tallahassee and Monticello.
- **Opposition to the project** – Some stakeholders and members of the public were opposed to the project, due to a variety of reasons. These reasons included concerns for safety, private property and acquisition, and environmental risks they perceived to be part of this project. Several concerned residents along US 90 in both Leon and Jefferson counties voiced opposition to the trail due to concerns about trail users trespassing on their property or livestock security, and many residents voiced opposition due to concerns about the trail altering their way of life in the more rural areas surrounding the project.
- **General Concerns & Recommendations** – General comments provided by the public and stakeholders included a desire for a more in-depth consideration of some issues (including protection of crepe myrtles, protection of private property, and concerns related to protection of the environment).

For a more comprehensive review of the comments and information received, see the **Appendix** for the comments log, which includes all correspondence received by the project team throughout the Feasibility Study.

Subsequent to the most recent public engagement conducted in January, February, and March 2022, the routes were refined. This refinement was a result of the stakeholder input received during this round of public involvement and also included the availability of updated right-of-way information provided by the Florida Department of Transportation.

Route Analysis

Throughout the existing conditions assessment and stakeholder and public engagement, several routes were evaluated for the location of the multi-use trail. This section will briefly outline each of the evaluated routes that will move forward for consideration, in addition to other routing considerations, if this Feasibility Study is adopted by the CRTPA board. Initially, the Study identified four (4) potential routes. Based upon public input received associated with the last round of public involvement efforts (January, February, and March 2022), the routes were refined to reflect citizen input as well as updated right-of-way information provided by the FDOT. The below provides a refined analysis of the identified routes.

Each route is unique; however, due to right-of-way availability, they all largely utilize the south side of the corridor at some point. A preferred route will not be selected as part of this Feasibility Study. However, should the project move forward into a Project Development and Environment (PD&E) Phase, all route options will be further assessed utilizing more refined data, and a final route will be selected. The following routes were developed using available information on existing conditions, site reconnaissance, stakeholder and public engagement, and current design standards.



US 90 near Black Creek, southwest of Baum Road Intersection

Route 1

For route 1, the multi-use trail alignment will begin on the south side of US 90 at Pedrick Road and continue to just west of the Jefferson County line near Still Creek Road. Right-of-way availability on the south side, while somewhat limited east of Wadesboro Road, is sufficient for accommodating a trail and adequate buffer separating trail users from vehicular traffic on US 90. Near Still Creek Road, the trail will cross to the north side of the corridor to avoid any conflict with the Hilltop Country Store, which is located on the south side of the corridor. The trail will then return to the south side of the corridor at Old Magnolia Road/Gamble Road. From there, the trail remains on the south side of the corridor into Monticello. Summary statistics are shown below in **Table 13**. The route and crossings are shown in **Figure 19**.

This route option includes a limited number of crossings, allowing trail users to safely use the trail without concern for oncoming traffic while crossing a high-speed corridor. This option also avoids areas of constrained right-of-way on the north side of the corridor east of Hawk's Landing Drive. However, this route does still conflict with the I-10 Interchange, Lake Miccosukee, and when entering the western city limits of Monticello.

Table 13. Route 1 Summary Statistics

Route 1 Summary Statistics	
Side of Corridor	North and South
Number of Crossings on US 90*	2 (Near Still Creek Road, Old Magnolia Road/Gamble Road)
Locations of Note to be Addressed	3 (I-10 Interchange, Lake Miccosukee, Entering Monticello)
*Crossing locations are preliminary and will be further analyzed through sight distance studies in subsequent project phases.	



US 90 near Valley View Road (Jefferson County)

Route 2

For route 2, the multi-use trail route would begin on the south side of US 90 at Pedrick Road and continue through eastern Leon County into Jefferson County. The route remains on the south side of the corridor for its entirety, and does not require trail users to cross the US 90 corridor at any point. Summary statistics are shown below in **Table 14**. The route and crossings are shown in **Figure 20**.

This route eliminates any need to cross the US 90 corridor, and keeps trail users on one side of the corridor consistently for the entirety of the route. This can limit any potential for conflict between motorists and trail users. This route also avoids areas of constrained right-of-way on the north side of the corridor east of Hawk's Landing Drive. However, this route does still conflict with the I-10 Interchange, Hilltop Country Store, Lake Miccosukee, and when entering the western city limits of Monticello.

Table 14. Route 2 Summary Statistics

Route 2 Summary Statistics	
Side of Corridor	South
Number of Crossings on US 90	None
Locations of Note to Address	4 (I-10 Interchange, Hilltop Country Store, Lake Miccosukee, Entering Monticello)
*Crossing locations are estimated and will be further analyzed through sight distance studies in subsequent project phases.	



US 90 near Still Creek Road (Leon County)

Route 3

For route 3, the multi-use trail route would begin on the south side of US 90 at Pedrick Road and continue to Wadesboro Road. At Wadesboro Road, as both other routes stay on south side of US 90 here, this route will continue on Wadesboro Road, Baum Road, and Jefferson Road to take users off of US 90 to utilize lower speed roads. Along these corridors, the trail would likely become on-street facilities such as a bicycle lane or sharrows due to limited right-of-way availability. At Jefferson Road, the trail returns to US 90 and remains on the south side of the corridor into Monticello. Summary statistics are shown below in **Table 15**. The route and crossings are shown in **Figure 21**.

This route provides an opportunity to take the trail off of US 90 for approximately 4 miles, providing a more scenic and less traveled option for trail users. Throughout the engagement phase, members of the public indicated that many recreational cyclists are using these roads as opposed to US 90. While this is likely because of lack of safe facilities on US 90, many cyclists prefer to take the scenic route. It is important to note that along the majority of these corridors, on-street facilities would need to be pursued due to lack of available right-of-way and lower speeds and volumes. Additional analysis of these corridors should be pursued in subsequent phases.

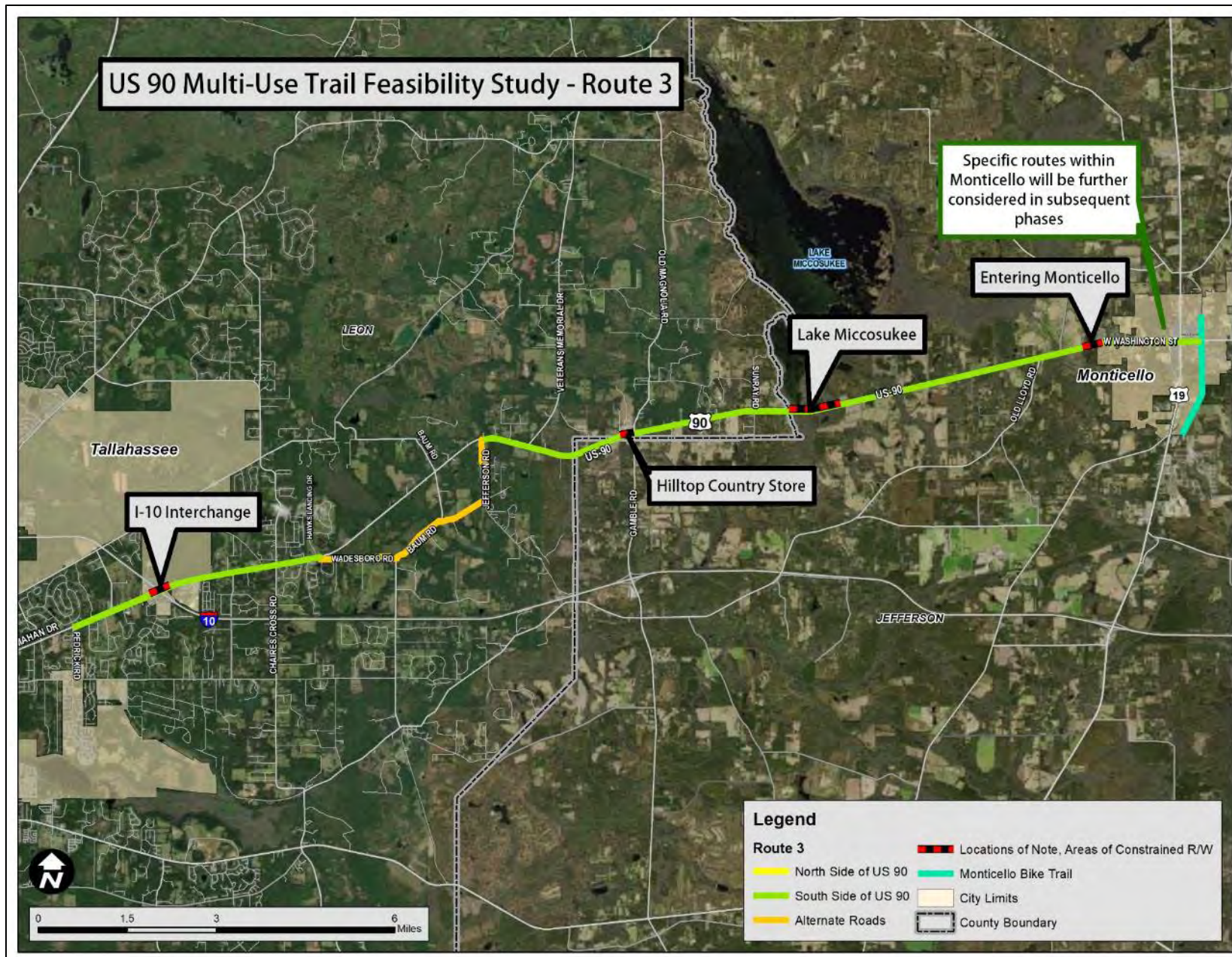
Table 15. Route 3 Summary Statistics

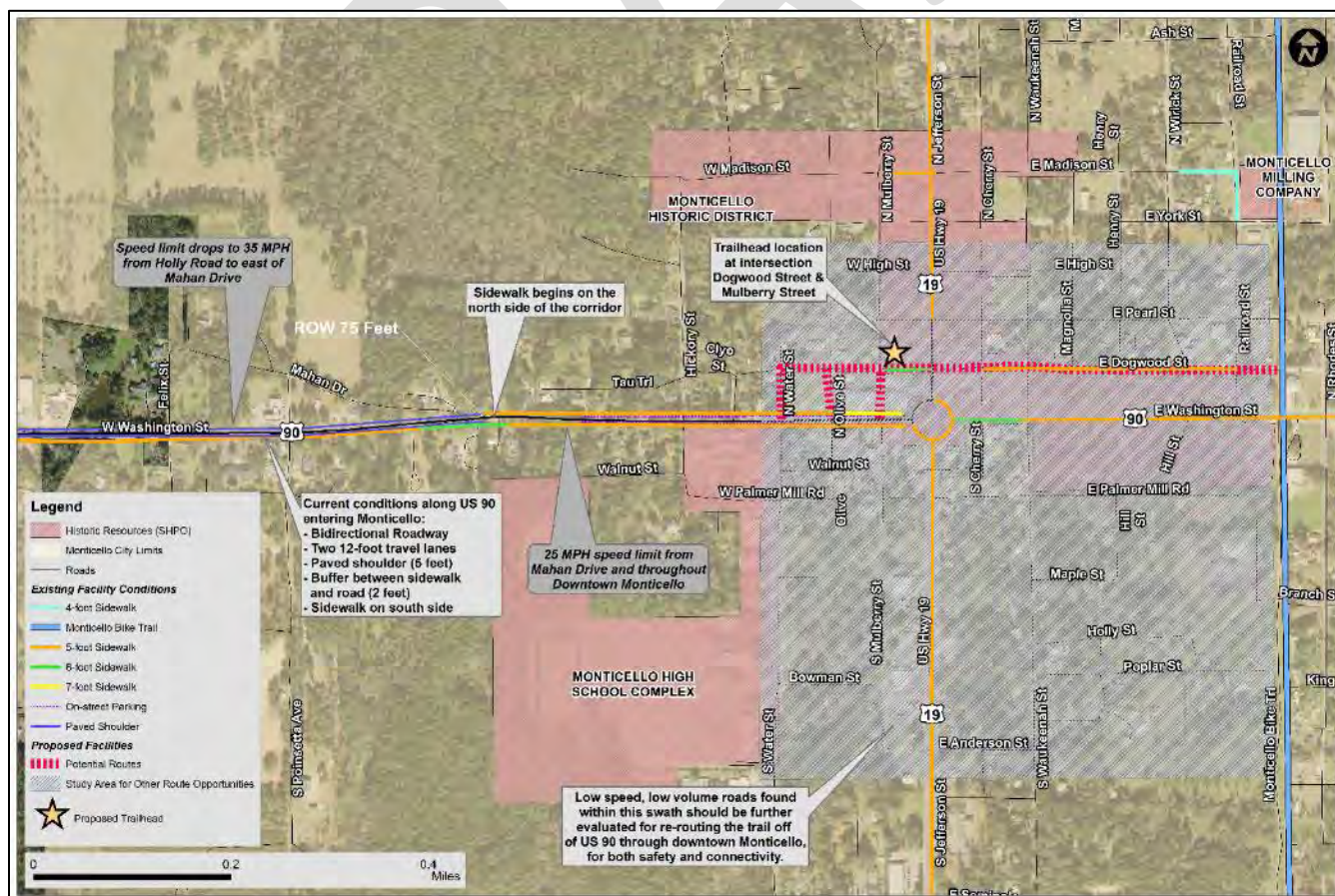
Route 3 Summary Statistics	
Side of Corridor	North and South
Number of Crossings on US 90	None
Locations of Note to Address	4 (I-10 Interchange, Hilltop Country Store, Lake Miccosukee, Entering Monticello)
<i>*Crossing locations are estimated and will be further analyzed through sight distance studies in subsequent project phases.</i>	



Wadesboro Road (Leon County)

Figure 21. Route 3 Alignment





Design Recommendations

Trail design standards provide guidance on facilities and signage, which improve user experience and safety. The project area is approximately 21 miles in length, which is relatively long when considering the variety of user types and skill levels that may use the trail. The following design standards should be implemented in conjunction with the preferred route to improve overall experience, safety, and navigability of the trail.

Trail Width and Separation

As noted throughout this report, the recommended facility for the majority of the trail is a 10 to 12-foot multi-use trail. This is the industry recommended standard, and is noted in the FDOT Design Manual. Where right-of-way is constrained, the trail may be reduced by 1 foot as needed to a minimum width of 8 feet for short sections. Any width below this would be considered a wide sidewalk, and therefore, would not support a high volume of different user types. Where a trail of at least 8 feet is not possible, creative design solutions should be pursued, such as reducing the width of the existing paved shoulder or travel lanes on the roadway to accommodate 8 feet or greater, or constructing a separate on-street bicycle facility. Such an option would only be recommended in Monticello city limits, due to decreasing travel speeds. Along US 90 where speeds are 55 miles per hour plus, a separated and wide facility will be necessary. A separated facility should be prioritized despite the potential for higher maintenance costs.

Considering the high-speed nature of the corridor, it is important that a buffer exists to separate the multi-use trail from the corridor. Typically, on roadways with speeds over 50 mph, the trail should be at least 5 feet from the shoulder to address safety and comfort of trail users (FDOT Design Manual, 2020). Due to the number of locations of note identified, this may not be achievable in all areas. Other options for separating the trail include physical barriers such as a separation wall or plastic delineators.

Meandering Design

Where appropriate and right-of-way permits, a meandering design should be pursued. A meandering design will allow the trail to avoid any obstructions within the right-of-way, such as large trees or aging structures. This design technique also improves the overall aesthetic and experience for trail users, and can aid bicyclists in attempting to slow down as they approach intersections or elevation change. Meandering design should be incorporated along the corridor where right-of-way permits.

Locations of Note

All areas identified in the Locations of Note section of this Feasibility Study report should be addressed on a case-by-case basis to provide the safest recommendations for a multi-use trail. Each location will require specific and creative design techniques to address any issues. At the time of report publication (Spring 2022), areas near and along the project limits are rapidly developing and changing, which will require additional analysis as this project moves forward into subsequent phases. As this project moves forward, these Locations of Note will require further and specific evaluation.

Crepe Myrtles

As noted previously, crepe myrtles along the corridor are both historic and beloved by local communities. In order to preserve these resources, creative design and construction techniques should be employed to construct the trail while simultaneously avoiding any impacts to the trees. Maintaining the trees will also preserve the overall aesthetic of the trail and provide shade.

Trail Amenities

Throughout the engagement phase of this project, stakeholders and members of the public were interested in trail amenities, signage, parking, and future trailheads. They also had concerns about litter

and maintenance of the trail upon construction. These issues are not typically addressed during a feasibility study or existing conditions analysis, but as this project moves forward, these concerns will be evaluated, and recommendations will be made.

Next Steps

Pursuant to the approval of the Feasibility Study by the CRTPA board, this project will move forward to the Project Development and Environment (PD&E) phase. A PD&E is an environmental and engineering process developed by the Florida Department of Transportation (FDOT) to determine social, economic, natural, and potential physical environmental impacts associated with a proposed transportation improvement project. This study builds on the information preliminarily identified during the Feasibility Study with more specificity. This will be initiated subsequent to completion of the Feasibility Study. At this point, potential funding for the PD&E study has been identified by the CRTPA. Other phases, including design and construction, are not currently funded. Given the length of the project, funding for future phases will be sought through SUN Trails program and will compete against other such projects throughout the State. These other phases are estimated to occur within the next 7-10 years if this project is awarded funding. **Figure 24** shows the general expected timeline of this project as it proceeds.

Figure 24. US 90 Multi-Use Trail Timeline



Preliminary Renderings

During the Feasibility Study, preliminary renderings were created to give stakeholders and members of the public a better idea of how the trail may look in two locations adjacent to US 90. The project team recognized that there was some misunderstanding about what a multi-use trail is among participants at meetings and virtual events. While these renderings are not accurate in terms of width or design features, they provide a general understanding of where the trail will likely be located with regards to the roadway and existing right-of-way, and what it could potentially look like. As this project moves forward, design and construction level documents will be completed to provide a more accurate representation of trail location, widths, and other specifications. **Figures 25, 26, 27, and 28** show the before photos and renderings for two locations along the project limits, created to educate members of the public.

Figure 25. South side of US 90 facing west – No Trail (Current – Leon County)



Figure 26. South side of US 90 facing West – With Trail (Leon County)



Figure 27. South side of US 90 facing Northeast – No Trail (Current – Leon County)



Figure 28. South side of US 90 facing Northeast – With Trail (Leon County)

