

FINAL

**CONCEPT PLAN FOR THE MANCHAC GREENWAY:
PONCHATOULA TO PASS MANCHAC
TANGIPAHOA PARISH, LOUISIANA**

Prepared for

**Tangipahoa Parish Government
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September 2019

ELOS Project No. 2017-0082-01

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LIST OF ACRONYMS AND ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
CRPC	Capital Region Planning Commission
DNR-OCM	Louisiana Department of Natural Resources, Office of Coastal Management
DOTD	Louisiana Department of Transportation and Development
FHWA	Federal Highway Administration
HSIP	Highway Safety Improvement Program
I-10	Interstate 10
I-55	Interstate 55
LA 22	Louisiana State Highway
LA Rev Stat	Louisiana Revised Statutes
LDWF	Louisiana Department of Wildlife and Fisheries
LWCF	Land and Water Conservation Fund
NPS	National Park Service
OSP	Office of State Parks
SHSP	Louisiana Strategic Highway Safety Plan
SRTPPP	Safe Routes to Public Places Program
US 51	U.S. Highway 51
US 51B	U.S. Highway 51B
WMA	Wildlife Management Area

INTRODUCTION

In 2016, the Manchac Greenway was established as a Share the Road facility along U.S. Highway 51 Business (US 51B), US 51, and Interstate 55 (I-55) (**Photograph 1**). The Manchac Greenway begins in Ponchatoula in Tangipahoa Parish near Louisiana Highway 22 (LA 22)/Pine Street and continues south along US 51/I-55 to near I-10 east of La Place in St. John the Baptist Parish (**Figure 1**). The Manchac Greenway crosses the Manchac isthmus in a naturally diverse habitat between Lake Pontchartrain and Lake Maurepas.

Tangipahoa Parish Government and the Manchac Greenway Committee (the Committee) contracted ELOS Environmental, LLC and Meyer Engineers, Ltd. (ELOS Team) to prepare a feasibility and concept plan for phased improvements along the Manchac Greenway within Tangipahoa Parish. The Committee requested alternatives to the existing Share the Road bike trail and cost-effective options for crossing waterways south of the I-55 and US 51B interchange.

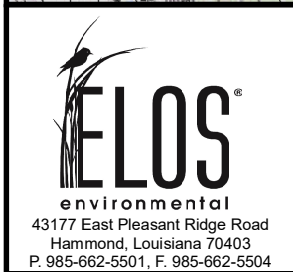
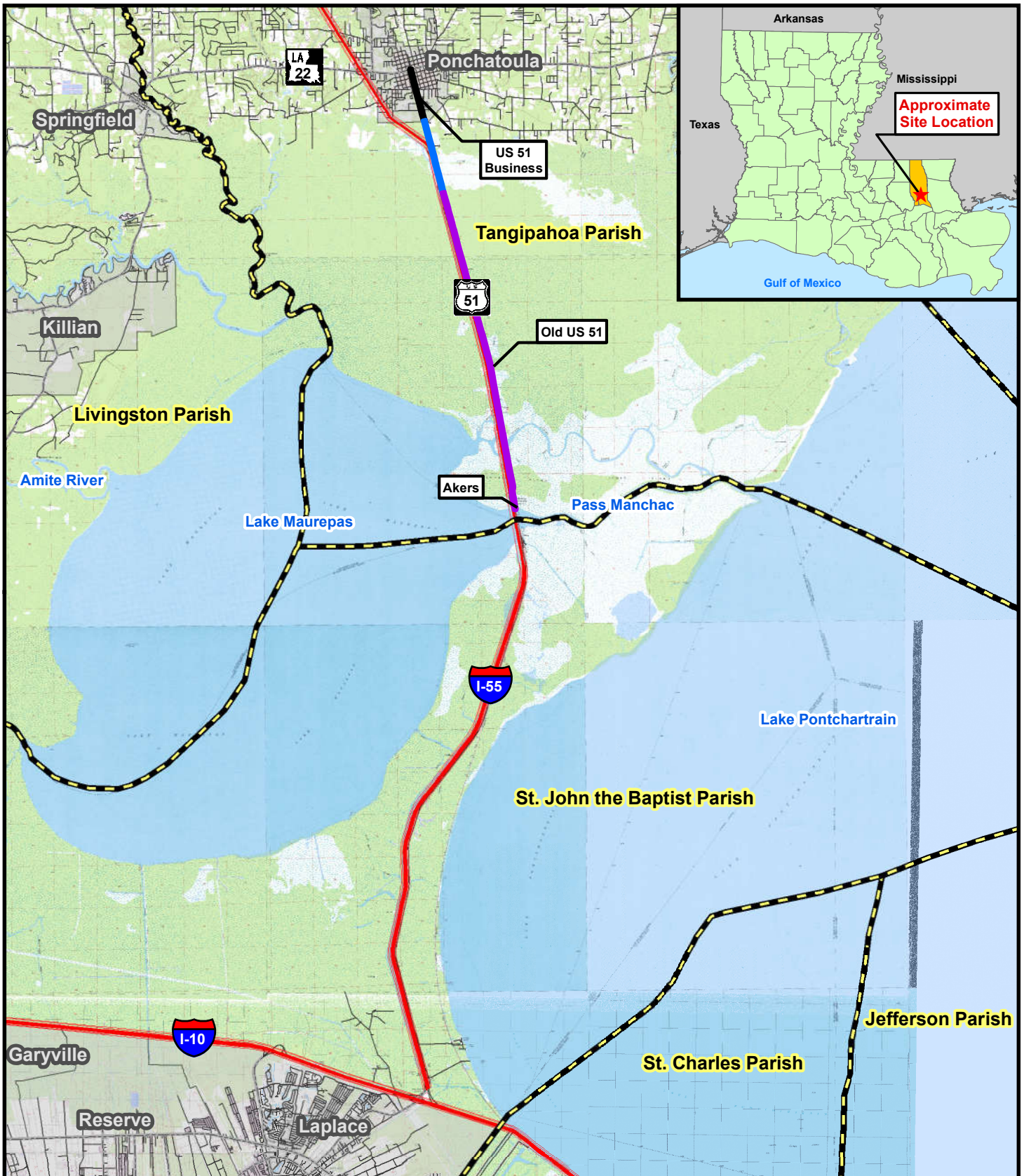


Photograph 1. Manchac Greenway Share the Road Signage along Old U.S. Highway 51.

Plan Purpose

The purpose of this plan is to identify constructible alternates for a multi-use path connecting the proposed trailhead in downtown Ponchatoula to amenities in Akers north of Pass Manchac. This plan will:

- Introduce the goals of the Committee;
 - Review Complete Streets Directives and Standards and Louisiana bicycling laws;
- Identify the project area and existing bicycle and pedestrian facilities to provide connectivity with the Manchac Greenway;
- Propose safe multi-use alternates to the existing Share the Road bike trail;
- Divide the alternate alignments into short sections or construction phases to simplify funding and construction;
- Present available sources of funding; and
- Introduce complimentary recreational facilities for build-out in the future along the Manchac Greenway.



0 11,000 22,000 Feet

Figure 1: TopoVicinity Map

Tangipahoa Manchac Greenway

Legend:

- LA 22 to Pugh Drive
- Joyce WMA Swampwalk to Pass Manchac
- Pugh Drive to Joyce WMA Swampwalk
- Parish Boundary
- City/Town
- Interstate
- Highway
- Roadway

This figure was prepared utilizing public and proprietary data. It should not be used to establish any legal boundaries or specific locations. ELOS Environmental, L.L.C., is not responsible for any usage of this figure contrary to its original, intended purpose.

PLAN DEVELOPMENT AND METHODOLOGY

The first step in developing an implementation plan for the Manchac Greenway was to determine the goals and objectives of the Tangipahoa Parish Government and the Committee. These goals are two-pronged: provide connectivity throughout the corridor (from Ponchatoula to Pass Manchac) for bicyclists and pedestrians; and employ a Complete Streets-style design for the the Manchac Greenway.

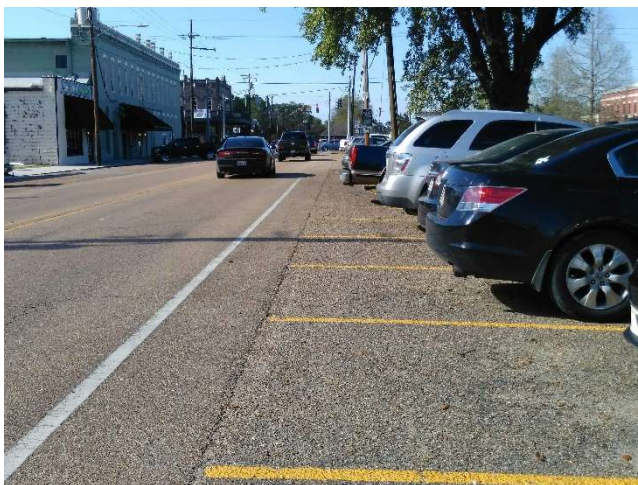
Connectivity Throughout Project Corridor

Tangipahoa Parish Government's goal for connectivity throughout the corridor for bicyclists and pedestrians may not seem particularly difficult; however, several areas along the route provide challenges.

Challenge 1 - As shown in **Figure 2**, the corridor parallels US 51B and Old US 51. A portion of the corridor also includes I-55 and on-ramps from US 51 and Old US 51. Pedestrians and cyclists are not allowed on Interstate highways.

Challenge 2 - In Ponchatoula, on Southwest Railroad Avenue between LA 22 and President Hoover Street, there are high traffic volumes, intermittent shoulders with variable shoulder widths, on-street parking, and active railroad tracks (**Photograph 2**).

Challenge 3 – Narrow Old US 51 bridge over North Pass Manchac. The bridge is approximately 1,350 feet long, 26 feet wide, with two 12-foot lanes, and no shoulders (**Photograph 3**).



Photograph 2. Southwest Railroad Avenue in the City of Ponchatoula, facing north. Narrow shoulders and on-street parking limit available buffer areas for pedestrians or bicyclists.



Photograph 3. Old U.S. Highway 51 bridge over North Pass Manchac, facing north. The bridge has two narrow traffic lanes and no shoulders. Currently, Pedestrians or bicyclists must share the road.

As the first priority, the ELOS Team searched for cost-efficient, constructible design measures to address these challenge areas. The Committee expressed concerns regarding the expected costs of a multi-use path as a separate facility, especially where the path would span waterways.



Lake Maurepas

LA 22

SW Railroad Ave.

President Hoover St.

US 51 Business

51

Old US 51

I-55

Old US-51 Bridge



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0 4,250 8,500 Feet



Figure 2: Project Overview

Tangipahoa Manchac Greenway

Legend:

- Incorporated Ponchatoula
- Rural Marsh Swamp
- I-55/US-51 Interchange
- Interstate
- Highway
- Roadway

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Employ Complete Streets-Style Design

Louisiana Department of Transportation and Development (DOTD) defines a Complete Street as a roadway that is designed and operated to enable safe access and travel for all users, including pedestrians, bicyclists, motorists, and transit users of all ages and abilities (DOTD, 2016). Complete Streets should be designed to address the existing uses and future uses of that street. In other words, the complete designs should provide Context Sensitive Solutions. The design should respond to known deficiencies in thoughtful ways to encourage all methods of transportation, not just single car, single driver uses. Thoughtful, Context Sensitive Solutions would not promote pedestrian or bicycle uses on high-speed/high-volume roadways, roadways with limited visibility, or rural roadways with long distances between comfort services (shade, benches, water fountains, medians, crosswalks, etc.) or destinations. **Exhibit 1** shows a typical rendering of a Complete Streets-style design that encourages use by pedestrians and bicyclists. Tangipahoa Parish Government’s goal to include complete streets-style design into the Manchac Greenway project can be achieved using dedicated multi-use paths; pedestrian protections, such as curbs to separate vehicular traffic from sidewalks or multi-use paths; bicycle lanes; and handicap accessible ramps. DOTD’s Engineering Design Standards and Guidelines for bicycle and pedestrian facilities are provided in **Appendix A**.

Exhibit 1. Complete Street Typical Section



Source: Birmingham City Council, 2018

2009 Louisiana Statewide Bicycle and Pedestrian Master Plan

The Louisiana Statewide Bicycle and Pedestrian Master Plan was developed to ensure that bicycling and walking are fully integrated into the state’s transportation system. It is DOTD’s duty to provide for the safety and accommodation of pedestrians and bicyclists (DOTD, 2009). The

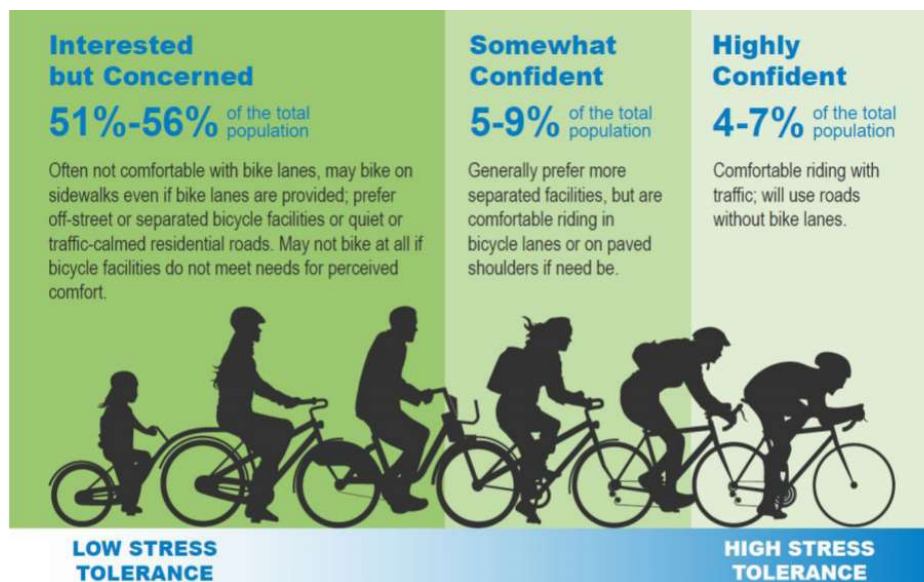
Statewide Bicycle and Pedestrian Master Plan provides guidance for bicycle and pedestrian facilities planning and design from sources including the Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation Officials (AASHTO).

Bicycle Design Guidance:

Roadway design needs are different for bicycles than for general motor vehicles. Bicyclists are more susceptible to injury than motor vehicle drivers from minor deficiencies in the roadway or because bicyclists are not as protected by their vehicles as motor vehicle drivers. Standard elements along roadways, such as railroad crossings, cattle guards, and rumble strips can impede bicycle traffic altogether. AASHTO’s *Policy on Geometric Design of Highways and Streets* states that at certain locations or in certain corridors, it is appropriate to further supplement the existing highway system by providing specifically designated bikeways (for either exclusive or nonexclusive bicycle use) (AASHTO, 2018).

FHWA provided guidance for bicycle facility planning in the February 2019 *Bikeway Selection Guide*. The Guide presents considerations for selecting the best bikeway/trail/lane depending on type of users, roadway context, traffic conditions, safety, etc. (Schultheiss et. al, 2019). The Guide suggests seven principles of bicycle network design that should be considered when planning and designing a bikeway: safety, comfort, connectivity, directness of route, cohesion, attractiveness of facility, and providing unbroken flow (reducing starts and stops). Perhaps the most important consideration identified by the Guide is the concept of the “Design User.” Design Users are categorized by confidence level or experience level of the rider (**Exhibit 2**) (Schultheiss et. al, 2019). If a bicycle facility is built that does not inspire safety to the inexperienced or non-confident rider, which comprise the largest group of users, that facility would not inspire use. Bicycle facilities that incite low-stress reactions maximize facility usage (Schultheiss et. al, 2019).

Exhibit 2. Bicyclist Design User Profiles.



Source: Schultheiss et. al, 2019

Pedestrian Design Guidelines:

Pedestrians are in an even more vulnerable position when travelling along roadways than motor vehicles or bicycles. While pedestrians can avoid many of the obstacles that are problematic for bicycles, pedestrians are limited by individual capabilities. Thoughtful pedestrian designs must include accommodations for pedestrian at all levels of mobility, from handicapped individuals to recreationists out running or jogging.

AASHTO's *Policy on Geometric Design of Highways and Streets* states that sidewalks should be constructed along any street or highway not provided with shoulders, even though pedestrian traffic may be light. Where sidewalks are built along a high-speed highway, buffer areas should be established so as to separate them from the traveled (road)way (AASHTO, 2018).

Louisiana Bicycling Laws

With DOTD encouraging Complete Streets design, Louisiana bicyclists should know how to safely travel the roadways with and without special bicycle facilities. In Louisiana, a person riding a bicycle on the roadway is considered a vehicle. As such, bicyclists must follow the same traffic laws as a driver in a motor vehicle, except as to those provisions which by their nature can have no application to bicyclists (Louisiana Revised Statutes [LA Rev Stat] §32:1(92) and §32:194).

Louisiana requires that the operator of a motor vehicle, when overtaking and passing a bicycle proceeding in the same direction on the roadway, shall exercise due care and shall leave a safe distance between the motor vehicle and the bicycle of no less than three feet (LA Rev Stat §32:76.1). This same law directs DOTD to place signs in areas frequently used by bicyclists in an effort to make motorists aware of the need to share the road with bicyclists.

Bicyclists must ride as close as practicable to the right-hand edge of the roadway, except under any of the following circumstances: (1) when overtaking and passing another bicycle or vehicle proceeding in the same direction; (2) when preparing for a left turn at an intersection or into a private road or driveway; (3) when reasonably necessary to avoid conditions that make it unsafe to continue along the right-hand curb or edge of the roadway, including a lane that is too narrow for a bicycle and a vehicle to travel safely side by side within the lane; (4) when approaching a place where a right turn is authorized; and (5) when operating upon a roadway or a highway, where there are two or more marked traffic lanes and traffic travels in only one direction, in which case a bicyclist may ride as near the left-hand curb or shoulder of that roadway as practicable when preparing for a left turn (LA Rev Stat §32:197).

In Revised Statute 32:201, Louisiana does not define who is a "vulnerable road user," but protects bicyclists by providing that it is unlawful to harass, taunt, or maliciously throw objects at or in the direction of any person riding a bicycle (LA Rev Stat §32:201).

Louisiana requires that any person under the age of 12 riding a bicycle, as an operator or passenger, must wear a protective bicycle helmet (LA Rev Stat §32:199).

In Louisiana, no person can open any door of a motor vehicle located on a highway without first taking precaution to ensure that this action does not interfere with the movement of traffic or endanger any other person or vehicle. In addition, no person shall leave open any door of a motor vehicle located on a highway for a period of time longer than necessary to load or unload passengers (LA Rev Stat §32:283).

Common misconceptions regarding bicycling laws include restrictions to riding on sidewalks or the compulsory use of bicycle lanes or multi-use path, if one is available. Louisiana does not have a law that specifically authorizes or prohibits riding a bicycle on a sidewalk, nor a law that bicyclists must use an established bike lane or multi-use path. Bicyclists are considered vehicles and may claim possession of an entire travel lane.

PROJECT AREA & EXISTING BICYCLE AND PEDESTRIAN FACILITIES

Project Area

The Project Area for this effort is identified as the portion of the existing Manchac Greenway within Tangipahoa Parish and adjacent properties along Southwest Railroad Avenue, Southeast Railroad Avenue, the City of Ponchatoula's parking lot adjacent to the railroad tracks south of LA 22, the Canadian National Railroad, US 51B, US 51, I-55, Old US 51, and the abandoned US 51 roadbed. Property owners within the project area include: DOTD, Louisiana Department of Wildlife and Fisheries (LDWF), the Canadian National Railroad, the City of Ponchatoula, and private citizens.

The Project Area was delineated into three general areas based on land use and project limitations (see **Figure 2**). The northern section of the project area is considered Incorporated Ponchatoula, the middle section of the project area includes the area adjacent and through the I-55/US 51 Interchange, and the southern section of the project area is considered rural swamp and marsh. The three sections of the project area are described below.

The Incorporated Ponchatoula section is bound on the north by LA 22, on the east by South 5th Street, on the south by Pugh Drive, and on the west by Southwest Railroad Avenue/US 51B.

The I-55/US 51 Interchange section is bound on the north by Pugh Drive, on the east by the City of Ponchatoula Wastewater Treatment Facility, on the south by the Joyce Wildlife Management Area (WMA) Swamp Walk, and on the west by I-55.

The Rural/Marsh/Swamp section is bound on the north by the Joyce WMA Swamp Walk, on the east by the Canadian National Railroad tracks, on the south by Pass Manchac, and on the west by I-55.

Existing Bicycle and Pedestrian Facilities within the Project Area and Vicinity

In comparison with the other parts of Louisiana, the Northshore of Lake Pontchartrain (Tangipahoa and St. Tammany parishes) has a well-established network of bicycle and pedestrian facilities (**Figure 3**). While most of the existing bicycling facilities are Share the Road-style trails, in nearby St. Tammany Parish, there is an excellent example of a multi-use, separate facility not associated with roads or highways, the Tammany Trace.

The Tammany Trace in St. Tammany Parish was the first Rails-to-Trails project in Louisiana, with St. Tammany Parish Government using National Recreational Trails funding through FHWA to purchase extended stretches of an abandoned Illinois Central Railroad right-of-way in 1992. The Tammany Trace has grown significantly since 1992 in length of established/improved trail, quality of trails available, and destinations served (St. Tammany Parish Government, 2014).

Through the use of the Ring Around the Lake, a Share the Road-style trail, future users of the Manchac Greenway multi-use path can connect with the Tammany Trace for connectivity to destinations along the Northshore from Pass Manchac to Slidell (see **Figure 3**).

Pedestrian infrastructure in the Project Area is limited to areas within the City of Ponchatoula. There are sidewalks along LA 22, Southwest Railroad Ave/US 51 B (from LA 22 to Magnolia Street), Southeast Railroad Ave (from LA 22 to Oak Street), Oak Street (from Southeast Railroad Ave to 3rd Street), and 5th Street (from LA 22 to Magnolia Street).

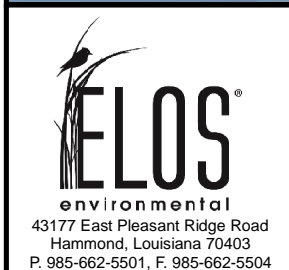
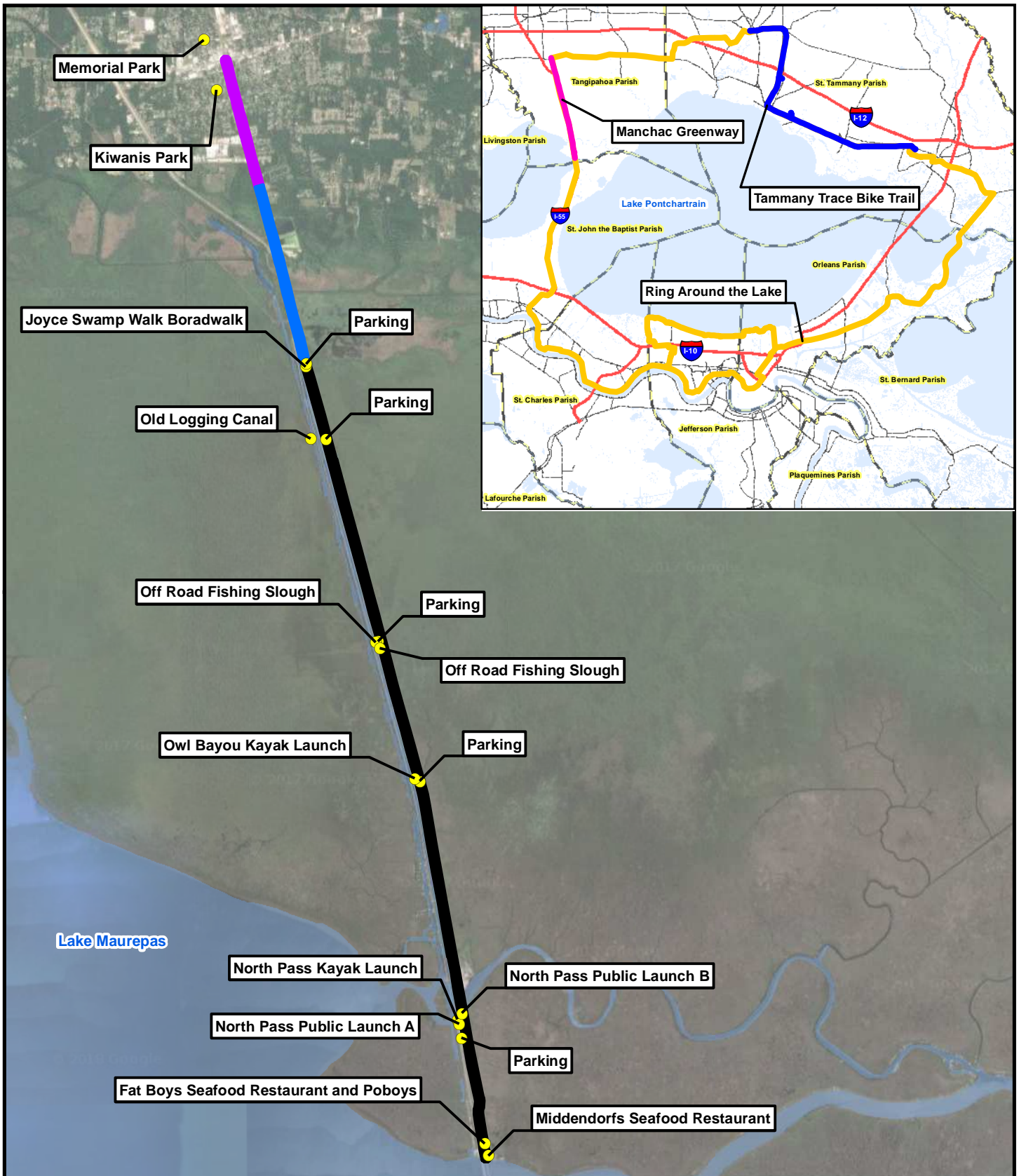
PROPOSED ALTERNATES FOR MANCHAC GREENWAY

This section documents the planning process used to develop design alternates to the existing Manchac Greenway and which alternates are preferred by the Committee, and suggested divisions of segments for construction phases.

Planning Process

Tangipahoa Parish Government established the Committee to identify the needs associated with improving the Manchac Greenway and funding sources for planning and construction. The Committee includes members from the public, Tangipahoa and St. John the Baptist Parish governments, DOTD Hammond District, and the City of Ponchatoula.

In 2017, Tangipahoa Parish Government enlisted the National Park Service (NPS) for Greenway planning help through the Rivers, Trails and Conservation Assistance Program. NPS developed bicycle and pedestrian friendly alternatives to the existing Share the Road trail. Alternatives of note include location of a multi-use path: within the railroad right-of-way; on the abandoned US 51 roadbed; and along widened and paved shoulders of Old US 51.



0 4,500 9,000 Feet

Figure 3: Existing and Proposed Recreational Facilities

Tangipahoa Manchac Greenway

Legend:

- Incorporated Ponchatoula
- Rural Marsh Swamp
- I-55/US-51 Interchange
- Manchac Greenway
- Tammany Trace Bike Trail
- Ring Around the Lake

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The ELOS Team was contracted in the fall of 2018 to provide alternative multi-use path locations, estimated costs, and construction phasing for the Manchac Greenway. The ELOS Team met with the Committee in October 2018 to collect ideas; to discuss trouble spots/design challenges along route; and to identify design preferences from the group. These ideas and preferences were considered and developed into nine alternates showing different locations, path widths, and materials for the Greenway. In order to provide a range of affordable options, nine alternates were developed that addressed each of the challenge areas. The nine alternates were further refined following a meeting with the Committee in March 2019. The resulting two refined alternates are discussed in detail in the Proposed Alternates section of this report.

Proposed Alternates

In order to meet the goals of the Manchac Greenway Committee for the Manchac Greenway facility, the Proposed Alternates must provide connectivity throughout the corridor (from Ponchatoula to Pass Manchac) for bicyclists and pedestrians; and employ a Complete Streets-style design for the Greenway. The two Proposed Alternates are presented over the three distinct portions of the project area; Incorporated Ponchatoula; I-55/US 51 Interchange Area; and Rural/Marsh/Swamp. Alternate 1 is considered the more affordable alternate. Portions of Alternate 1 can be accomplished with a smaller budget and over a shorter time span. Alternate 2 should be considered as the future goal of the Manchac Greenway facility, which could be incrementally funded and constructed. A cost estimate is provided in **Appendix B** that breaks out estimated costs for each alternate by treatment proposed. Conceptual design drawings are also provided in **Appendix B**.

Incorporated Ponchatoula

The proposed alternates for this portion of the project area are further divided to account for the presence or absence of established infrastructure for use or modification.

Magnolia Street to Pine Street

Alternate 1: A 5-foot wide sidewalk and curb from Magnolia Street to Pine Street would be installed on the east side of SE Railroad Avenue.

Alternate 1: “Share the Road” signage and/or reflective striping and bicycle symbols in lanes would be installed on SE Railroad Avenue to East Cypress Street then to South 5th Street to connect the Greenway with the Ring Around the Lake Bike Trail on LA 22.

Pecan Street to Magnolia Street

Alternate 2: A 5-foot wide sidewalk and curb would be installed on the west side of SE Railroad Avenue. “Share the Road” signage and/or reflective striping designating bicycle use would also be installed to facilitate cycling and motor vehicle safety.

Pugh Drive to Magnolia Street

Alternate 1: SE Railroad Avenue would be utilized as a shared-use road to continue the Manchac Greenway. A 5-foot wide sidewalk with a curb would be installed on the east side of SE Railroad Avenue. “Share the Road” signage and/or reflective striping designating bicycle use will also be installed to facilitate cycling and motor vehicle safety.

Alternate 2: In the future, this 5-foot wide sidewalk may be expanded to 10 feet in width, with a culvert ditch.

Ponchatoula Wastewater Treatment Facility to Pugh Drive

Alternate 1: A new 10-foot multi-use path would be constructed on the east side of the railroad tracks with right-of-way permission from the Pugh family between the wastewater treatment ponds and Pugh Drive to the south. This section will require wooden bridges to cross over several waterways. The cost of the multi-use path and the bridges is estimated to be \$1,250,000. The cost for right-of-way purchase has not been identified. Conservation easements on the Pugh family property may be negotiated at no cost to the Parish. The right-of-way may also be purchased from the Canadian National Railroad. An estimated cost of railroad right-of-way was determined from the per acre cost of the City of Ponchatoula’s purchase from the railroad with an additional 25 percent to adjust the price for inflation (\$10,500 per acre).

The total cost to construct either alternate design of the Greenway from Pugh Drive to Pine Street is estimated at approximately \$568,500, see additional information regarding estimated costs in **Appendix B**.

I-55/US 51 Interchange Area

Alternate 1 or 2: A 10-foot wide multi-use path would be constructed along existing gravel roads and the abandoned US-51 roadbed. Bridges and culverts would also be installed to cross existing waterways. This section of the Manchac Greenway would also require a railroad crossing for bicycles and pedestrians either at the Pipeline access road or the driveway of Marine Power Industrial Park. The cost for roadbed repairs, path installation, and bridge installation is estimated at \$1,491,200, see additional information regarding estimated costs in **Appendix B**.

Rural/Marsh/Swamp

Alternate 1: A shared-use shoulder on Old US 51 would be improved to include a separate 5-foot wide concrete pedestrian sidewalk. The Manchac Greenway would also include construction of a steel pedestrian bridge spanning the North Pass Manchac. A bicycle railroad crossing would be installed near the I-55/US-51 exit ramp to facilitate safe-crossings of cyclists and pedestrians. The estimated cost for the shared-use shoulder is \$2,752,000. The cost for the concrete sidewalk is estimated at \$1,827,500. The cost for the steel pedestrian bridge is estimated at \$3,500,000. The total cost for Alternate 1 of the section of the roadway from Pass Manchac to the Joyce WMA

Swamp Walk is approximately \$8,079, 500, see additional information regarding estimated costs in **Appendix B**.

Alternate 2: A 10-foot wide multi-use path would be constructed along the abandoned US 51 roadbed. Construction would include extending existing culverts and building bridges to cross existing waterways along the route. Interim detours to Old US 51 may be necessary during phased construction to mitigate costs of bridges and culverts for waterway crossings. At these temporary detours, the sidewalk along Old US 51 would be widened to 10 feet to allow travelers to detour from the constructed path on the abandoned roadbed, over to the Old US 51 roadside path, to cross waterways on the Old US 51 pathway, then detour back to the abandoned roadbed path. The proposed path would also use the steel pedestrian bridge spanning the North Pass along the Alternate 1 (Old US 51) alignment. The cost for repairs to the abandoned roadbed and installation of the multi-use path are estimated at \$6,612,000. The cost for the steel pedestrian bridge is estimated at \$3,500,000. The total cost for Alternate 2 of the section of the roadway from Pass Manchac to the Joyce WMA Swamp Walk is approximately \$10,112,000, if the pedestrian bridge is constructed with the selection of this alternate. If the pedestrian bridge over North Pass Manchac is constructed during Alternate 1, the total cost for Alternate 2 would be \$6,612,000, see additional information regarding estimated costs in **Appendix B**.

Suggested Construction Phasing

The ELOS Team provides the following suggestions for construction phasing due to the high costs associated with the scope of the proposed project. As funding is identified, phases can be designed, permitted, and constructed.

The I-55/US 51 portion of the Manchac Greenway corridor is suggested as the first phase of construction. The estimated cost is approximately \$1.5 million to safely and effectively connect the northern and southern Share the Road-style bike trails. This middle section of the proposed Manchac Greenway is imperative for connectivity and to provide a separate facility for pedestrians and bicyclists who are not allowed access within the controlled access of the Interstate system.

The second phase could include the northern portions of the proposed Greenway between LA 22 and Pugh Drive or President Hoover, depending on available funding. Shifting the Manchac Greenway from Southwest Railroad Avenue to Southeast Railroad Avenue would improve safety for pedestrians and bicyclists by locating the facility along a roadway with lower traffic volumes. A greater perception of safety for pedestrians and bicyclists improves the confidence of the user in their ability to travel along the Manchac Greenway.

The third phase of construction would provide a stand-alone facility with full connectivity from LA 22 to south of the I-55/US 51 interchange on the east side of the railroad tracks. This phase would include a new paved multi-use path through the Pugh family property or railroad right-of-way from Pugh Road south to the City of Ponchatoula's wastewater treatment plant.

Improvements along Alternates 1 and 2 in the southern portion of the corridor could be completed as funding is secured. The widened and paved shoulders associated with Alternate 1 could be used as temporary detours during Phase 2. Structures for crossing waterways are expensive. As the multi-use path is constructed along the US 51 abandoned roadbed, temporary detours from the abandoned roadbed west to the improved shoulders would provide waterway crossings until Alternate 2 is completely funded and constructed.

POTENTIAL FUNDING SOURCES

A selection of potential funding sources for further planning, design, and construction of the Manchac Greenway are provided below. The specific requirements of each grant program are summarized below. Full copies of applications and guidance are presented in **Appendix C**.

Land and Water Conservation Fund (LWCF)

The Land and Water Conservation Fund (LWCF) is funded annually through the Federal budget by the U.S. Congress and apportioned to states by the Department of the Interior. Within Louisiana, the LWCF program is managed by the Louisiana Office of State Parks (OSP), Division of Outdoor Recreation under an agreement with the NPS. Applications are accepted in even numbered years (2020, 2022, etc.) and must be submitted by April 1. Projects reviewed, approved, and selected at the state level are submitted to the NPS for Federal review and approval. Project proposals must be approved at both the Federal and state levels. Upon NPS approval of a project application, a state agreement is prepared by OSP and forwarded to the project sponsor for signature. Recreation areas that receive Federal assistance through the LWCF must remain dedicated to public outdoor recreation use in perpetuity (OSP, 2018).

LWCF grant awards are available to the State of Louisiana and its political subdivisions to acquire land for park and recreation areas and /or to develop and/or renovate outdoor recreation facilities. Project sponsor eligibility is limited to political subdivisions or state agencies. Political subdivisions include parishes, cities, towns, school districts or special assessment districts, such as recreation districts.

LWCF grants reimburse up to 50 percent of the cost for land acquisition, development or renovation/restoration projects less administrative fees. Project totals less than \$60,000 are not considered competitive. The maximum level of Federal assistance available for a single LWCF grant is \$250,000. Project sponsors cannot be reimbursed for funds incurred before an application receives federal approval and a local grant agreement is signed.

FHWA Recreational Trails Program for Louisiana

The FHWA Recreational Trails Program for Louisiana is an assistance program funded by the National Recreational Trails Fund Act (NRTFA) of 1991 and extended by the Fixing America's Surface Transportation Act, or "FAST Act", of 2015. The program is administered by OSP,

Division of Outdoor Recreation. The program provides funds for all types of recreational trail uses, including motorized and non-motorized users, such as pedestrians (walking, hiking, running, wheelchair use, etc.), bicyclists, skaters, equestrians, off-road motorcyclists, all-terrain vehicle riders, etc.

Program applications must be submitted to OSP annually before July 1. Selected projects will be included in the Recreational Trails program's submittal to DOTD for environmental clearance and the FHWA for funding approval. Upon receipt of DOTD clearance and the FHWA approval and prior to the beginning of any project, a commitment agreement must be signed by the applicant, grantee, and/or project sponsor and OSP's Recreational Trail Program for Louisiana.

The Recreational Trails program provides matching grant funds to local governments and non-profit groups for the construction or rehabilitation of recreational trails. However, applicants must cover all costs before submitting invoices for reimbursement from the program. The Recreational Trails program will reimburse 80 percent of eligible project costs. Differentiation between eligible and non-eligible costs are provided in **Appendix C**. The applicant's match can be either cash or value of documented contributions of land, material, equipment, labor, or services.

Safe Routes to Public Places Program

The Safe Routes to Public Places Program (SRTPPP) is part of the overall Highway Safety Improvement Program (HSIP) and falls under the umbrella of the Louisiana Strategic Highway Safety Plan (SHSP) (DOTD et al., 2017). The vision for the SHSP is Destination Zero Deaths, and the HSIP is the core Federal-aid program that aims to implement the SHSP's mission to achieve a significant reduction in fatalities and serious injuries on all public roads. The development of the SRTPPP is a result of the recognition that the transportation network is utilized by motorists and non-motorists, such as pedestrians and bicyclists of all ages and abilities. The SRTPPP aims to address the safety needs of the non-motorists.

HSIP funds are eligible to be spent on projects to improve safety for pedestrians and bicyclists on all public roads (state-owned and locally-owned). Any public agency is eligible to submit project applications to the SRTPPP during specific application periods designated by DOTD. The SRTPPP Project Selection Committee and Highway Safety Administrator distribute funding for selected projects. Eligible projects include improving pedestrian and bicycle facilities to schools, libraries, governmental buildings, hospitals, transit facilities, public parks, and other public places. Funding can be up to 100 percent of project costs with no required local match, if the project meets DOTD's project funding commitment and eligibility requirements. The DOTD District Administrator must concur with the project's scope prior to the project being accepted into the SRTPPP. If a portion of the project is to be constructed on right-of-way not owned by the project sponsor, a letter of endorsement from the owner must accompany the application. A selected project can apply a maximum of \$350,000 to costs for design engineering services, right-of-way

acquisition, right-of-way acquisition services, project construction, and construction contract administration (DOTD, 2018).

The project sponsor's commitment to provide additional financial support must be included in the application. If the project sponsor provides professional engineering or environmental services for project design, right-of-way acquisition and/or right-of-way acquisition services at its own expense, these costs can be considered additional financial support and considered in the evaluation and selection process (DOTD, 2018).

Wildlife Restoration Program

The Wildlife Restoration Program provides grant funds to state fish and wildlife agencies for projects to restore, conserve, manage and enhance wild birds and mammals and their habitat. Projects also include providing public use and access to wildlife resources, hunter education and development and management of shooting ranges. The Program is authorized by the Wildlife Restoration Act (Pittman-Robertson) of 1937. The program's funding is through taxes collected at the time of purchase for hunting and fishing equipment (U.S. Fish and Wildlife Service, 2018).

Applications for this grant program are collected through the U.S. Government's online grant application system, Grants.gov. Funding is disbursed to states for approved project applications for up to 75 percent of the project's costs (USFWS 2018). In order to apply for funding under this program, a partnership would be required between Tangipahoa Parish Government and the LDWF, where LDWF would be the applicant. This may be a viable funding option for portions of the Manchac Greenway to provide access to Joyce WMA.

Alternative Investments

Finding funding sources for large-scale recreation projects can be challenging. Without a dedicated recreation tax or other long-term income source, the Manchac Greenway should identify alternative investment sources such as in-kind donations of services or equipment; inclusion of Manchac Greenway components as parts of other highway or roadway improvement projects; or direct funding from private sponsorships.

The Manchac Greenway Committee members represent DOTD, Tangipahoa Parish Government, the City of Ponchatoula, and the Friends of the Manchac group. Each of the membership groups could provide in-kind donations to reduce design or construction costs. The donation of used construction materials (culverts, bridge spans, asphalt, etc.) that may no longer meet load ratings or guidelines for motor vehicular use could be re-used or recycled to meet the construction needs identified for pedestrian/multi-use paths. The DOTD and Public Works departments at the Parish and Municipal levels should be made-aware of the needs of the Manchac Greenway. For example, if a corrugated metal pipe is replaced with a concrete culvert during a drainage improvement project. That corrugated metal pipe could be re-used for one of the crossings along the Greenway. Area Engineers, Project Engineers, Construction Foremen should be made aware of the construction components needed for sections of the Manchac Greenway. Donations of services or labor for design or construction could also reduce costs on the Greenway.

Including portions of the Manchac Greenway design in future road improvement projects would also reduce total costs for the Parish. Inclusion of pavement markings, signage, culvert extensions could all be included as complete streets measures in future projects along city streets in Ponchatoula or roadways in the state highway system.

Volunteer groups or private donors could also provide funding, equipment, or services. An adoption program for the Greenway could be established as a funding source. Private businesses could adopt a portion of the Greenway and directly fund design, construction, or maintenance. For example, Friends of the Manchac Greenway could adopt a portion of the Greenway near the treatment ponds. A sign marking the group's adoption could be erected. The Friends group could provide labor once a month for maintenance or construct a wildlife viewing stand along their portion of the Greenway. Construction could be funded by events (bike rides, bird watching outings, fun runs, etc.).

AGENCY COORDINATION AND PUBLIC INVOLVEMENT

In order to introduce the project to Federal, state, and local government entities, public officials, and the public, the ELOS Team prepared a letter to solicit comments and/or to garner support for the proposed Greenway. The list of recipients is provided in **Appendix D**. Copies of the correspondence received are also provided in **Appendix D** and summarized below.

Responses were received from the Capital Region Planning Commission (CRPC), Louisiana Department of Natural Resources Office of Coastal Management (DNR-OCM), Dr. Rob Moreau (Southeastern Louisiana University, Turtle Cove Environmental Research Station) and summarized below.

- CRPC found that the Manchac Greenway proposed plan would not conflict with any regionwide plan nor is it redundant with other federally funded projects.
- DNR-OCM indicated that a Coastal Use Permit may be required for construction of the project and requested that every effort to minimize impacts to vegetated wetlands be made during the planning process.
- Dr. Rob Moreau found the proposed alternates to be the reasonable way to approach the issue. He prefers to widen the existing U.S. 51 (widen shoulders for multi-use path) now, with the ultimate goal being to have a separate multi-use path off of the highway. He recommends using the "old highway 51" that is east of the current U.S. 51, although it obviously will need lots of repairs and new bridge crossings.
- Friends of the Manchac Greenway (Ben Taylor, Frank Neelis) had several questions and comments regarding the Greenway. A notable comment mentions ensuring proper use of sharrows to indicate shared use with pedestrians and cyclists be included when discussing crossings over North Pass. Several questions regarding specific design choices were also

asked, but due to the conceptual nature of this stage of the project, no definitive answers are available.

- DOTD offered comments regarding the use of sharrows on road shoulders, indicating that they would not be needed unless lanes are being shared by pedestrians, cyclists, and automobiles. Sidewalks must be offset a minimum 8' from speed roadways although the designed 2' would be acceptable with a design waiver. Inquiries were made regarding if studies of proposed bicycle crossings have been conducted, and about receiving permission from the railroad about proposed crossings. Bicycle crossings proposed along US 51 Business and Old US 51 were not studied as part of this Concept Plan, nor has consultation with the railroad for crossing design approval.

ELOS presented the Manchac Greenway plan proposal to the Hammond Chamber of Commerce Governmental Affairs Committee on their invitation on July 17, 2019. Maria Bernard Reid provided the group with a synopsis of ELOS' role in the planning process as a consultant to the Tangipahoa Parish Planning Department. Ms. Reid invited the group to submit comments, suggestions, concerns, or letters of support during the solicitation of views period.

This proposed plan will be presented to the public at a Tangipahoa Parish Council meeting and Planning Commission meeting. The date and times for the meeting presentations will be determined at a later date.

FUTURE COMPLIMENTARY RECREATIONAL FACILITY PLANS

As shown in **Figure 3**, the Manchac Greenway would provide an additional means of access to recreational facilities in south Tangipahoa Parish. Basic facilities already exist along the route, such as boat and kayak launches, parks, and a swamp walk. An additional means of access would translate into more recreationists using existing facilities. In order to meet the needs of future recreationists, improvements to existing facilities and new facilities are planned along the Manchac Greenway corridor.

Improvements are planned at the existing facilities such as lighting, restrooms, and picnic areas at the North Pass Public Launch, parking, vegetation management, and wayfinding signage. Long-term plans for improvements also include:

- Lighting and educational kiosks along the Manchac Greenway;
- Pedestrian crosswalks with warning signals;
- Trailheads at the unfinished Carter/Reagan Interstate Rest Area, North Pass Public Launch;
- Native vegetation arboretum;
- Parking areas, picnic pavilions, litter receptacles and fishing piers;
- Re-purposing Port Manchac for public recreation;
- Drainage equalization channels at select fishing cuts or sloughs;

- Canoe and small boat launch at Lower Owl Bayou;
- Canoe launch and fishing area at Upper Owl Bayou;
- Tourism marketing campaign for the Manchac Greenway;
- Vegetation Management Master Plan to reduce encroachment of invasive plants and promote native vegetation; and
- Establish funding for a Greenway Manager.

CONCLUSIONS AND RECOMMENDATIONS

The main goal of the Manchac Greenway Committee is to provide connectivity along the Manchac Greenway by establishing continuous access for pedestrians and bicyclists from Ponchatoula to Pass Manchac. The ELOS Team reviewed the existing conditions through the Manchac Greenway corridor; established design alternates and options to meet the goals of the Committee; and refined the alternates to estimate costs.

Obstacles to connectivity include a portion of the corridor along an Interstate highway ramp system where pedestrians and bicyclists are prohibited, a narrow bridge with no shoulders over North Pass Manchac, and a portion of the corridor along US 51B in Ponchatoula with no shoulders, on-street parking, and a railroad crossing. As described in this plan, two alternates were developed. Alternate 1 provides a comparatively low-cost method to traverse the areas with identified obstacles.

Connectivity from Pugh Drive to the Joyce WMA Swamp Walk (including the I-55/US 51 Interchange area) is the most critical to the Manchac Greenway corridor. Alternate 1 proposes an approximately \$1.5 million 10-foot wide, 1.0-mile long multi-use path constructed along the existing gravel roads and the abandoned US-51 roadbed. Bridges and culverts would also be installed to cross existing waterways. This section of the Manchac Greenway would also require a railroad crossing for bicycles and pedestrians either at the Pipeline access road or the driveway of Marine Power Industrial Park. **The ELOS Team recommends that this portion of the Manchac Greenway be given highest priority for design, permitting, and construction.**

Construction sequencing along other sections of the Manchac Greenway would allow for the majority of Alternate 1 to be constructed while the Share the Road-style existing trail is used. Once construction for Alternate 1 is completed, portions of Alternate 2 can be constructed.

The ELOS Team also recommends that during design, Value Engineering techniques be employed to identify the most cost-effective materials, construction methods, greenway alignment, etc. The Value Engineering analysis should also identify means to reduce operation and maintenance costs, reduce impacts to environmental resources, and reduce traffic/public access impedances during construction.

Explore alternative funding sources by developing partnerships with commercial and retail outlets with interests in the Manchac area. Direct funding or donated goods or services would reduce the full burden of funding on state agencies, the Tangipahoa Parish Government, City of Ponchatoula, Friends of the Manchac Greenway, and other interested parties. A Manchac Greenway website could provide a clear message for the project; provide project information to partners and potential partners who may be interested in collectively funding design and engineering for sections of the greenway or by volunteering labor or materials during construction.

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