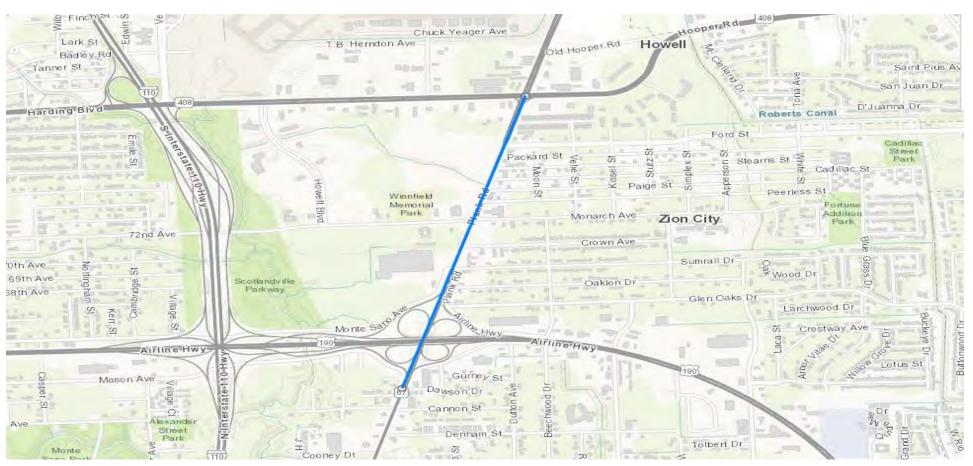
# PLANK ROAD CORRIDOR ENHANCEMENT SEGMENT 2

# (Dawson Drive to Harding)

C-P PROJECT NO. 20-EN-HC-0033

February 2022

# **DESIGN STUDY**



Prepared by:

ROADWAY CLASS = UA DESIGN SPEED = 45 MPH





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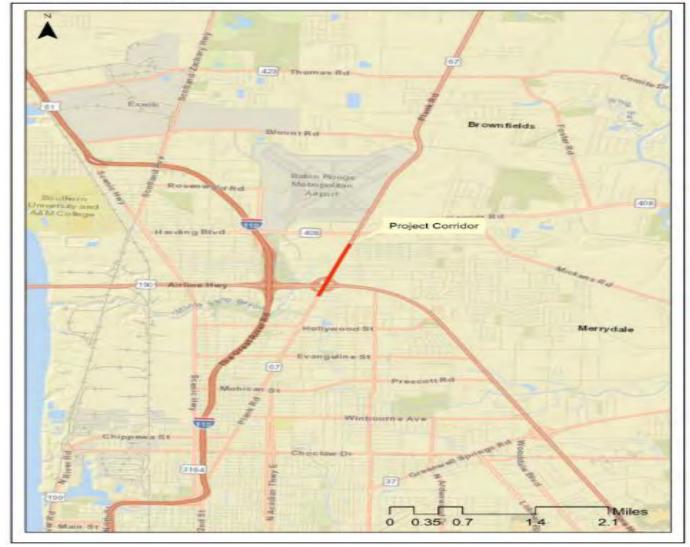
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#### 1 Introduction

#### 1.1 Location

The MOVEBR Plank Road Pedestrian, Bicyclists and Bus Transit project is a community enhancement project on Plank Road. The project limits along Plank Road will begin at the North Roadway return for Dawson Drive and terminate at the North Roadway return for Ford Street. The project is approximately 4750 feet and is located in East Baton Rouge Parish, Greensburg Land District, Township 6S.

Figure 1 - Project Area



#### Scope and Purpose

As part of the MOVEBR Enhancement Program, Gresham Smith was selected by the East Baton Rouge Department of Public Works to conduct a Design Study to enhance pedestrian and cyclist mobility by improving sidewalks and accommodating bicycles

where feasible as well as enhancements to public transit stops along the Plank Road – Segment 1, Dawson Street to Ford Street, corridor. Gresham Smith was authorized to perform Preliminary Engineering Services – Parts 1, 2, 3, 4 and 6 on February 8, 2020. Parts 1, 2, 3, 4 and 6 include a design study, environmental studies, control and topographic surveying, traffic study and report and street lighting respectively. The purpose of this Design Study is to analyze the existing corridor and develop alternatives to incorporate Complete Streets concepts to specifically enhance pedestrian and potentially bicycle mobility for users traveling to the schools, public facilities and businesses along the corridor. The Design Study shall also include the results of traffic studies and other considerations to determine the most feasible project design.

#### Roadway Information

Plank Road, LA 67, is currently classified as an Urban Arterial with a posted speed of 45 mph. The project limits do include the interchange with US 61, Airline Highway. The roadway typical section has 2 north bound and 2 south bound lanes with a center turn lane. Design will be coordinated with Plank Road Segment 1, and the 72<sup>nd</sup> Street Sidewalks and the Ford Street Extension, both on the west side of Plank Road. As per the Concept Report, the Projected Average Daily Traffic (ADT) for year 2042 is 52,000 (north of Airline).

#### Design Standards

#### **LADOTD Complete Streets**

Facilities will be designed and constructed in accordance with current applicable laws and regulations, using best practices and guidance from the following, but not limited to: DOTD guidelines and manuals. American Association of State Highway and Transportation Officials (AASHTO) publications, the Manual on Uniform Traffic Control Devices (MUTCD), and the Public Rights-of-Ways Accessibility Guidelines (PROWAG).

#### City of Baton Rouge Roadway Design and Complete Streets Guidelines

The City of Baton Rouge/Parish of East Baton Rouge Roadway Design and Complete Streets Guidelines governs proposed sidewalk design widths. Adequate sidewalk widths are determined by character area and number of lanes. Plank Road, La 67, is in a Suburban 4-lane character area, with a posted speed of 45 mph and has four travel lanes, therefore requires a design sidewalk width of 5 ft. when offset from the back of the roadway curb and 7 ft. if adjacent to the curb. Some areas of Plank Road have a narrow

right of way available, and a design variance will be required. Combination pedestrian/bike paths (multi-use paths) require a 10 ft. width.

#### **ADA Guidelines**

A fundamental requirement for this project is for sidewalks and multi-use paths to be compliant with the American with Disabilities Act (ADA). The design guidelines to meet these standards include detectable curb ramps at intersections and a maximum two percent (2%) cross slope, five percent (5%) longitudinal slope and minimum three foot (3') clear width.

# Traffic and Safety

Gresham Smith Proj. #44984.00

### Traffic Study Report Chapter 1

# LA 67 (Plank Road) Corridor Enhancement – Dawson Drive to Harding Boulevard

City Parish No. 20-EN-HC-0033 Baton Rouge, Louisiana

Prepared For:

East Baton Rouge Parish





Prepared By:

Vectura Consulting Services, LLC



In Association With:

Gresham Smith

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#### **Appendix**

Appendix A: Final Data Collection

Appendix B: Existing Safety Analysis

#### Introduction

The MOVEBR Transportation and Infrastructure Improvements Plan in East Baton Rouge Parish has identified this portion of LA 67 (Plank Road) in an effort to improve access for pedestrians and cyclists through intersection and signal improvements, sidewalk connections, transit stop improvements and/or other relevant methods. The purpose of this project is to prepare a complete street study for the LA 67 (Plank Road).

This traffic study will evaluate the existing pedestrian, bike and transit accommodations along the corridor. This study also includes safety analysis and summarizes existing issues for pedestrians, bicyclists and transit riders. The proposed alternatives along the corridor will be summarized and new signal timings will be developed to accommodate pedestrian signalization.

#### Study Limits

The study limits along LA 67 (Plank Road) are from the northern turnout of the intersection with Dawson Drive to Ford Street.

The study area map is shown in Figure 1.



Figure 1: Study Area Map

Source: USGS Topological Maps

#### **Data Collection**

#### **Existing Conditions**

Within study area, LA 67 (Plank Road) is a roadway with varied cross-section with curb and gutter drainage and is oriented in the north-south direction. The roadway cross-section varies from four lane divided on the south end to a five-lane section on the north end with alternating left turn lanes. The posted speed limit along the LA 67 (Plank Road) is 45 miles per hour (mph). The roadway consists of 12-foot-wide lanes with back-to-back striped left turn lanes along the corridor. The land-uses along LA 67 (Plank Road) are a mix of small commercial and residential developments.

North of Dawson Drive, there is a full cloverleaf interchange system to access US 61 (Airline Highway). Within the study area limits there are two signalized intersections:

- LA 67 (Plank Road) at Sumrall Drive / Monte Sano Avenue
- LA 67 (Plank Road) at 72<sup>nd</sup> Avenue / Monarch Avenue

The vehicles exiting US 61 (Airline Highway) westbound and traveling LA 67 (Plank Road) northbound are provided with 1200' long auxiliary lane which ends south of 72<sup>nd</sup> Avenue / Monarch Avenue.

Currently, sidewalks are provided along the study corridor. South of Sumrall Drive, sidewalks are provided on both sides of the LA 67 (Plank Road) and these sidewalks extend on the bridge over US 61 (Airline Highway). North of Sumrall Drive, sidewalks are provided on east side of LA 67 (Plank Road). Existing sidewalks are less than four (4) feet wide and not all sidewalks crossing at the driveway entrances are provided with curb ramps. Currently there are no pedestrian crosswalks provided across LA 67 (Plank Road). The existing sidewalks are plotted on an aerial map, provided in **Appendix A**.

The Capital Area Transit System (CATS) provides the following bus service routes along LA 67 (Plank Road):

- Route 11: Northside Circulator runs along the study corridor from 72<sup>nd</sup> Avenue / Monarch Avenue to Cadillac Street
- Route 41: Plank Road runs along the study corridor from Dawson Drive to US 61
- Route 54: Airline Highway North / Southern University runs along the study corridor from Harding Boulevard to US 61

CATS bus stops are located at multiple locations on both sides of the corridor. The existing bus stops are located on an aerial map, and provided in **Appendix A**.

Geometric field checks and observations were performed on LA 67 (Plank Road) to evaluate existing roadway and pedestrian facilities, bus stop activity, and pedestrian and bike activity along the corridor. Minimal pedestrian and bicycle activity was observed in the field. The summary of the observations and the existing geometric details for the two signalized intersections are found in **Appendix A**.

#### <u>Future Projects and Developments in the Project Area</u>

- The Plank-Nicholson Bus Rapid Transit (BRT) project is currently in the design phase, with construction expected to be completed in 2024. The project will enhance bus stations with real-time information, level boarding, and additional corridor infrastructure improvements which will enhance connectivity to stations, improve pedestrian safety, streamline traffic and transit operations, and add to overall effectiveness of Plank-Nicholson BRT. A North Transfer Center will be located on US 61 which will allow those riding on existing CATS routes 11, 15, 41, and 54 the opportunity to access the BRT.
- Ford Street Extension (DOTD State Project No. H.011310) project is currently underway for an extension from LA 67 (Plank Road) to Howell Place Blvd. The proposed extension will match the existing LA 67 (Plank Road) roadway classification. The extension will be an urban collector with a design speed of 30 mph. The roadway will consist of 2-11' lanes, 30' raised grass median, curb and gutter with subsurface drainage and sidewalks.

#### **Existing Safety Analysis**

The existing safety of the corridor was analyzed using three (3) years of crash data, from 2017-2019 from north of Dawson Drive to Ford Street. Over the course of three (3) years, 143 crashes occurred on the corridor. 43% of these crashes were determined to be Rear End crashes, with most occurring at the signalized intersections.

At the intersection of LA 67 (Plank Road) and Sumrall Drive/Monte Sano Avenue, 27 crashes were observed over the three (3) year period. 59% (16 crashes) of these crashes were determined to be Rear End crashes with most of them (11 crashes) in the northbound direction.

At the intersection of LA 67 (Plank Road) and 72nd Avenue / Monarch Avenue, 47 crashes were observed over the three (3) year period (average of 16 crashes per year). These crashes show a pattern of Rear End and Right-Angle crashes, due to vehicles either failing to make a complete stop or running the red light. This intersection is included in DOTD's statewide High Potential for Safety Improvements (PSI) Intersection list for 2019.

All pedestrian and bicyclist crashes were analyzed for a total of five (5) years, from 2015-2019. Within those five (5) years, two (2) pedestrian crashes and two (2) bicyclist crashes occurred, all during the nighttime.

The two (2) pedestrian crashes occurred on the northbound approach of LA 67 (Plank Road) at 72nd Avenue / Monarch Avenue. In 2016, a pedestrian was crossing LA 67 (Plank Road) around 7:15 PM, when the pedestrian was struck by a northbound vehicle. The vehicle fled the scene. The pedestrian was unable to give a statement due to being taken to a hospital. In 2019, a pedestrian in a wheelchair was crossing LA 67 (Plank Road) around 10:30 PM, when the pedestrian was struck by a northbound vehicle. The vehicle fled the scene. The pedestrian was unable to give a statement due to being taken to a hospital with moderate injury severity.

This correspondence and the information contained herein is prepared solely for the purpose of identifying, evaluating and planning safety improvements on public roads which may be implemented utilizing federal aid highway funds; and is therefore exempt from discovery or admission into evidence pursuant to 23 U.S.C. 409.

In 2015, one (1) fatal bicycle crash occurred on the northbound approach of LA 67 (Plank Road) and Sumrall Drive / Monte Sano Avenue at 2:30 AM.

In 2017, one (1) bicycle crash occurred on the southbound approach of LA 67 (Plank Road) at Paige Street at 7:41 PM, when it was dark. The vehicle fled the scene. The bicyclist was unable to give a statement due to being taken to a hospital with moderate injury severity.

All crash reports for pedestrian / bicyclist and fatal crashes have limited details, due to the injury of the person, and the drivers of the vehicles fleeing the scene. Therefore, safety deficiencies for these crashes could not be determined.

More detailed analyses are provided in the **Appendix B**.

#### **Summary of Findings**

Summarized below are the findings of the existing conditions:

- Existing sidewalk adjacent to LA 67 (Plank Road) between north of Dawson Drive and the north US 61 ramps is less than the acceptable width of sidewalk required by DOTD Minimum Design Guidelines, which requires a 7-foot width for all sidewalks adjacent to urban roadways.
- Existing sidewalks parallel to LA 67 (Plank Road) north of US 61 are eight (8) feet or more from the existing travel lane, meeting the preferred sidewalk offset from travel lane, per the DOTD Minimum Design Guidelines; however, the width of the sidewalks is less than the acceptable usable width of five (5) feet.
- The traffic signal equipment at the intersection of LA 67 (Plank Road) at Sumrall Drive/Monte Sano Avenue is supported by wood poles and span wires. There are no existing crosswalks nor pedestrian signalization at this intersection.
- The traffic signal equipment at the intersection of LA 67 (Plank Road) at 72<sup>nd</sup> Avenue
  / Monarch Avenue is supported by strain poles and span wires. There are no existing
  crosswalks nor pedestrian signalization at this intersection. A pattern of Rear End and
  Right-Angle crashes were observed with a majority of vehicles either failing to make
  a complete stop or running the red light.

## Traffic Study Report Chapter 2

# LA 67 (Plank Road) Corridor Enhancement – Dawson Drive to Harding Boulevard

City Parish No. 20-EN-HC-0033 Baton Rouge, Louisiana

Prepared For:

East Baton Rouge Parish





Prepared By:

Vectura Consulting Services, LLC



In Association With:

Gresham Smith

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### **Appendix**

Appendix C: Alternative Analysis

#### **Chapter 2: Alternative Analysis**

#### **Operational Analysis**

The existing pedestrian, bike, and transit accommodations along the LA 67 (Plank Road) corridor were evaluated that also included safety analysis. The summary of existing issues for pedestrians, bicyclists, and transit riders were provided in **Chapter 1**. It should be noted that this study does not include any existing or alternative operational analysis since no geometric improvements were proposed for the vehicular travel lanes. Therefore, no traffic count data was collected as a part of this study.

The limits of the study area along LA 67 (Plank Road) range from the northern turnout of the intersection with Dawson Drive to Ford Street. Within the study area there are two signalized intersections:

- LA 67 (Plank Road) at Sumrall Drive / Monte Sano Avenue
- LA 67 (Plank Road) at 72<sup>nd</sup> Avenue / Monarch Avenue

A detailed description of the roadway segment, signalized intersections, bicycle, and pedestrian facilities, and the study area layouts, are included in **Chapter 1**, **Appendix A**.

#### <u>Previous Studies in the Project Area</u>

The recommendation to install pedestrian sidewalks and intersection crosswalks on LA 67 (Plank Road) at multiple locations was based on the DOTD Traffic Engineering Manual Section 3B.2.4 and information provided in multiple studies dating back to 2020.

The Baton Rouge Pedestrian and Bicycle Safety Action Plan (July 2020)

Due to having one the highest pedestrian fatality rates in the United States, the City of Baton Rouge was identified as a Pedestrian and Bicycle Focus City by the Federal Highway Administration (FHWA). As such, the Louisiana Department of Transportation and Development (DOTD) sponsored the H.013029 Baton Rouge Pedestrian and Bicycle Safety Action Plan (Safety Action Plan) as a framework to improve walking and bicycling conditions within Baton Rouge. In the report, the segment of LA 67 (Plank Road) between the US 61 and Hooper Road was identified as a "Medium" rating for Pedestrian Crash Exposure (Figure 43 of Safety Action Plan). The safety action plan lists the Plank Road Corridor, as one of the four (4) locations of highly concentrated pedestrian and bicycle crashes within the city of Baton Rouge.

The East Baton Rouge Pedestrian and Bicycle Master Plan (March 2020)

DOTD, in partnership with the Recreation and Park Commission for the Parish of East Baton Rouge (BREC) also developed the East Baton Rouge Parish Pedestrian and Bicycle Master Plan (the Plan). The project limits on LA 67 (Plank Road) was identified

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as "Difficult Walking and Biking Route" in Figure 2-12 of the Plan. As part of the Plan, sidewalk improvements on LA 67 (Plank Road) was placed in the highest priority list (Green list) in Table 6-2 of the Plan. This segment of LA 67 (Plank Road) was also identified as a "Pedestrian Improvement Area" in Figure 6-2 of the Plan.

The Imagine Plank Road Final Report (November 2019)

The Imagine Plank Road Final Report (November 2019) outlines transportation improvements as a major benchmark of the master plan. The report notes that 16% of households on Plank Road do not own a car, making ADA-compliant sidewalks, safe crossings, and public amenities critical for the area. The report summarizes the deficiencies in the existing infrastructure including:

- Lack of striped crosswalks along the corridor
- Bus stops lack amenities such as shade, seating, and informational displays
- Crashes, especially involving pedestrians and bicyclists, are common on Plank Road.

The Imagine Plank Road final report also notes that the Bus Rapid Transit project is a high-quality and cost-effective service for the area, which will create convenient connections from Plank Road to other neighborhoods in Baton Rouge.

Excerpts from these plans detailing the Plank Road corridor are included in **Appendix C**.

#### <u>Current Projects and Developments in the Project Area</u>

#### Ford Street Extension

Ford Street Extension (LADOTD State Project No. H.011310) project is currently underway for an extension from LA 67 (Plank Road) to Howell Place Blvd. The proposed extension will match the existing LA 67 (Plank Road) roadway classification. The extension will be an urban collector with a design speed of 30 mph. The roadway will consist of 2-11' lanes, 2-5' bike lanes, 22' raised grass median, curb and gutter with subsurface drainage and sidewalks.

#### Potential Crosswalk Locations

As per MUTCD section 3B.18, crosswalk lines should not be used indiscriminately. An engineering study should be performed before a marked crosswalk is installed at a location away from a traffic control signal or an approach controlled by a STOP or YIELD sign. The engineering study should consider the geometry of the location, the distance from adjacent signalized intersections, the pedestrian volumes and delays, the average daily traffic (ADT), the posted or statutory speed limit or 85th-percentile speed, and other appropriate factors.

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New marked crosswalks should not be installed across uncontrolled roadways where the speed limit exceeds 40 mph and the roadway has four or more lanes of travel without a raised median or pedestrian refuge island and an ADT of 12,000 vehicles per day or greater.

Currently, LA 67 (Plank Road) is a five-lane section with a posted speed limit of 45 mph and an average daily traffic of approximately 23,200 vehicle per day. Therefore, midblock crossings or crosswalks at unsignalized intersections are not recommended at this time.

As per existing safety analysis, **Chapter 1**, **Appendix B**, there are four (4) pedestrian / bicyclist related crashes along the study area. One (1) fatal bicyclist crash just south of Sumrall Drive, two (2) pedestrian crashes at 72<sup>nd</sup> Street and one (1) bicyclist crash near Paige Street, 500' north of 72<sup>nd</sup> Street. These crash locations are shown in **Exhibit 1**.

LADOTD's Traffic Engineering Manual Section 3B.2 states a crosswalk may be installed to connect a sidewalk or a pedestrian generator. There is an existing sidewalk project along 72<sup>nd</sup> Avenue which extends both sides of LA 67 (Plank Road) and a crosswalk across LA 67 (Plank Road) is required to connect the proposed sidewalks. At the intersection of Sumrall Drive, there are Bus Stops on both sides of LA 67 (Plank Road). Bus Stops can be considered pedestrian generators and the user must cross LA 67 (Plank Road) to access the Bus Stops.

Without the ability to collect vehicular, pedestrian, or transit data, the need to cross LA 67 (Plank Road) was surmised by the existing transit stations and mixture of commercial and residential land use types as shown in **Exhibit 1**. Since providing marked mid-block crosswalks only on LA 67 (Plank Road) is not sufficient based on the FHWA guidance, the design team recommends establishing marked crosswalks with pedestrian countdown heads at the signalized intersections of Sumrall Drive and 72nd Avenue to safely accommodate the pedestrian crossing of LA 67 (Plank Road).

The crosswalk at the proposed locations will also help mitigate the pedestrian / bicyclist crashes along the study area and the inadequate infrastructure for pedestrian and bicycles identified in both the Safety Action Plan and the Plan. It should be noted that 72<sup>nd</sup> Street is 500' south of Paige Street. As per LADOTD's Traffic Engineering Manual Section 3B.2, a mid-block crosswalk is not recommended if another crosswalk exists within 600'. Considering traffic signal-controlled crosswalk at 72<sup>nd</sup> Street, a mid-block crosswalk is not recommended at Paige Street.

#### <u>Summary of Proposed Alternatives</u>

Based on the need to upgrade the existing pedestrian facilities and traffic signal equipment to current design standards, and to address the pedestrian / bicyclist crashes identified in **Chapter 1**, following mitigation measures were developed to improve access for pedestrians and cyclists throughout the study area.

The Proposed Alternatives developed are summarized below:

- Alternative #1 Upgrade the existing sidewalks and construct new sidewalks adjacent to LA 67 (Plank Road), both on the east and west side, between Dawson Drive and Ford Street to meet the required ADA width for all sidewalks, adjacent to urban roadways.
- Alternative #2 Upgrade the existing sidewalks adjacent to LA 67 (Plank Road) on the east side between Dawson Drive and <u>Ford Street</u> to multi-use paths that meet the ADA width requirements, adjacent to urban roadways. Upgrade the existing sidewalks and construct new sidewalks on the west side between Dawson Drive and Ford Street to meet the required ADA width for all sidewalks, adjacent to urban roadways.
- Alternative #3 Upgrade the existing sidewalks parallel to LA 67 (Plank Road), both
  on the east and west side, from Dawson Drive and Ford Street to multi-use paths
  that meet the required ADA width, adjacent to urban roadways.
- Improve bus shelters throughout the project limits for all alternatives.
- At the intersection of LA 67 (Plank Road) at 72<sup>nd</sup> Street / Monarch Avenue
  - Upgrade all traffic signal equipment to include new mast arms, signal heads, controllers, and vehicle detections.
  - o Install new ADA accessible crosswalks and curb ramps.
  - o Install accessible pedestrian signalization with actuation and audible devices for all crosswalks to improve pedestrian guidance and safety at the intersection
  - Update traffic signal timing to accommodate pedestrian signalization.
- At the intersection of LA 67 (Plank Road) at Sumrall Drive / Monte Sano Avenue:
  - Upgrade all traffic signal equipment to include new mast arms, signal heads, controllers, and vehicle detections.
  - o Install new ADA accessible crosswalks and curb ramps.
  - Install accessible pedestrian signalization with actuation and audible devices for all crosswalks to improve pedestrian guidance and safety at the intersection.
  - Update traffic signal timing to accommodate pedestrian signalization.

#### Pedestrian Clearance Calculations

Pedestrian clearances were calculated for the two signalized intersections in the study area using the existing intersection geometry from curb to curb on each corner. Based on the TSI's included in **Appendix A**, the required pedestrian clearances at the intersection of LA 67 (Plank Road) at Sumrall Drive / Monte Sano Avenue can be accommodated without changes to the existing signal timings.

At the intersection of LA 67 (Plank Road) at 72nd Avenue / Monarch Avenue, adjustments to the existing signal timings are necessary to accommodate the required pedestrian clearance times. Considering the minimal pedestrian activity and long pedestrian clearances, it is recommended to serve pedestrian signalization upon activation using the Stop-In-Walk feature in the traffic signal controller. Upon activation, the signal will step out of coordination to serve pedestrians and step back into the coordination plan.

#### **Environmental Studies**

A preliminary environmental screening analysis was conducted for the subject project area located on Plank Road between Dawson Drive and Ford Street. The project includes designing pedestrian, bicycle, and bus transit accommodations along the corridor all within the existing right-of-way. The purpose of the screening is to understand any major environmental, cultural, or social features of the project area that may warrant further studies. Resources that were reviewed to develop this screening are include on the Resource page at the end of this document. Based on a review of the proposed alignment on aerial photography, state, and federal database searches, and geospatial analysis in a Geographic Information System (GIS), the project's environmental screening analysis is summarized below:

Air Quality: East Baton Rouge Parish is in attainment for all regulated criteria pollutants.

<u>Noise:</u> The project consists of adding pedestrian, bicycle, and bus transit accommodations within the existing right-of-way of the roadway. This includes installing sidewalks and bus shelters. This is a Type III noise impact and does not require further studies.

#### **Ecology:**

Streams - There are two (2) unnamed tributaries to Monte Sano Bayou located adjacent to the project area. Both are located on the western side of the project, one is across from Paige and Cadillac Streets flowing east and the other is west of the interchange across from Sumrall Drive and Oaklon Drive flowing southwest. Neither stream appear to cross the roadway or sidewalk construction area.

Wetlands – Per the East Baton Rouge Parish Wetlands Database, searches show there are no wetlands indicated in the project area.

Hydric Soils - The US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey indicated the following soils within the project areas:

Map Unit	Map Unit Name	Approx. Percent of	Hydric Soil
Symbol		Project Area	
CcA	Calhoun silt loam, 0 to 1 percent slopes	4.7	Yes
DaA	Deerford-Verdun complex, 0 to 1 percent slopes	33.2	Yes
ОрА	Oprairie silt, 0 to 1 percent slopes	25.3	Yes
ОрВ	Oprairie silt, 1 to 3 percent slopes	2.6	No
UrA	Urban land	34.2	No

The hydric soils listed fall within criteria 2 of the hydric soils definition. This definition states that:

- "2. Soils in Acquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
  - B. Show evidence that that soil meets the definition of a hydric soil"

A map showing the location of the hydric soils is attached as Figure 2.

Endangered Species – The following endangered species are located in East Baton Rouge Parish. It has not been determined if these endangered species or their potential habitat are located within the project area: Alabama Shad, Alligator Snapping Turtle, Bottomland Hardwood Forest, Clear Chub, Common Rainbow Snake, Creole Pearly-eye, Cypress-tupelo Swamp, Dusted Skipper, Dwarf Filmy Fern, Eastern Glass Lizard, Eastern Harvest Mouse, Elliott's Sida, Four-toed Salamander, Gulf Chub, Hackberry-American-Elm-Green Ash Bottomland Forest, Hybrid, Inflated Heelsplitter, Lace-winged Roadside-Skipper, Little Metalmark, Long-tailed Weasel, Low erythrodes, Monarch, Pallid Sturgeon, Powdery Thalia, Prairie Terrace Loess Forest, Pygmy Rattlesnake, Rainbow Darter, Rainbow Snake, Rayed Creekshell, Saddleback Darter, Silky Camellia, Small Stream Forest, Smooth Softshell, Southeastern Crowned Snake, Southeastern Shrew, Southern Hickorynut, Southern Pocketbook, Southern Rainbow, Southern Shield Woodfern, Spruce Pine-hardwood Mesic Flatwoods, Square-stem Monkeyflower,

Suckermouth Minnow, Swallow-tailed Kite, Sweetgum-water Oak Bottomland Forest, West Indian Manatee, and Wolf's Spike Sedge.

<u>Flood Maps:</u> The project area is located on Federal Emergency Management Agency (FEMA) Map #22033C0170E, Panel 170 of 360 in East Baton Rouge Parish, Louisiana. It is in FEMA Zone X indicating that it is outside the 0.2% annual chance floodplain.

There is a small portion of the project area located in FEMA Zone A. The portion located in Zone A is in an area the sidewalk will utilize an elevated bridge and will not be impacted by flooding due to the bridges' significant elevation off the ground. FEMA Flood Zone A is defined as an area subject to inundation by the 1% annual chance flood (100-year flood) for which no base flood elevations have been determined.

The FEMA Map for the project area is attached as Figure 3.

<u>Archaeology</u>: The Louisiana Office of Cultural Development Division of Archaeology Excavation Database was reviewed to determine if there are known archaeological sites in the area. According to the database, there are no known archaeological sites located in or adjacent to the project area.

<u>Historic/Parks:</u> There are no historic buildings or parks located in or adjacent to the project area.

Environmental Justice: An Environmental Justice review was completed for the proposed project. The review identified seven (7) US Census Block Groups within the project area as identified in the following tables. During the review of the populations present within each block group, two threshold indicators were used to identify and report EJ populations as defined in the "Effective Methods for Environmental Justice Assessment" report (National Cooperative Research Program Report 532): (1) the minority and/or low-income population average exceeds the county average by 10 percent or more and/or (2) the minority and/or low-income population is greater than 50 percent of the total population within the block group.

Census Block Group, Parish and State census data is located in the two (2) tables that follow.

			Low-	Income	Populat	ions			
Census Tract	CT 1	CT 2	CT 33	CT 33	CT 34	CT 34	CT 34	East Baton	Louisiana
Block Group (BG)	BG 1	BG 2	BG 1	BG 4	BG 2	BG 4	BG 5	Rouge	
								Parish	
Population	1,661	1,341	908	876	1,812	538	1,623	440,059	4,648,79
									4
% Low-Income /	39.7	67.0	4.6%	15.6	14.3	43.3	62.8	17.7%	19.0%
<b>Below Poverty</b>	%	%		%	%	%	%		
Line									
<b>Exceeds Parish</b>									
Average by 10%	Yes	Yes	No	No	No	Yes	Yes	NA	NA
or More									
Block Group									
Population	No	Yes	No	No	No	No	Yes	NA	NA
Average >50%									
Meet EJ Criteria?	Yes	Yes	No	No	No	Yes	Yes	NA	NA

Source: United States Census Bureau American Community Survey 5-Year Estimates (2015 – 2019)

The American Community Survey (ACS) 2019 5-Year Estimates, the most recent data available at the time of this analysis, shows that the low-income population percentage for East Baton Rouge Parish was 17.7 percent. Within the project area, low-income populations equate to 39.7% for CT 1, BG 1; 67.0% for CT 2, BG 2; 4.6% for CT 33, BG 1; 15.6% for CT 33, BG 4; 14.3% for CT 34, BG 2; 43.3% for CT 34, BG 4; and 62.8% for CT 34, BG 5.

Based on the EJ review, four block groups were determined to contain low-income populations that 1) exceed the county average by 10 percentage points or more, or 2) are greater than 50 percent of the total population within the corresponding block group. Given that four block groups within the project area meets the criteria, it is the determination of this survey that the project has the potential to disproportionately impact low-income populations.

				Alm multur F	\				
Minority Populations									
Census Tract	CT 1	CT 2	CT 33	CT 33	CT 34	CT 34	CT 34	East Baton Rouge Parish	Louisiana
Block Group (BG)	BG 1	BG 2	BG 1	BG 4	BG 2	BG 4	BG 5		
Population	1,661	1,341	908	876	1,812	538	1,623	440,059	4,648,794
% Minority / Non-White Population	94.9%	100%	98.0%	99.2%	97.2%	100%	100%	52.4%	37.2%
Exceeds Parish Average by 10% or More	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NA	NA
Block Group Population Average >50%	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NA	NA
Meet EJ Criteria?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NA	NA

Source: United States Census Bureau American Community Survey 5-Year Estimates (2015 - 2019)

This data shows that the minority population percentage for East Baton Rouge Parish in 2019 was approximately 52.4 percent. Within the project area, minority populations equate to 94.9% for CT 1, BG 1; 100.0% for CT 2, BG 2; 98.0% for CT 33, BG 1; 99.2% for CT 33, BG 4; 97.2% for CT 34, BG 2; 100.0% for CT 34, BG 4; and 100.0% for CT 34, BG 5.

Based on the EJ survey, all block groups were determined to contain minority populations that 1) exceed the county average by 10 percentage points or more, or 2) are greater than 50 percent of the total population within the corresponding block group. Given that all geographies within the project area meet the criteria, it is the determination of this analysis that the project does have the potential to disproportionately impact minority populations.

<u>Hazardous Materials:</u> No Environmental Protection Agency (EPA) Superfund National Priorities List (NPL) sites are located within the project area. Additionally, there are no Brownfield sites located within the project area according to the Baton Rouge Parish Brownfields Database.

There are two (2) locations within the project area containing active underground storage tanks (UST). The first is located at the Texaco Gas Station (6224 Plank Road) and the second at the Chevron Gas Station (7175 Plank Road).

According to the Louisiana Department of Environmental Quality TEMPO Underground Storage Tanks Database, there are five (5) recorded UST locations adjacent to the project area with a database status of closed. The database does not indicate if the tanks have been removed or closed in place. However, a closed designation means no further action is required for the site. The first is located at Lee's Complete Car Care & Muffler (7550 Plank Road), the second at a closed Shell Gas Station (7070 Plank Road), the third at Tire Discount (6970 Plank Road), the fourth at Bordelon's Super-Save Pharmacy (6920 Plank Road) and the fifth at Boost Mobile (Former Chicken Mart) (6168 Plank Road).

There is one (1) dry cleaning facility located in the project area. The facility is Plank Road Cleaners and is located at 7332 Plank Road.

Figure 1 - Project Area



Figure 2 - Hydric Soils Map



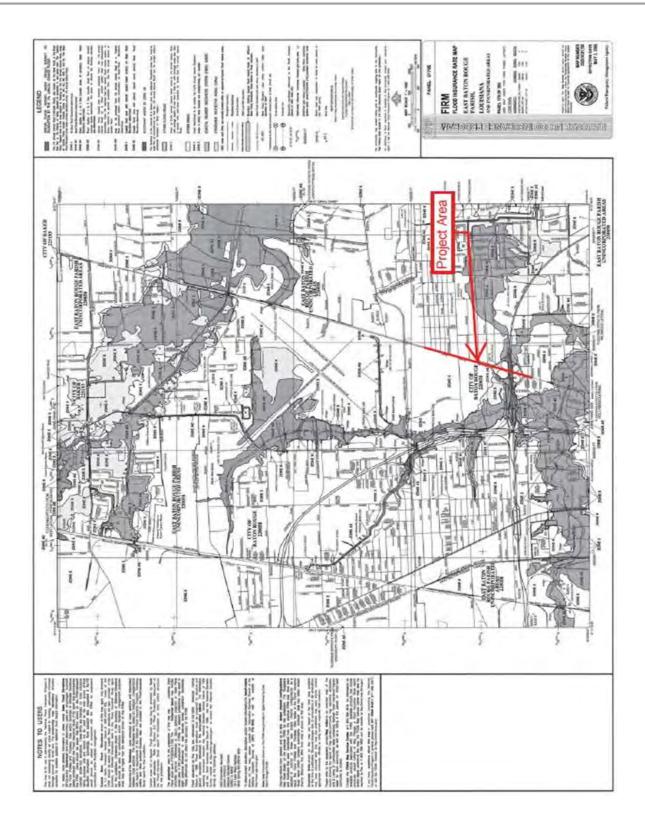
Soil Map-East Baton Rouge Parish, Louisiana

#### Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
CoA	Calhoun silt loam, 0 to 1 percent slopes	0.9	4.7%	
DeA	Deerford-Verdun complex, 0 to 1 percent slopes	6.2	33.2%	
OpA	Oprairie silt, 0 to 1 percent slopes	4.7	25.3%	
Op8	Oprairie silt, 1 to 3 percent slopes	0.5	2.6%	
UrA	Urban land	6.3	342%	
Totals for Area of Interest		18.5	100.0%	

Web Soil Survey National Cooperative Soil Survey

8/11/2021 Page 3 of 3





#### **Evaluation of the Existing Drainage System**

The City of Baton Rouge plans to enhance Plank Road from Dawson Road to Ford Street. A hydraulic analysis of the existing drainage system was performed along Plank Road from Dawson Road to Ford Street to determine capacity and physical conditions. Drainage structures along the side roads were included where needed to provide a more accurate capacity of the existing drainage structures located along Plank Road. The 2011 Hydraulics Manual form LADOTD was used to determine rainfall intensities, runoff

coefficients, time of concentration, and manning's "n". The existing drainage system was analyzed for a 10-year storm and cross drain capacity was confirmed with the 50 year storm. Six drainage networks with a total of 102 drainage structures were identified.

The following is a summary of Gresham Smith's findings:

- In general, there are several undersized pipes along the drainage network. Most pipes that are 12 inches and 15 inches need to be increased to keep the hydraulic grade lines within the existing pipe network for the 10 year storm.
- The cross drains at drainage structures N-303, N-407, N-412, and S-414 exceeded capacity during the 50 year storm.
- The drainage structures tying to the cross drain at approximately STA. 7+84.76 are damaged and clogged. These drainage structures will need to be repaired or replaced.
- The drainage system starting at drainage structure S-409 and ending with S-305 does not seem to have an outlet for the water to properly leave the system. Drainage structures S-305 and N-305 at approximately STA. 29+43.77 in this network are currently the lowest points in this drainage network. Existing survey documented these drainage structures as being flooded.
- The drainage system starting at drainage structure S-205 and ending with S-203 does not seem to have water flowing through an outlet and down to drainage structures S-204, S-203, and S-204. Drainage structures S-203 and N-204 are currently the lowest points in this drainage network. Existing survey documented these drainage structures as being flooded.
- According to existing survey, drainage structures S-415 and S-602B have a lower pipe invert than the inlets the drainage structures are tying to.
- The drainage system starting at drainage structure N-211 and ending with S-209 seems to have a low point just west of S-209 before getting to the next drainage structure.
- The spread for most of the drainage structures did not extend further than half a lane width. In some areas the spread exceeds a lane width. Additional drainage structures may be needed in these areas.
- All other drainage structures and pipes along Plank Road from Dawson Road to Ford Street meet capacity and spread standards.

Complete Streets Accommodations for Pedestrians, Bicyclist and Transit Riders

Gresham Smith Proj. #44984.00

# SCAPE LANDSCAPE ARCHITECTURE DPC

MOVEBR - PLANK RD
DESIGN ALTERNATIVES

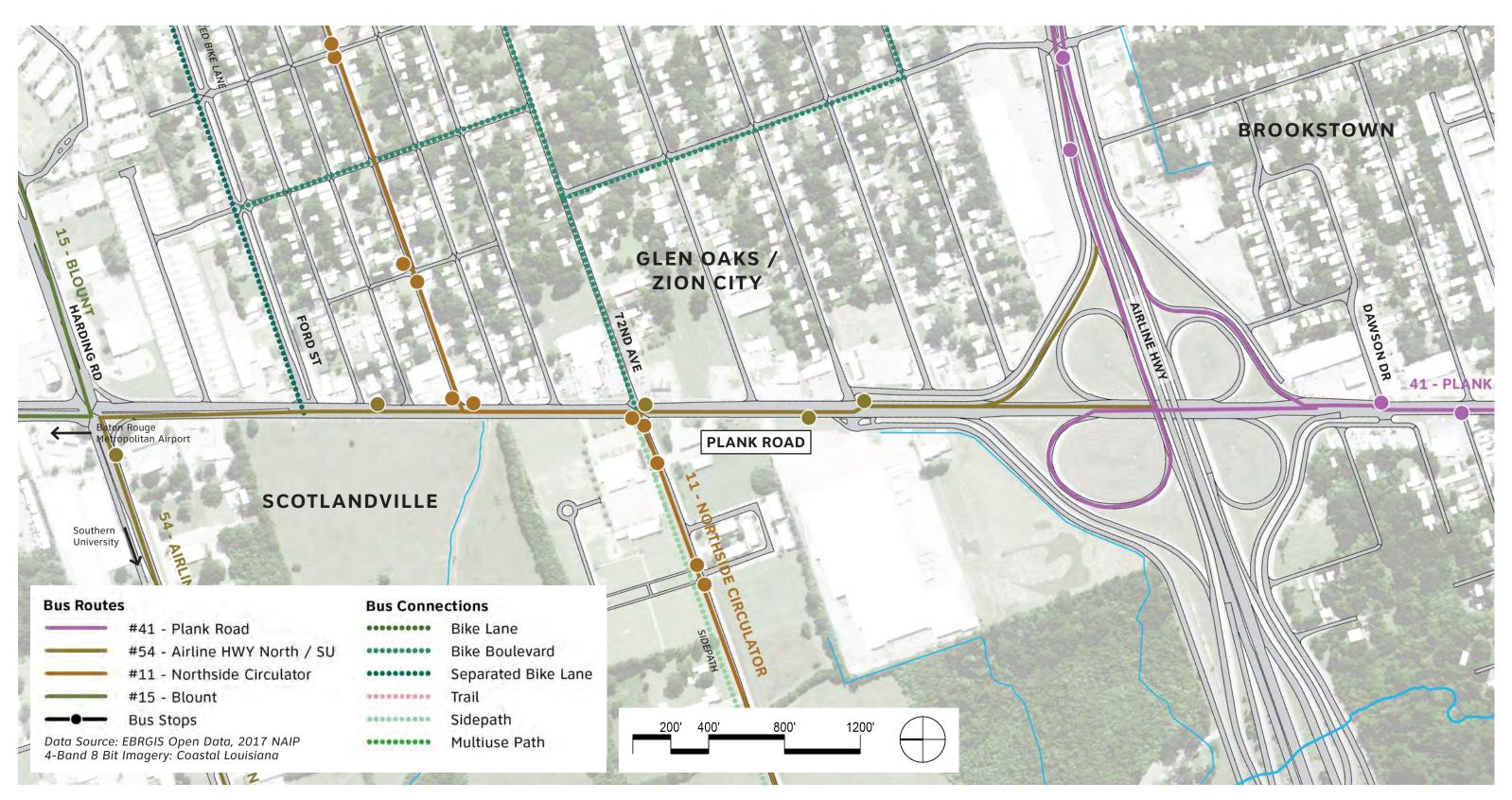
JANUARY 14, 2022



# EXISTING CONDITIONS

# **PLANK ROAD**

Dawson to Harding



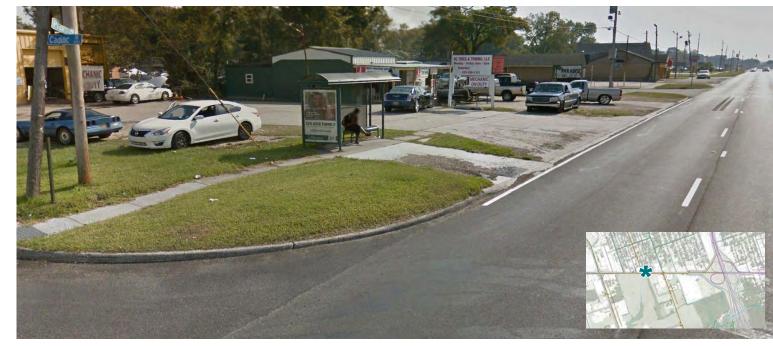
# **EXISTING SIDEWALKS & BUS STOP CONDITIONS**



Plank @ N Packard



Plank @ 72nd St



Plank @ N Cadillac



Plank @ Monte Sano

# **EXISTING SIDEWALK & BIKE LANE CONDITIONS**



Side Path - Plank @ 72nd St



**Bike-friendly road - Plank @ Greenwood Homes** 



**Separated Bike Lane - Plank @ Ford St** 



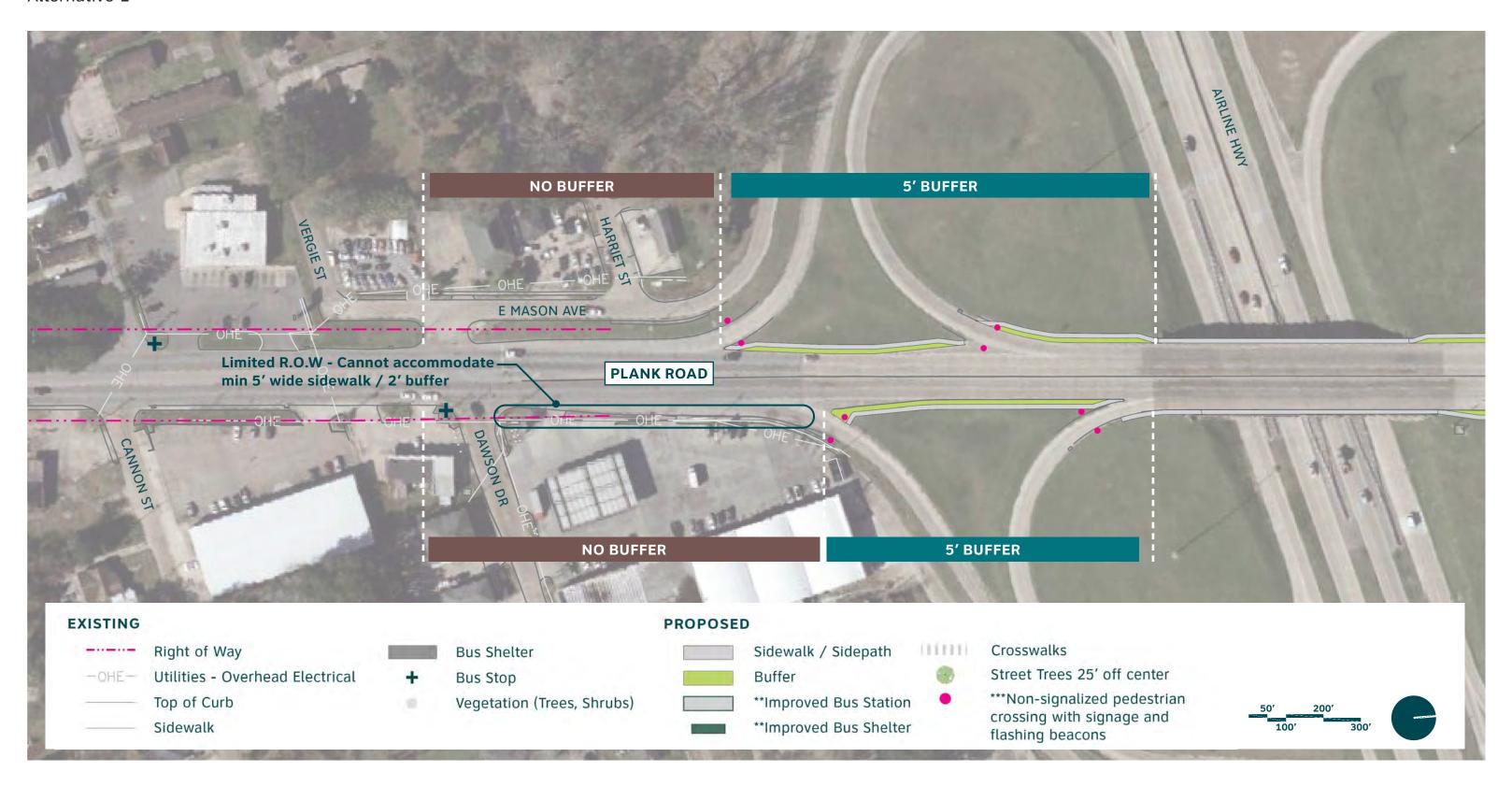
**Bike Connection - Plank @ Dawson** 

# ALTERNATIVE 1 PEDESTRIAN ONLY IMPROVEMENTS TO EAST AND WEST SIDES OF PLANK ROAD

https://movebr.brla.gov/form/plank-rd-corridor-enhancement-segment-2-project-page

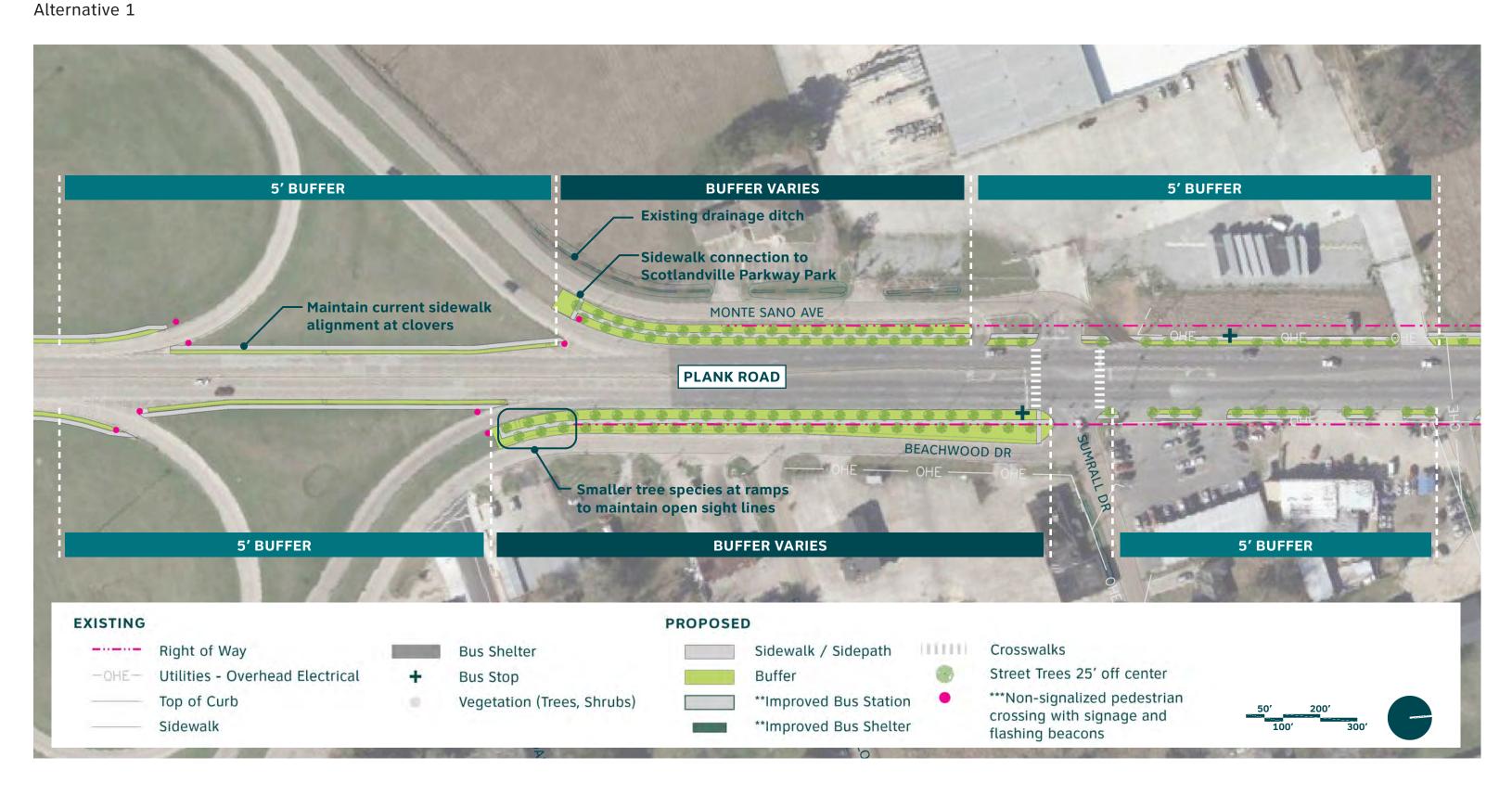


Alternative 1



https://movebr.brla.gov/form/plank-rd-corridor-enhancement-segment-2-project-page

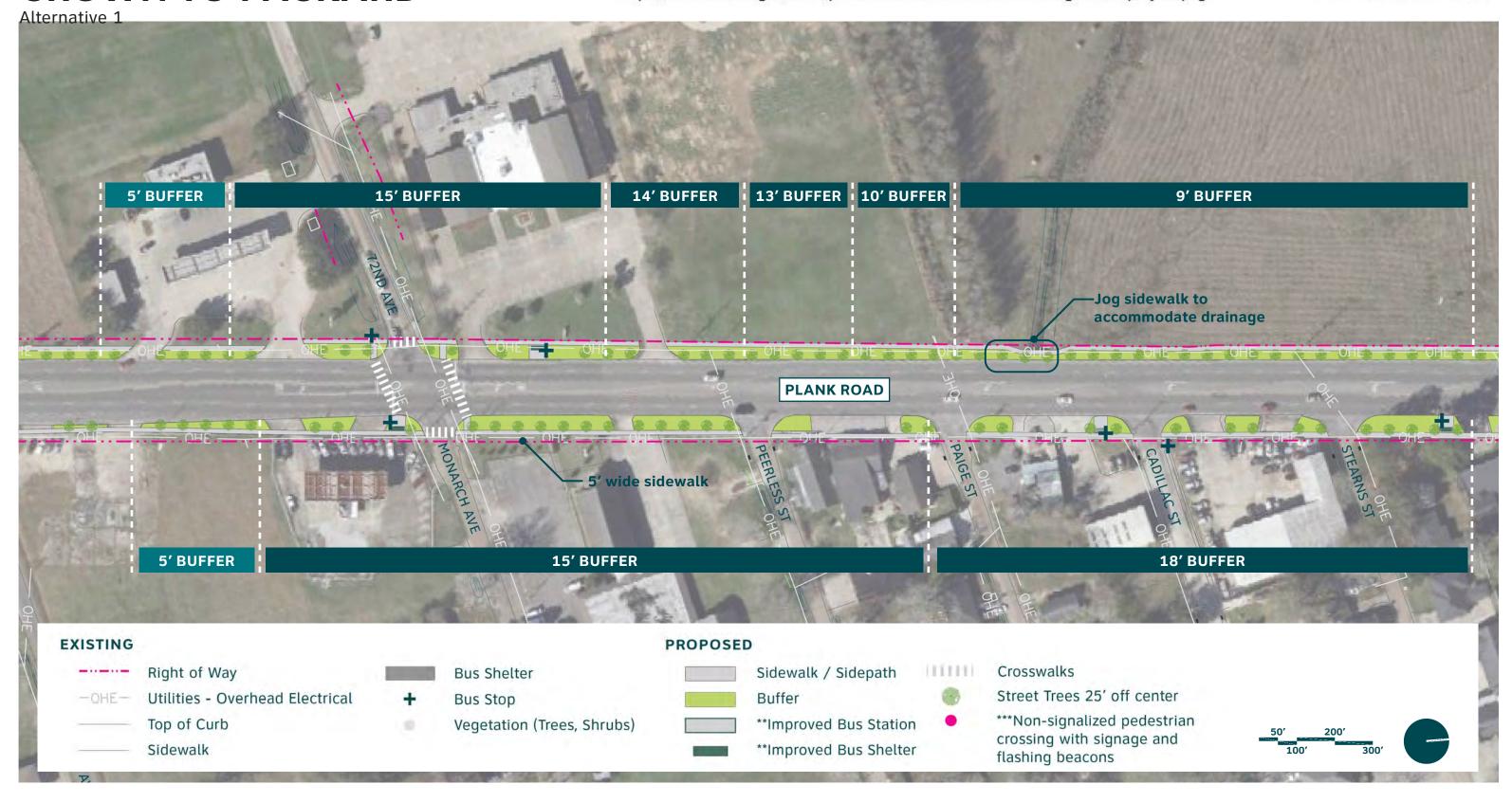




# **CROWN TO PACKARD**

https://movebr.brla.gov/form/plank-rd-corridor-enhancement-segment-2-project-page

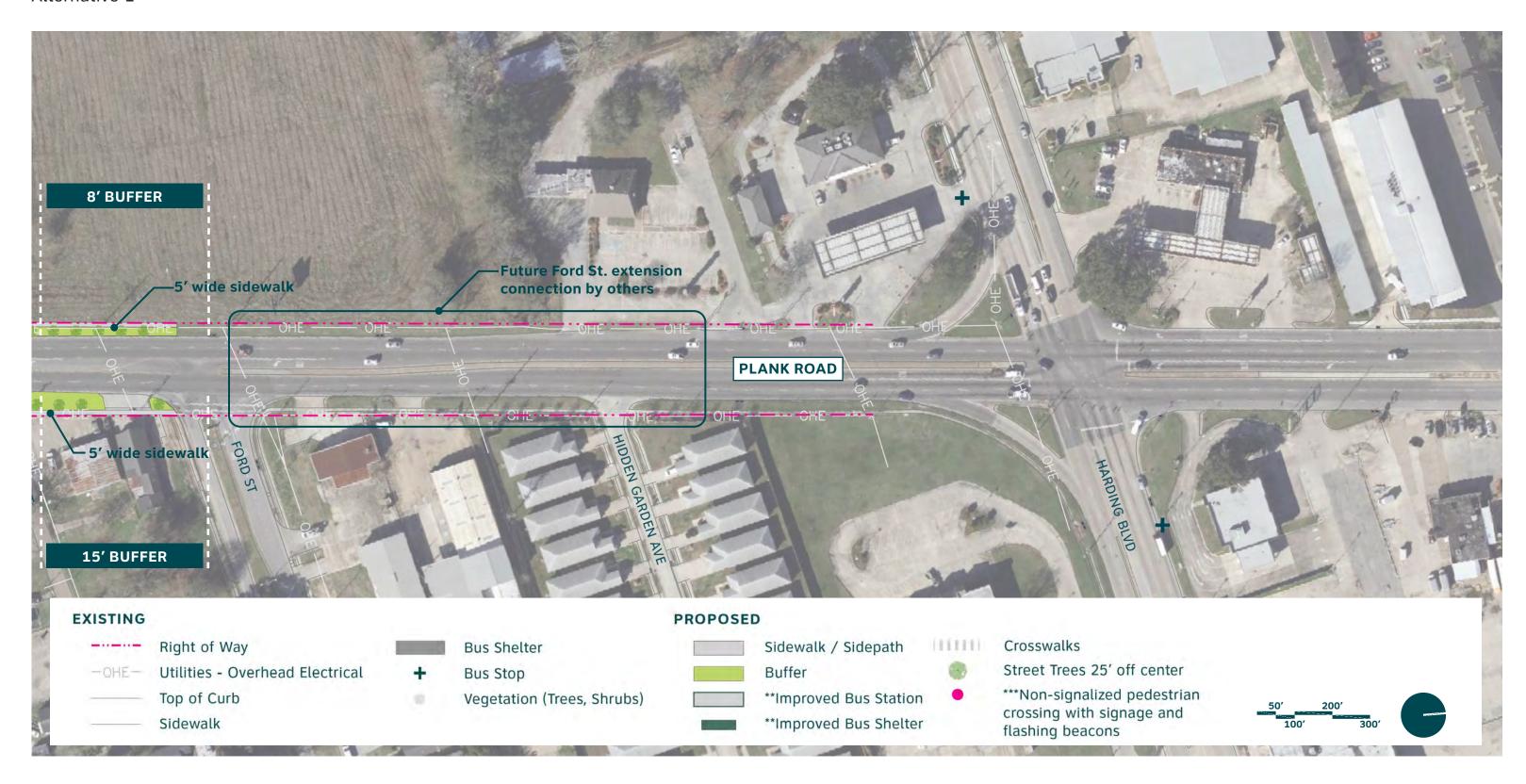




https://movebr.brla.gov/form/plank-rd-corridor-enhancement-segment-2-project-page



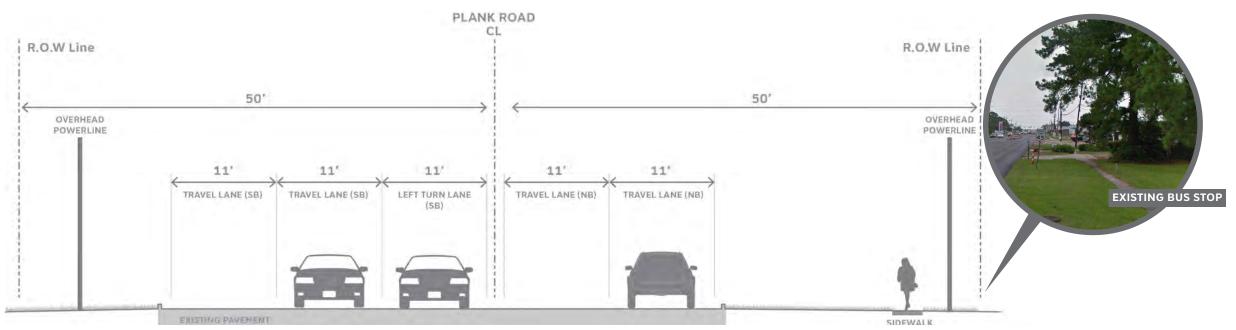
Alternative 1



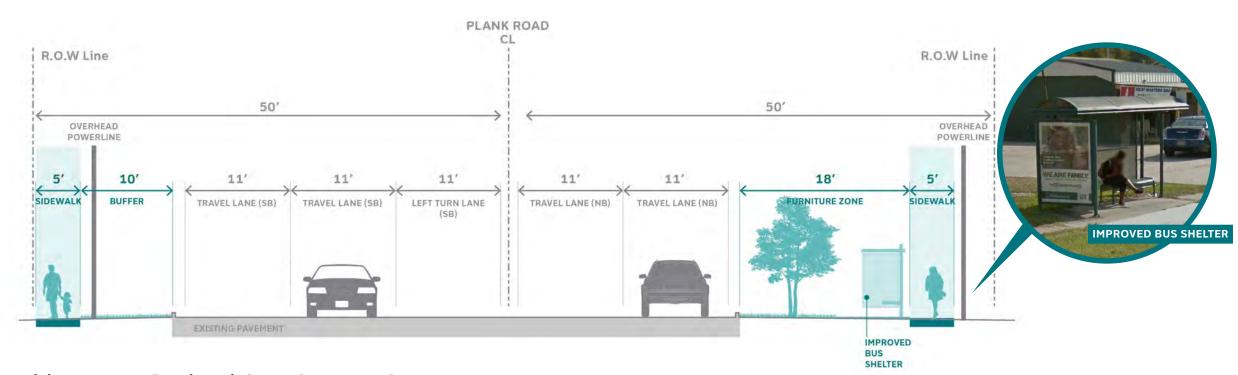
# **EXISTING VS. PROPOSED STREET SECTION**

Alternative 1

https://movebr.brla.gov/form/plank-rd-corridor-enhancement-segment-2-project-page



Typical Section - Existing between Packard St & Stearns St

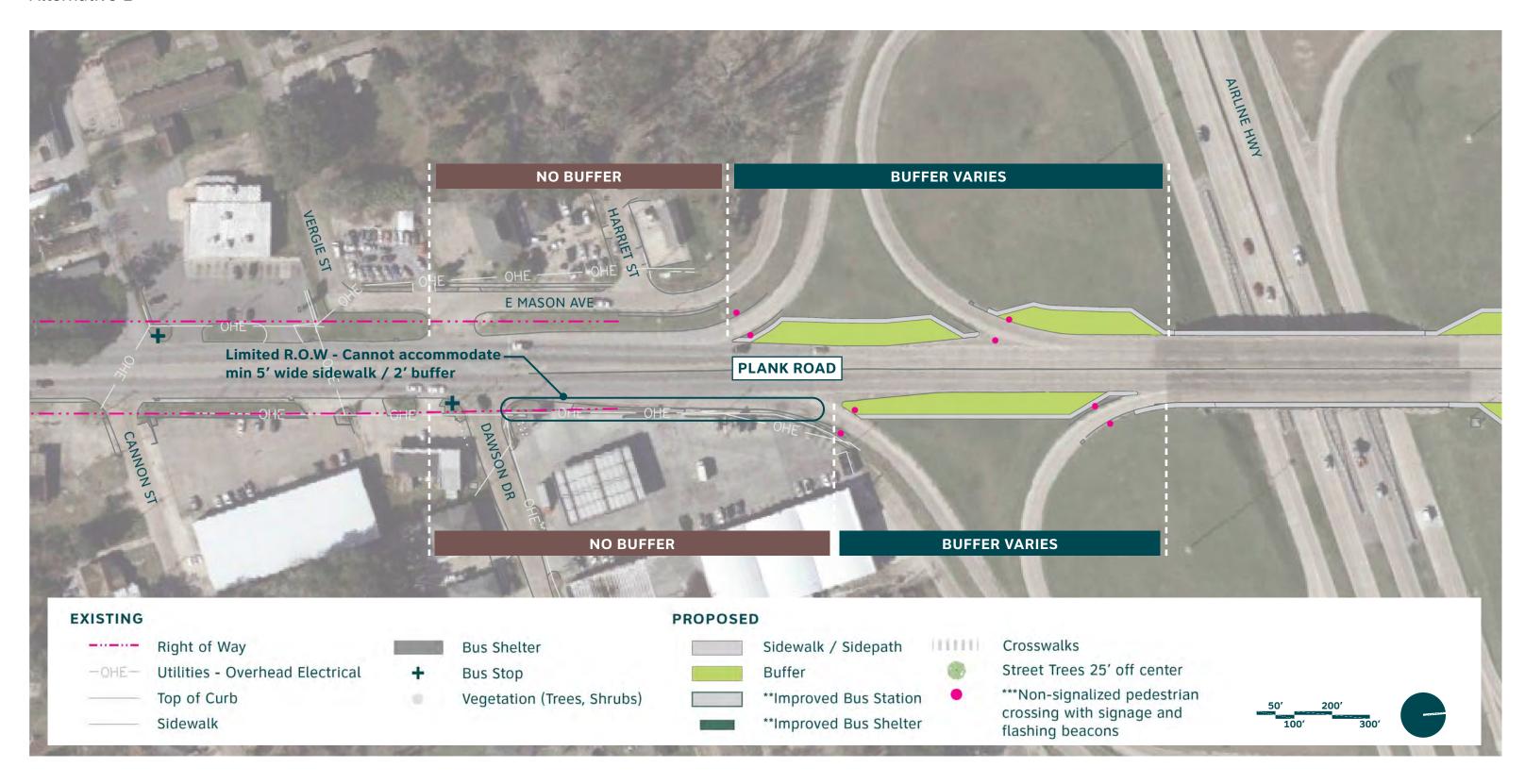


Typical Section - Proposed between Packard St & Stearns St

# ALTERNATIVE 2 PEDESTRIAN ONLY IMPROVEMENTS TO WEST AND PEDESTRIAN/BIKE IMPROVEMENTS TO EAST OF PLANK ROAD

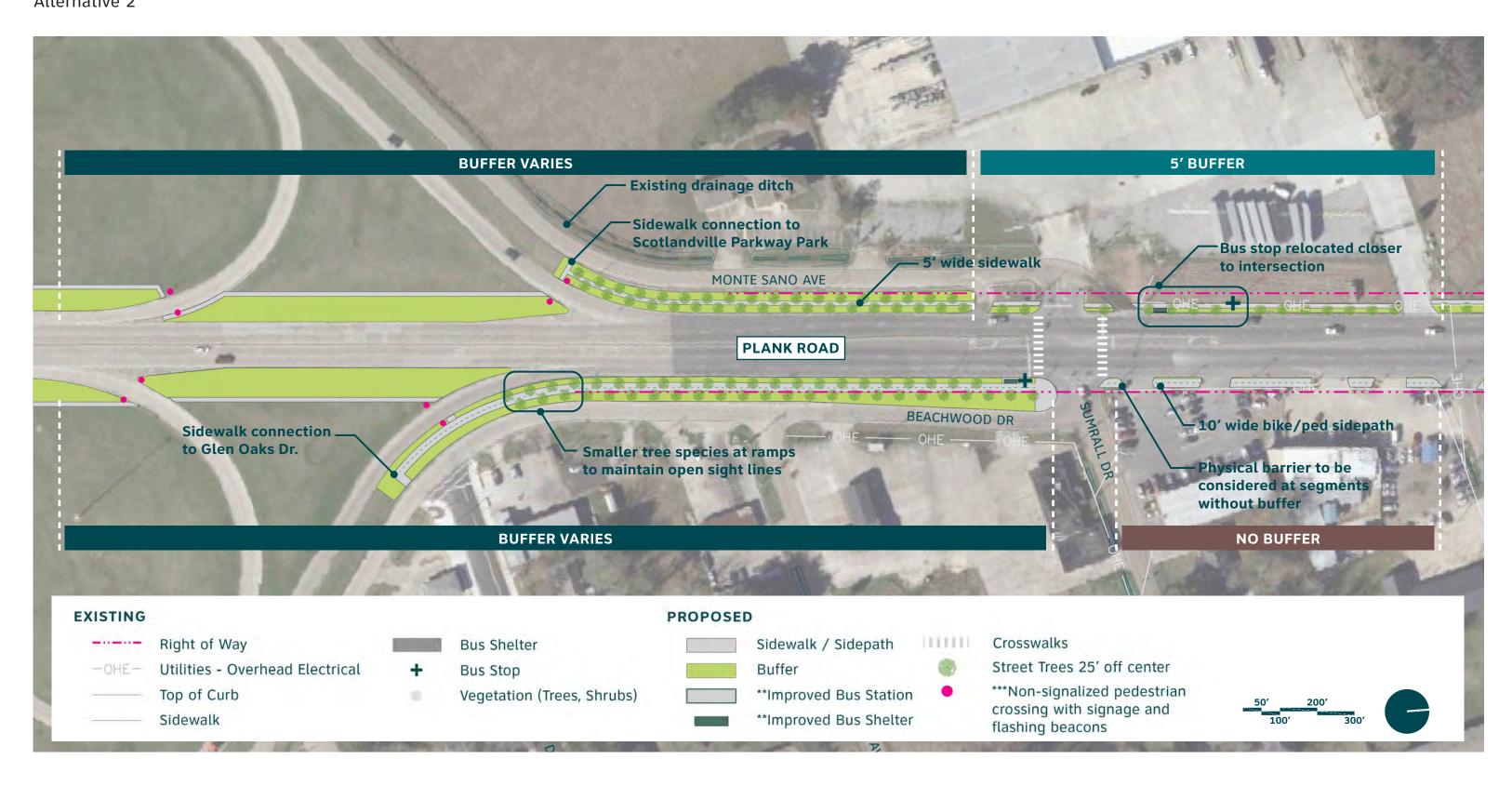


Alternative 2



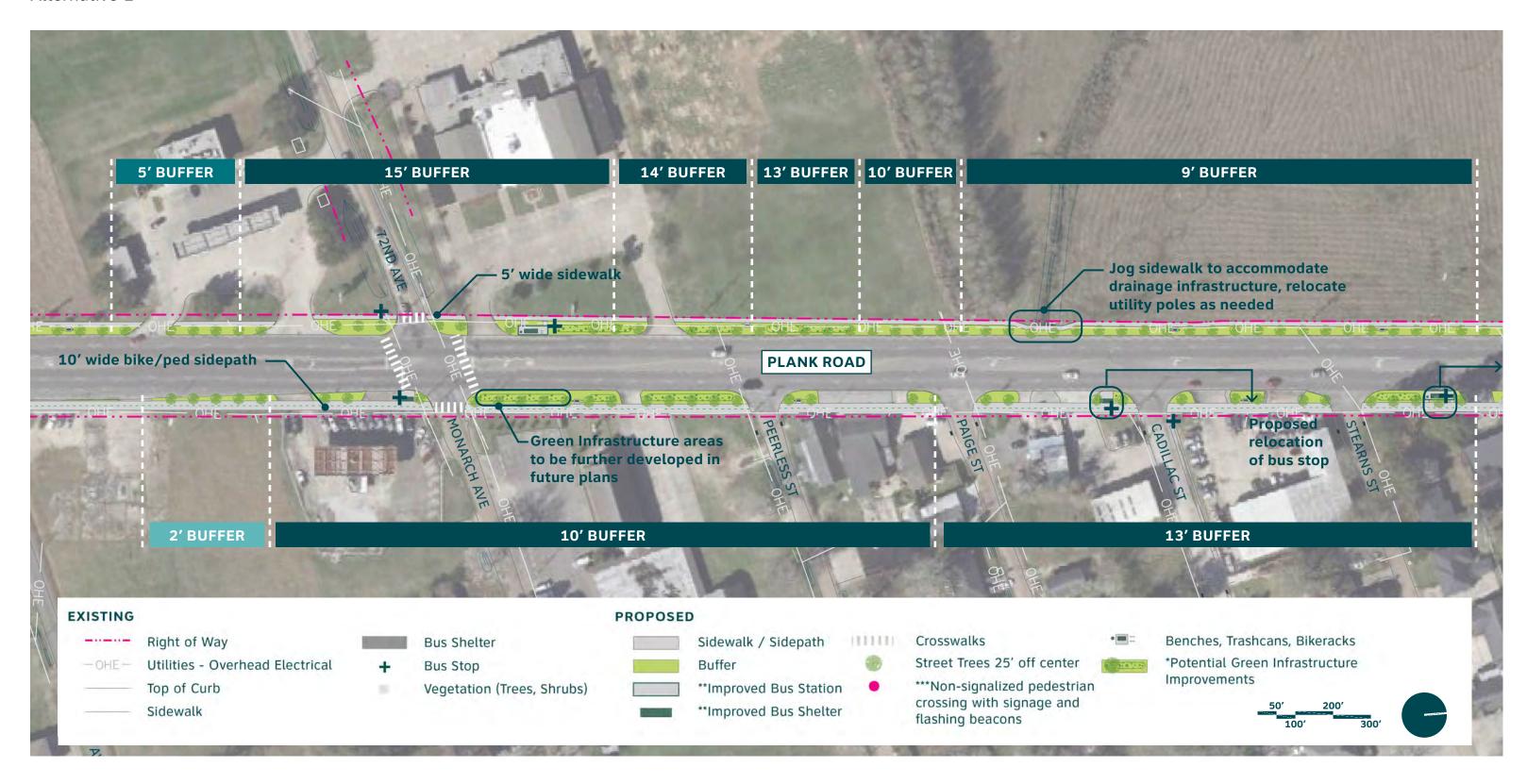


Alternative 2



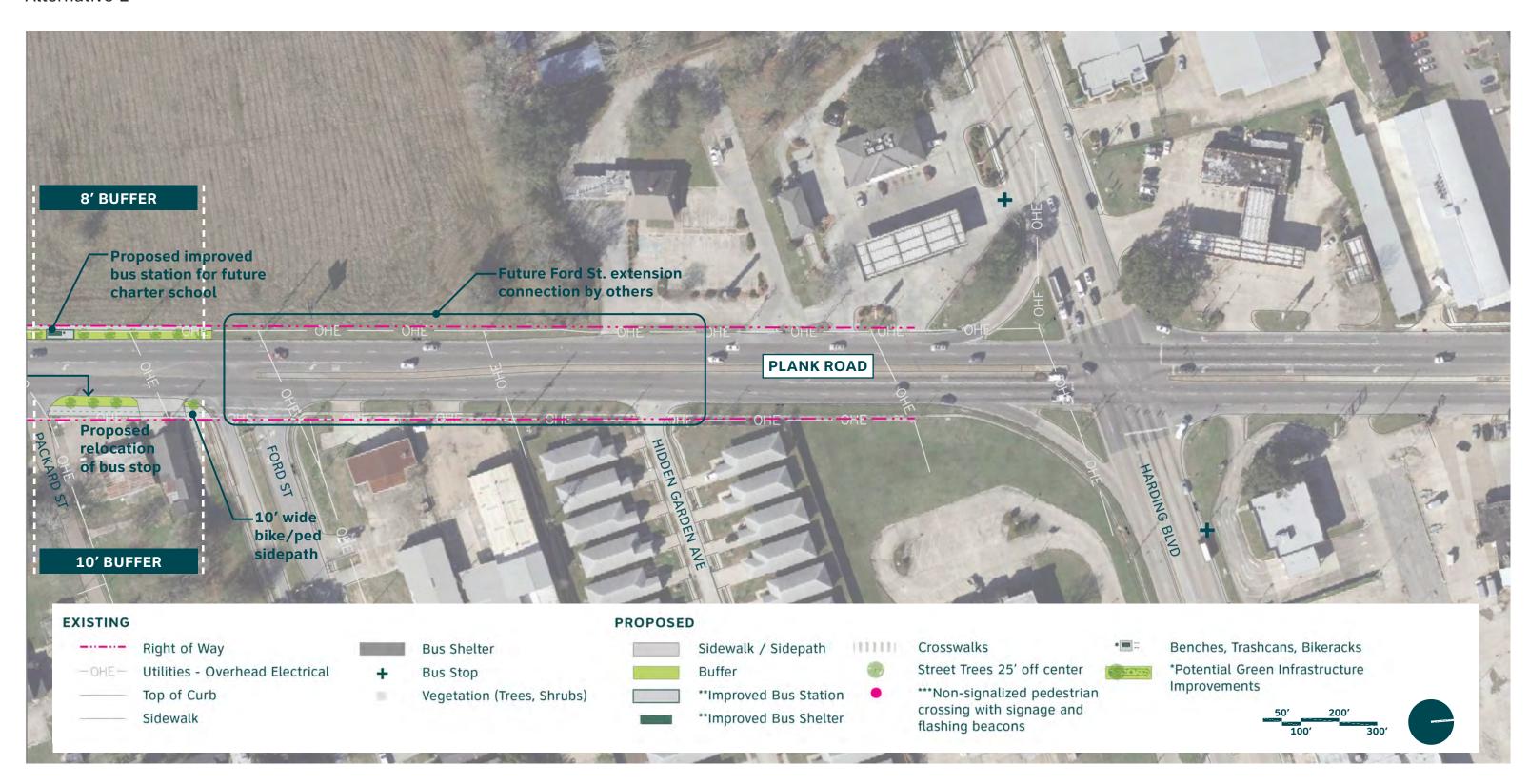


Alternative 2





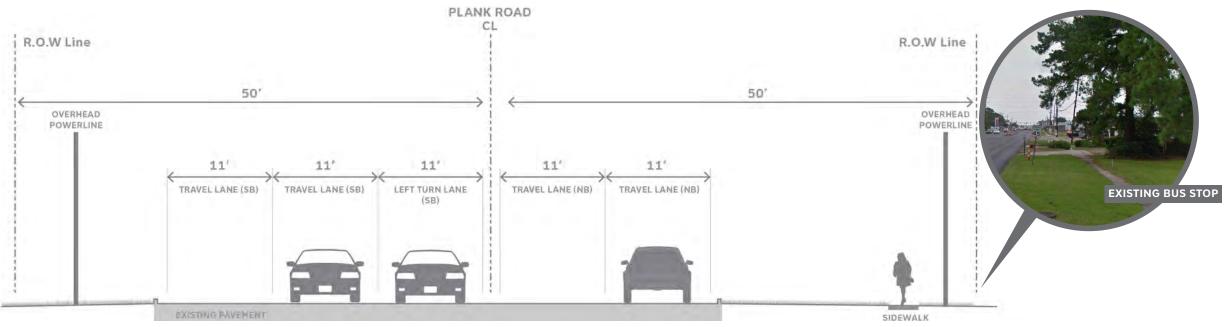
Alternative 2



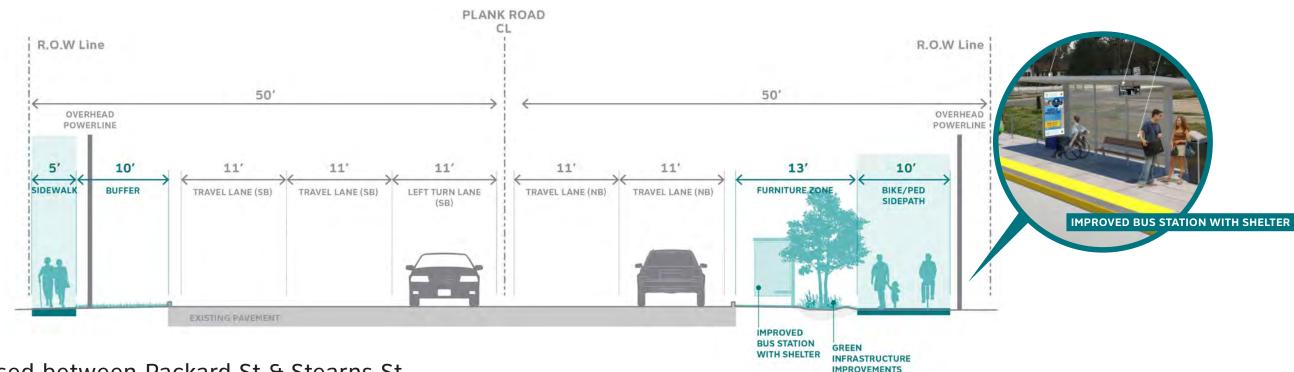
# **EXISTING VS. PROPOSED STREET SECTION**

Alternative 2

https://movebr.brla.gov/form/plank-rd-corridor-enhancement-segment-2-project-page



**Typical Section -** Existing between Packard St & Stearns St

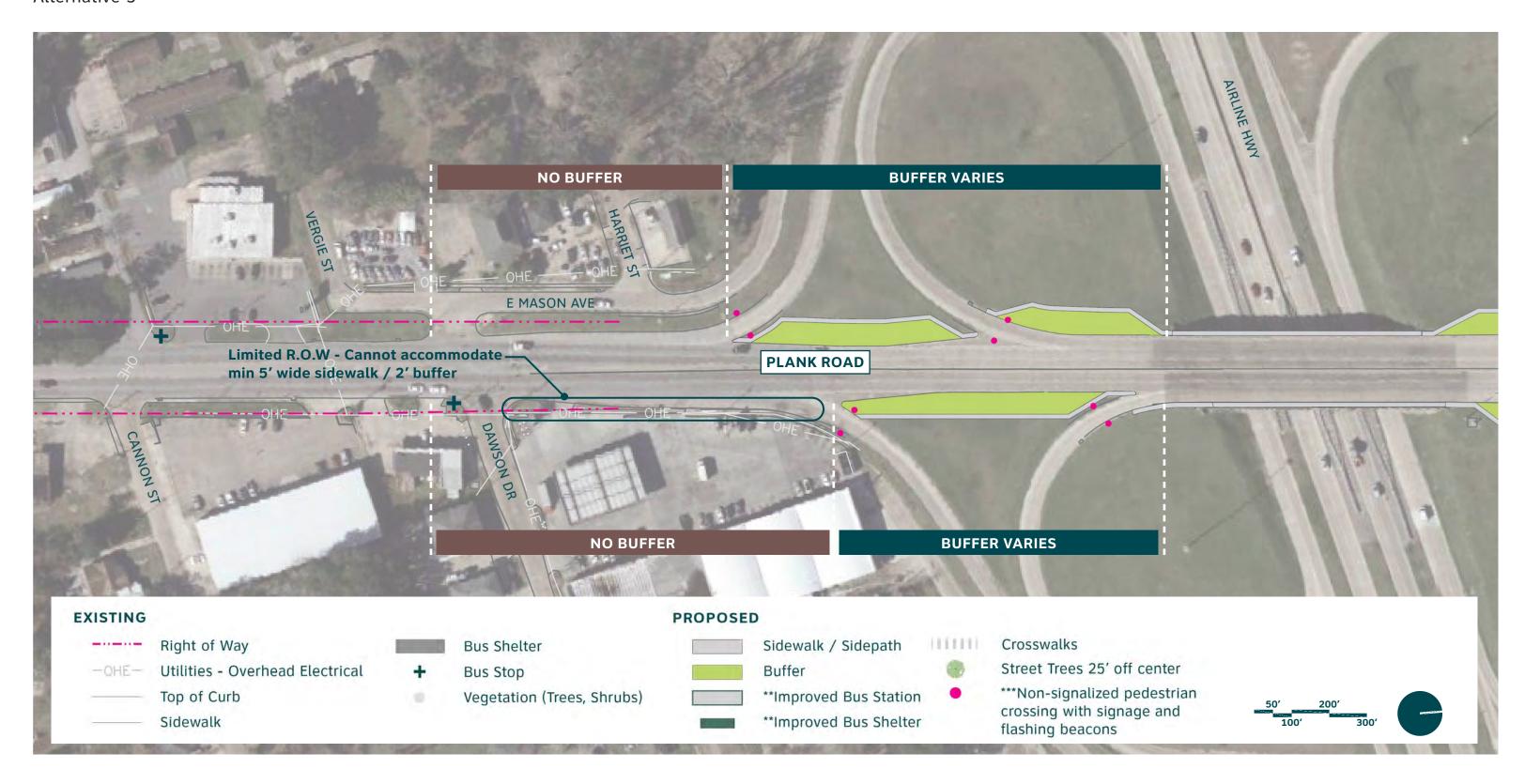


Typical Section - Proposed between Packard St & Stearns St

# ALTERNATIVE 3 PEDESTRIAN/BIKE IMPROVEMENTS TO EAST AND WEST SIDES OF PLANK ROAD

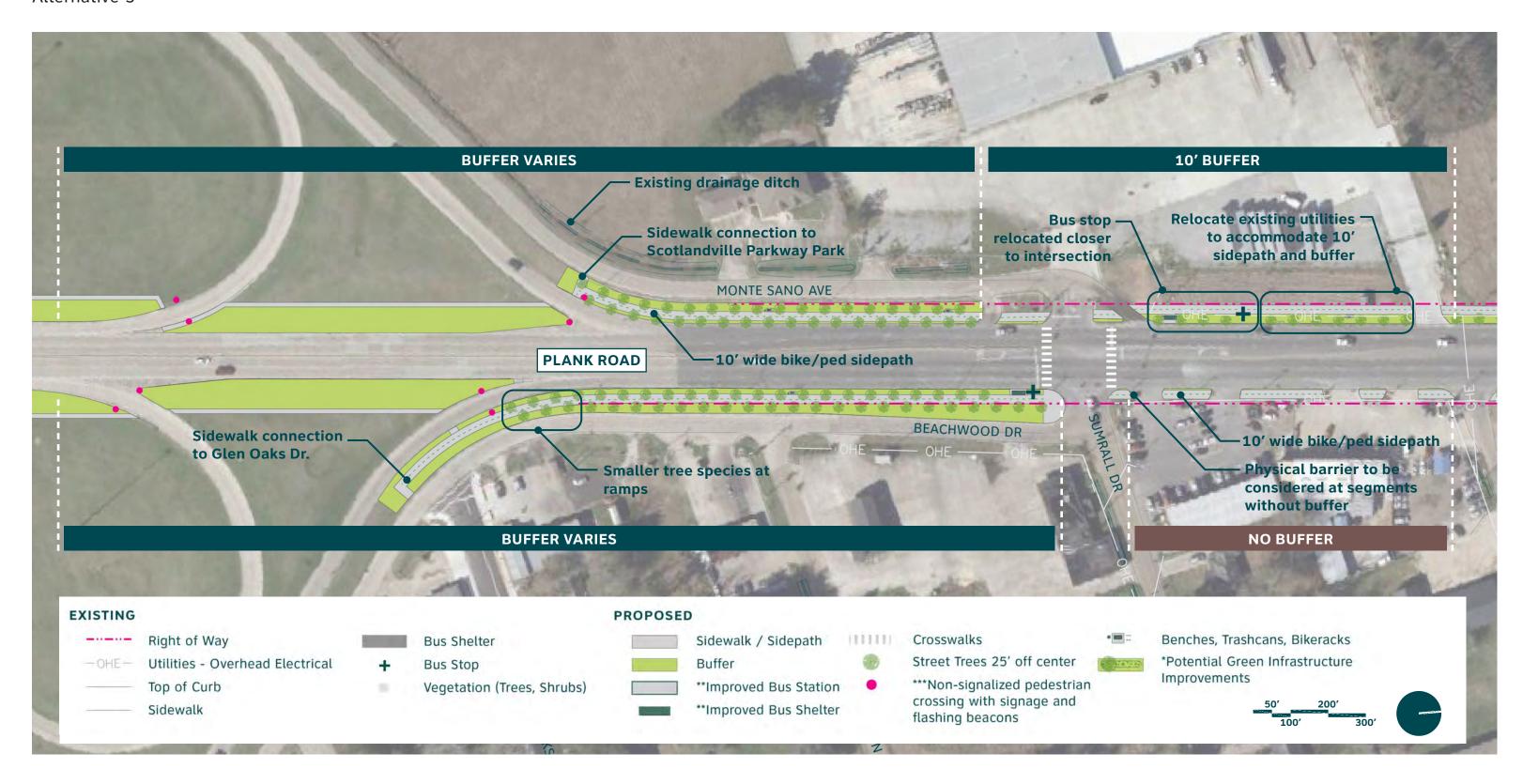


Alternative 3



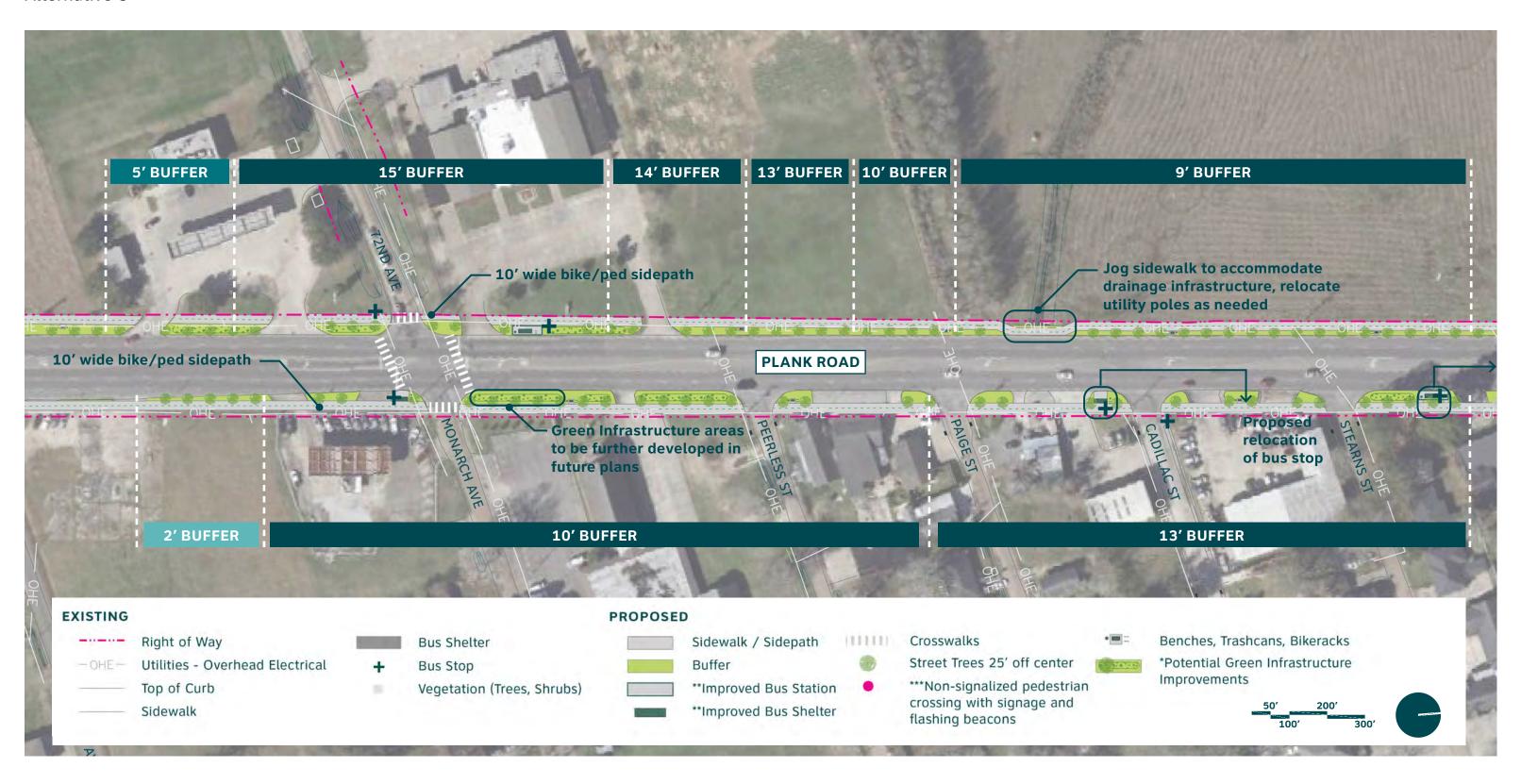


Alternative 3



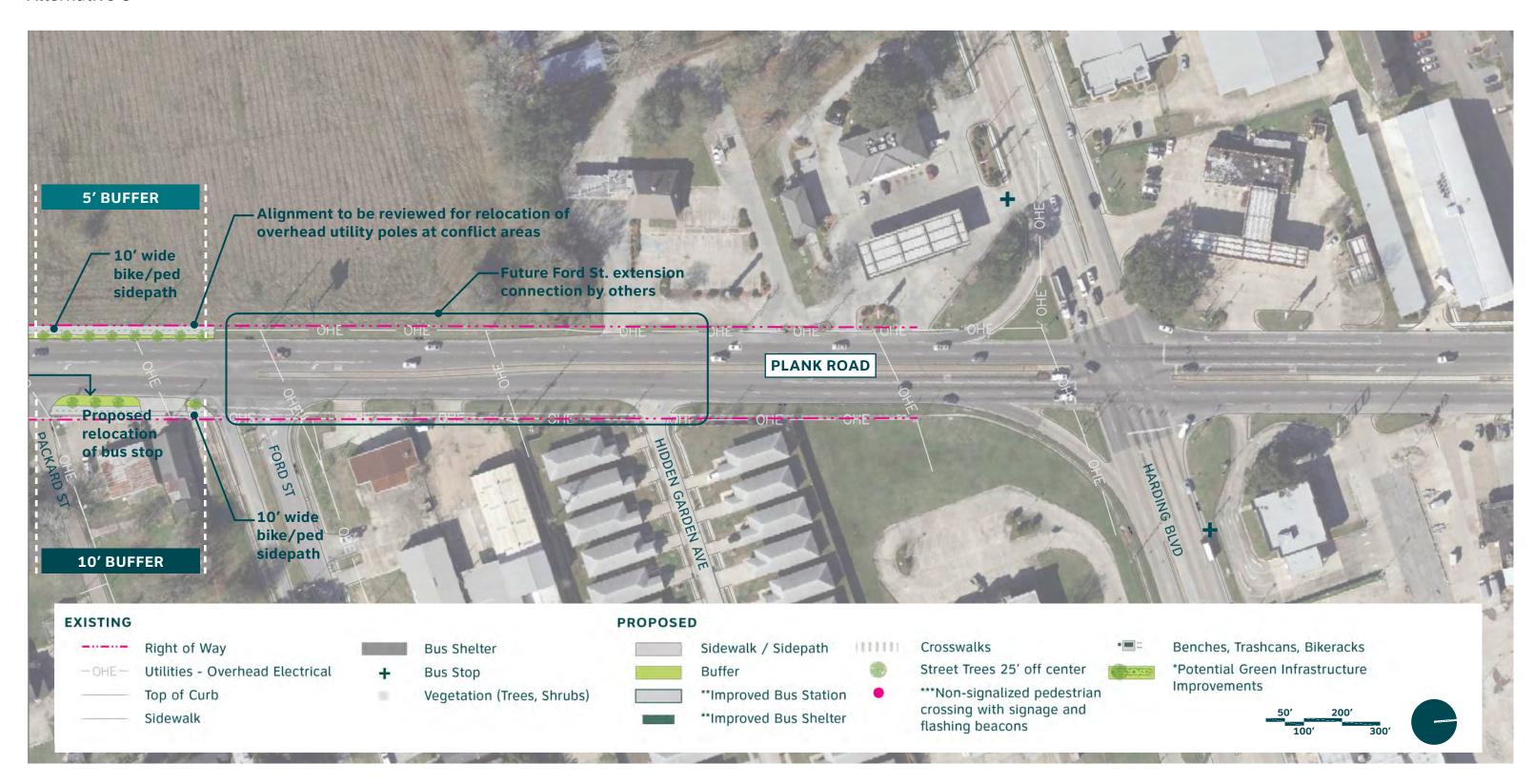


Alternative 3





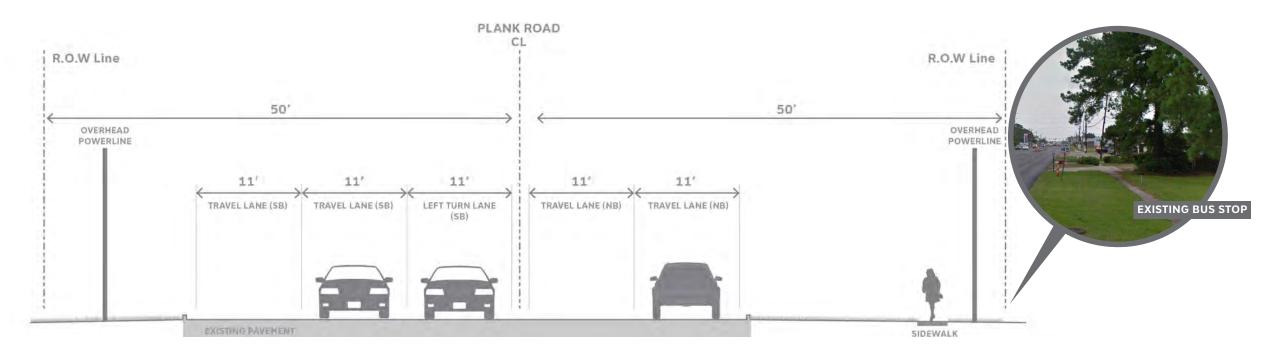
Alternative 3



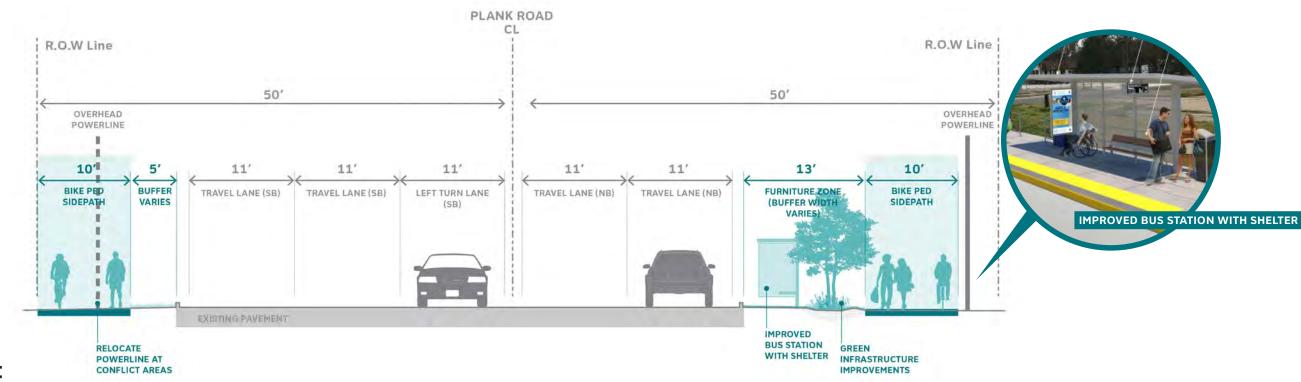
# **EXISTING VS. PROPOSED STREET SECTION**

Alternative 3

https://movebr.brla.gov/form/plank-rd-corridor-enhancement-segment-2-project-page



# **Existing @ Stearns St**



**Proposed @ Stearns St** 

# **Green Infrastructure Opportunities**



Large median, opportunity for a Bioretention Basin / Rain Gardens / Vegetated Swale

Opportunity for Bioretention Basin / Rain Gardens or additional tree planting but may be outside scope of work

Opportunity for larger Bioretention Basin / Rain Gardens or additional tree plantings. Area might be outside extent of project

Constraint of overhead power lines. Limited space between power lines and roadway, limits size of tree. Ensure local Code of Ordinances allows for trees under power

Opportunity for filter strips or vegetated swales in the verge

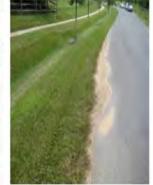
Large median, opportunity for a Bioretention Basin / Rain Gardens / Vegetated Swale



#### Rain Gardens / Bioretention Basin Filter Strips



Cuts within the existing curb at select spots near drainage inlets, to allow storm water flow into new rain gardens in the verge where space is available.



Remove curb in select areas and allow storm water to flow over grassed verge. This would also allow for infiltration. passive watering of the street trees and storm water infiltration

Street Trees

# Permeable Pavement



Permeable concrete paths to allow for storm water

Possible small rain gardens along the road.

#### Tree Box Filters



Tree box filters ideal where space is limited between the path and roadway.

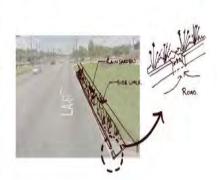


reduces heat isalnd effect. They also improve the infiltration capacity of the soil.

# Vegetated Swales

Planting of street trees provide shade to the area and Vegetated Swales, broad, shallow channels designed to convey and infiltrate storm water runoff

# Curb inlets



Provide cuts / inlets in the existing curb to allow for storm water inflow into rain gardens / swale.

Examples of Possible Green Infrastructure © 2021 Gresham Smith Project 44984 00

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# Existing Street Lighting Analysis Overview and Summary of Results

This lighting analysis was performed for the existing lighting conditions for the MOVEBR project: Plank Road Corridor Enhancement Segment 2 (Dawson Drive to Harding). This analysis approximates the existing lighting levels on Plank Road within the project limits from Dawson Drive to south of Harding Boulevard. It compares the approximated conditions with standards outlined in ANSI/IES RP-8-18 and the MOVEBR Design Guidelines. The intent of this study is to provide data to aide in a decision to upgrade street lighting on Plank Road or keep the existing system as is. Should the decision be made to design an upgraded lighting system, this analysis establishes a baseline from which the design can be compared.

The analysis of the existing conditions on Plank Road Segment 2 (Dawson Drive to Harding) shows that the existing lighting system along the corridor does not meet ANSI/IES RP-8-18 recommendations for street and intersection lighting. The AGi32 lighting model results outlined in the PHOTOMETRIC CALCULATION SUMMARY shows the average luminance and illuminance levels are lower than recommended for the majority of the corridor. From Dawson Drive to Sumrall Drive, the uniformity ratio meets or nearly meets ANSI/IES recommendations. However, from Sumrall Drive to Harding Boulevard, the uniformity ratio exceeds ANSI/IES recommendations. The veiling luminance ratio also exceeds recommendations for the majority of the corridor.

Gresham Smith Proj. #44984.00

# **Construction Cost Estimates**

#### ALTERNATE #1 - Sidewalk on East and West side

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
1195312	TWELVE (12) INCH WIDE THERMOPLASTIC REFLECTIVE STRIPING (125 MIL)	LF	964	\$13.88	\$13,380.32
1195324	TWENTY-FOUR (24) INCH WIDE THERMOPLASTIC REFLECTIVE STRIPING (125 MIL)	LF	344	\$25.78	\$8,868.32
2010100	CLEARING AND GRUBBING	LUMP	LUMP	\$2,000.00	\$2,000.00
2020100	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP	LUMP	\$5,000.00	\$5,000.00
2020600	REMOVAL OF CONCRETE WALKS AND DRIVES	SY	3068	\$18.43	\$56,543.24
2020700	REMOVAL OF CONCRETE CURB	LF	395	\$10.64	\$4,202.80
2020900	SAW CUTTING CONCRETE OR ASPHALT	LF	770	\$4.91	\$3,780.70
2030800	EXCAVATION AND EMBANKMENT	LUMP	LUMP	\$25,000.00	\$25,000.00
4010100	TRAFFIC MAINTENANCE AGGREGATE (Truck Measure)	CY	200	\$91.88	\$18,376.00
5101005	5" PERVIOUS CONCRETE PAVEMENT	SY	3816	\$120.00	\$457,920.00
9030200	TEMPORARY HAY BALES	EACH	105	\$18.96	\$1,990.80
9030500	TEMPORARY SILT FENCING	LF	6232	\$2.75	\$17,138.00
9030800	SEED	LB	43	\$22.39	\$962.77
9030900	FERTILIZER	LB	1000	\$1.95	\$1,950.00
9031000	WATER (FOR SEEDING AND FERTILIZER)	MGAL	21	\$112.50	\$2,362.50
9050100	TEMPORARY SIGNS AND BARRICADES	LUMP	LUMP	\$25,000.00	\$25,000.00
9060100	TRAFFIC SIGNAL SYSTEM (2)	LUMP	LUMP	\$100,000.00	\$100,000.00
9070106	INTEGRAL CONCRETE CURB (6" BARRIER)	LF	30	\$29.19	\$875.70
9070406	6" CONCRETE DRIVE	SY	1160	\$93.07	\$107,961.20
9090100	MOBILIZATION	LUMP	LUMP	\$50,000.00	\$50,000.00
9900001	TRUNCATED DOME INSET	SF	500	\$33.74	\$16,870.00
	GREEN INFRASTRUCTURE	LUMP	LUMP	\$100,000.00	\$100,000.00

### ALTERNATE #2 - Multi use path on east side and Sidewalk on west side

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
1195312	TWELVE (12) INCH WIDE THERMOPLASTIC REFLECTIVE STRIPING (125 MIL)	LF	964	\$13.88	\$13,380.32
1195324	1195324 TWENTY-FOUR (24) INCH WIDE THERMOPLASTIC REFLECTIVE STRIPING (125 MIL)			\$25.78	\$8,868.32
2010100	CLEARING AND GRUBBING	LUMP	LUMP	LUMP	\$2,000.00
2020100	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP	LUMP	LUMP	\$5,000.00
2020600	REMOVAL OF CONCRETE WALKS AND DRIVES	SY	3068	\$18.43	\$56,543.24
2020700	REMOVAL OF CONCRETE CURB	LF	395	\$10.64	\$4,202.80
2020900	SAW CUTTING CONCRETE OR ASPHALT	LF	770	\$4.91	\$3,780.70
2030800	EXCAVATION AND EMBANKMENT	LUMP	LUMP	LUMP	\$25,000.00
4010100	TRAFFIC MAINTENANCE AGGREGATE	CY	200	\$91.88	\$18,376.00
5101005	5" PERVIOUS CONCRETE PAVEMENT	SY	5392	\$120.00	\$647,040.00
9030200	TEMPORARY HAY BALES	EACH	105	\$18.96	\$1,990.80
9030500	TEMPORARY SILT FENCING	LF	6232	\$2.75	\$17,138.00
9030800	SEED	LB	43	\$22.39	\$962.77
9030900	FERTILIZER	LB	1000	\$1.95	\$1,950.00
9031000	WATER	MGAL	21	\$112.50	\$2,362.50
9050100	TEMPORARY SIGNS AND BARRICADES	LUMP	LUMP	LUMP	\$25,000.00
9060100	TRAFFIC SIGNAL SYSTEM (2)	LUMP	LUMP	LUMP	\$100,000.00
9070106	INTEGRAL CONCRETE CURB (6" BARRIER)	LF	30	\$29.19	\$875.70
9070406	6" CONCRETE DRIVE	SY	1160	\$93.07	\$107,961.20
9090100	MOBILIZATION	LUMP	LUMP	LUMP	\$50,000.00
9900001	TRUNCATED DOME INSET	SF	706	\$33.74	\$23,820.44
	GREEN INFRASTRUCTURE	LUMP	LUMP	LUMP	\$100,000.00
	SUBTOTAL				\$1,216,254.79
	CONTINGENCY (20%)				\$243,250.96
	TOTAL (SUBTOTAL + CONTINGENCY)				\$1,459,507.75

# ALTERNATE #3 - Multi use path on east and west Side

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
1195312	TWELVE (12) INCH WIDE THERMOPLASTIC REFLECTIVE STRIPING (125 MIL)	LF	964	\$13.88	\$13,380.32
1195324	TWENTY-FOUR (24) INCH WIDE THERMOPLASTIC REFLECTIVE STRIPING (125 MIL)	LF	344	\$25.75	\$8,858.00
2010100	CLEARING AND GRUBBING	LUMP	LUMP	LUMP	\$2,000.00
2020100	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP	LUMP	LUMP	\$5,000.00
2020600	REMOVAL OF CONCRETE WALKS AND DRIVES	SY	3068	\$18.43	\$56,543.24
2020700	REMOVAL OF CONCRETE CURB	LF	395	\$10.64	\$4,202.80
2020900	SAW CUTTING CONCRETE OR ASPHALT	LF	770	\$4.91	\$3,780.70
2030800	EXCAVATION AND EMBANKMENT	LUMP	LUMP	LUMP	\$25,000.00
4010100	TRAFFIC MAINTENANCE AGGREGATE	CY	200	\$91.88	\$18,376.00
5101005	5" PERVIOUS CONCRETE PAVEMENT	SY	6487	\$120.00	\$778,440.00
9030200	TEMPORARY HAY BALES	EACH	105	\$18.96	\$1,990.80
9030500	TEMPORARY SILT FENCING	LF	6232	\$2.75	\$17,138.00
9030800	SEED	LB	43	\$22.39	\$962.77
9030900	FERTILIZER	LB	1000	\$1.95	\$1,950.00
9031000	WATER	MGAL	21	\$112.50	\$2,362.50
9050100	TEMPORARY SIGNS AND BARRICADES	LUMP	LUMP	LUMP	\$25,000.00
9060100	TRAFFIC SIGNAL SYSTEM (2)	LUMP	LUMP	\$10,000.00	\$100,000.00
9070106	INTEGRAL CONCRETE CURB (6" BARRIER)	LF	30	\$29.19	\$875.70
9070406	6" CONCRETE DRIVE	SY	1160	\$93.07	\$107,961.20
9090100	MOBILIZATION	LUMP	LUMP	LUMP	\$50,000.00
9900001	TRUNCATED DOME INSET	SF	1268	\$33.74	\$42,782.32
	GREEN INFRASTRUCTURE	LUMP	LUMP	LUMP	\$100,000.00
			T	· · · · · · · · · · · · · · · · · · ·	
	SUBTOTAL				\$1,366,604.35
	CONTINGENCY (20%)				\$273,320.87
	TOTAL (SUBTOTAL + CONTINGENCY)				\$1,639,925.22

# **Appendix A: Final Data Collection**

# Field Observations

Observations were made on LA 67 (Plank Road) on February 9, 2021 by two Louisiana licensed Professional Traffic Operations Engineers. Items observed along the corridor included:

- Intersection geometry and deficiencies
- Existing pedestrian facilities and deficiencies
- Pedestrian and Bicyclist activity
- General operations
- Bus Stop activity

During the field observations, minimal pedestrian and bicycle activity was noted in the area.

#### Geometric Field Checks

Geometric Field Checks were also completed on February 9, 2021 for the corridor, in accordance with LADOTD Traffic Engineering Process & Report. The findings of the Geometric Field Checks are detailed below, as well as in the attached exhibits.

Within study area, LA 67 (Plank Road) is a roadway with varied cross-section with curb and gutter drainage and is oriented in the north-south direction. The roadway cross-section varies from four lane divided on the south end to a five-lane section on the north end with alternating left turn lanes. The posted speed limit along the LA 67 (Plank Road) is 45 miles per hour (mph). The roadway consists of 12-foot-wide lanes with back-to-back striped left turn lanes along the corridor. The land-uses along LA 67 (Plank Road) are a mix of small commercial and residential developments.

North of Dawson Drive, there is a full cloverleaf interchange system to access US 61 (Airline Highway). Within the study area limits there are two signalized intersections:

- · LA 67 (Plank Road) at Sumrall Drive / Monte Sano Avenue
- LA 67 (Plank Road) at 72nd Avenue / Monarch Avenue

There are seven STOP-controlled intersections along the study area limits:

- LA 67 (Plank Road) at Crown Avenue
- · LA 67 (Plank Road) at Peerless Street

- · LA 67 (Plank Road) at Paige Street
- LA 67 (Plank Road) at Cadillac Street
- · LA 67 (Plank Road) at Stearns Street
- LA 67 (Plank Road) at Packard Street
- · LA 67 (Plank Road) at Ford Street

All of the STOP-controlled intersections are three-legged intersections with stop-control only on the westbound minor approach. At each of these intersections, LA 67 (Plank Road) includes two northbound and two southbound lanes, with an exclusive southbound left turn lane. With the exception of Ford Street, each of the stop-controlled approaches consist of a single lane approach. Ford Street consists of a designated right turn lane and a designated left turn lane.

#### LA 67 (Plank Road) at Sumrall Drive / Monte Sano Avenue:

This intersection is a four-legged signalized intersection operating as a volume density coordinated intersection. As per LADOTD's Traffic Signal Inventory, this intersection currently operates with a time of day coordination plan during the day and free-operation during night. The northbound and southbound left turn phases operate as protected/permitted, and the eastbound and westbound phasing have overlap right turn indications.

The northbound approach on LA 67 (Plank Road) includes one exclusive left turn lane, two through lanes and one shared through/right lane. The southbound approach includes one exclusive left turn lane, one through lane and one shared through/right lane which includes a channelized right turn island. The eastbound approach on Monte Sano Avenue includes one left turn lane and one shared through/right lane. The westbound approach on Sumrall Drive includes one left turn lane and one shared through/right lane.

The traffic signal equipment is supported by wood poles on three corners, a strain pole on the southeast corner, and span wires. The existing ground mounted cabinet is located on the southwest corner of the intersection.

South of Sumrall Drive, there are two frontage roads running parallel to LA 67 (Plank Road). The frontage road intersections are within 50' from LA 67 (Plank Road). There are existing retail businesses on the northeast and the southeast corners. There is an industrial warehouse on the westside of the intersection.

South of Sumrall Drive, there are sidewalks on either side of LA 67 (Plank Road). North of Sumrall Drive, there is a sidewalk only on the east side of LA 67 (Plank Road). The southeast corner of the intersection has a sidewalk curb ramp, and the southwest corner

of the intersection has a large, paved asphalt area but no curb ramps. Neither the northeast nor northwest corners of the intersection include any pedestrian facilities.

South of Sumrall Drive, there are gutters on both sides of the roadway, located approximately at the stop bar location.

Two bus stops are located at this intersection, one on the east side of LA 67 (Plank Road) at the intersection, the other on the west side of LA 67 (Plank Road), 150 feet north of the intersection.

#### LA 67 (Plank Road) at 72nd Avenue / Monarch Avenue:

This intersection is a four-legged signalized intersection operating as a semi-actuated intersection. As per LADOTD's Traffic Signal Inventory, this intersection currently operates with a time of day coordination plan during the day and free-operation during the night. The northbound and southbound left turn phases operate as protected/permitted, and the eastbound and westbound phasing have an overlap right turn indication.

The northbound and southbound approaches on LA 67 (Plank Road) include one exclusive left turn lane, one through lane, and one shared through/right lane. Both eastbound approach on 72nd Avenue and the westbound approach on Monarch Avenue includes one shared left/through/right lane.

The traffic signal equipment is supported by strain poles on all four corners and span wires. The existing ground mounted cabinet is located on the northwest corner of the intersection.

On the southwest corner of the intersection is a gas station. On the southeast corner there is a small car dealership. On the northeast corner is a church, and on the northwest corner is a funeral home.

At the intersection, there are sidewalks only on the east side of LA 67 (Plank Road). The northeast and southeast corners of the intersection have sidewalk curb ramps to cross Monarch Avenue. Neither the northwest nor southwest corners of the intersection include any pedestrian facilities, and both corners are at an elevation with a steep grade towards roadway.

North of 72nd Avenue / Monarch Avenue, there is a gutter on the west side of the roadway, at approximately the southbound stop bar location.

Three bus stops are located at this intersection, one on the east side of LA 67 (Plank Road) at the intersection, one on the west side of LA 67 (Plank Road), 65 feet north of the intersection, and one on 72nd Avenue at the intersection.

#### Pedestrian and Transit Facilities:

Currently, sidewalks are provided along the study corridor. South of Sumrall Drive, sidewalks are provided on both sides of the LA 67 (Plank Road), these sidewalks even extend on the bridge over US 61 (Airline Highway). North of Sumrall Drive, sidewalks are provided on east side of LA 67 (Plank Road). Existing sidewalks are less than 4 feet wide and not all sidewalk crossing at driveway entrances are provided with curb ramps. Currently there are no pedestrian crosswalks provided across LA 67 (Plank Road).

The Capital Area Transit System (CATS) provides the following bus service routes along LA 67 (Plank Road):

- Route 11: Northside Circulator runs along the study corridor from 72nd Avenue/Monarch Avenue to Cadillac Street
- Route 41: Plank Road runs along the study corridor from Dawson Drive to US 61
- Route 54: Airline Highway North/Southern University runs along the study corridor from Harding Boulevard to US 61

CATS bus stops are located at multiple locations on both sides of the corridor. Of the nine CATS bus stops located along corridor, only five of them are adjacent to a sidewalk with a curb ramp. Only one includes a shelter.

# **Appendix B: Existing Safety Analysis**

# 2017-2019 Crash Analysis Summary

This section highlights a summary of crash patterns, trends, and identified problem areas based on an overall review of the Crash Report Documentation and Collision Diagrams of this report.

Table 1- Crash Summary by Manner of Collision 2017 2019 2018 Total SEGMENT 1 (Dawson Drive to Sumrall Drive / Monte Sano Avenue) Other Rear End 2 5 2 Side Swipe (Same Direction) 11 4 3 4 17 Total LA 67 (Plank Road) @ Sumrall Drive / Monte Sano Avenue Left Turn - Opposite Direction Non Collision with Motor Vehicle Rear End 5 16 Right Turn-Same Direction 0 0 0 Right Angle 3 4 Side Swipe (Opposite Direction) 0 Side Swipe (Same Direction) 0 0 7 9 12 28 Total SEGMENT 2 (Sumrall Drive/Monte Sano Avenue to 72nd Avenue/ Monarch Avenue) Left Turn - Same Direction 0 0 Left Turn - Opposite Direction 0 2 2 Rear End 0 0 2 0 0 Right Angle Side Swipe (Opposite Direction) 0 0 Side Swipe (Same Direction) 4 Total 2 11 LA 67 (Plank Road) @ 72nd Avenue/ Monarch Avenue Head on Left Turn - Opposite Direction 4 Non Collision with Motor Vehicle 0 0 Other 0 0 25 Rear End Right Angle 10 Side Swipe (Same Direction) 5 19 12 47 Total SEGMENT 3 (72nd Avenue / Monarch Avenue to Ford Street) Left Turn - Opposite Direction Left Turn-Angle 0 3 Non Collision with Motor Vehicle 4 0 5 0 Other Rear End 14 6 4 Right Angle 2 4 4 10 Side Swipe (Opposite Direction) 0 0 Side Swipe (Same Direction) 0 4 0 4 14 17 9 40 Total

**Corridor Total** 

50

48

45

143

# Appendix C: Alternative Analysis

Pedestrian Clearance Calculations

Pedestrian clearances were calculated for the two signalized intersections based on the existing intersection geometry from curb to curb on each corner. The clearance calculations were performed as per guidelines provided in the DOTD *Traffic Signal Design Manual*. The calculated pedestrian clearances, as well as the recommended clearance times are shown in **Table C-1** below. **Figures C-1** and **C-2** show the pedestrian clearance distances on aerial imagery.

Table C- 1: Pedestrian Clearance Calculations

					_	on't Walk (FDW) ime (s)
		Signal Phase	Distance (ff)	Speed (ff/s)	Calculated	Recommended
Plank at Sum rall	North Leg Crossing	4	75	3.5	21.4	22.0
	South Leg Crossing	8	72	3.5	20.6	22.0
	East Leg Crossing	6	51	3.5	14.6	15.0
	West Leg Crossing	2	49	3.5	14.0	15.0
	North Leg Crossing	4	86	3.5	24.6	25.0
Plank at Monarch	South Leg Crossing	8	74	3.5	21.1	25.0
	East Leg Crossing	6	41	3.5	11.7	12.0
	West Leg Crossing	2	33	3.5	9.4	12.0

Figure C- 1: LA 67 (Plank Road) at Sumrall Drive / Monte Sano Avenue Pedestrian Clearance Paths



Figure C- 2: LA 67 (Plank Road) at 72nd Avenue / Monarch Avenue Pedestrian Clearance Paths



LA 67 (Plank Road) at Sumrall Drive / Monte Sano Avenue Clearance Calculations

As per the clearance calculations, a pedestrian crossing LA 67 (Plank Road) would require 22 seconds of clearance time as well as four seconds of walk time, totaling 26 seconds. Based on the TSI's included in **Appendix A**, the eastbound and the westbound approaches are provided with 29 seconds of split green time. Therefore, the required pedestrian clearances can be accommodated in the existing split times for this movement. Additionally, the clearance calculations for a pedestrian crossing Sumrall Drive / Monte Sano Avenue would require 15 seconds of clearance time as well as seven seconds of walk time, totaling 22 seconds. Based on the TSI's, the northbound and the southbound approaches are provided with 43 seconds of split green time. Therefore, the required pedestrian clearances can be accommodated in the existing split times for this movement.

LA 67 (Plank Road) at 72nd Avenue / Monarch Avenue Clearance Calculations

As per the clearance calculations, a pedestrian crossing LA 67 (Plank Road) would require 25 seconds of clearance time as well as four seconds of walk time, totaling 29 seconds. Based on the TSI included in **Appendix A**, the eastbound and the westbound approaches are provided with 14 seconds of split green time. Therefore, adjustments are necessary

to the existing signal timings to accommodate pedestrian phasing. Considering the minimal pedestrian activity and long pedestrian clearances, it is recommended to serve pedestrian signalization upon activation using the Stop-In-Walk feature in the traffic signal controller. Upon activation, the signal will step out of coordination to serve pedestrians and step back into the coordination plan.

The clearance calculations for a pedestrian crossing 72<sup>nd</sup> Avenue / Monarch Avenue would require 12 seconds of clearance time as well as seven seconds of walk time, totaling 19 seconds. Based on the TSI's, the northbound and the southbound approaches are provided with 58 seconds of split green time. Therefore, the required pedestrian clearances can be accommodated in the existing split times for this movement.

The proposed signal timings including WALK time and FLASHING DON'T WALK time, are shown below in Table C-2 and Table C-3.

Table C-1: LA 67 (Plank Road) at Sumrall Drive/Monte Sano Avenue Pedestrian Timings

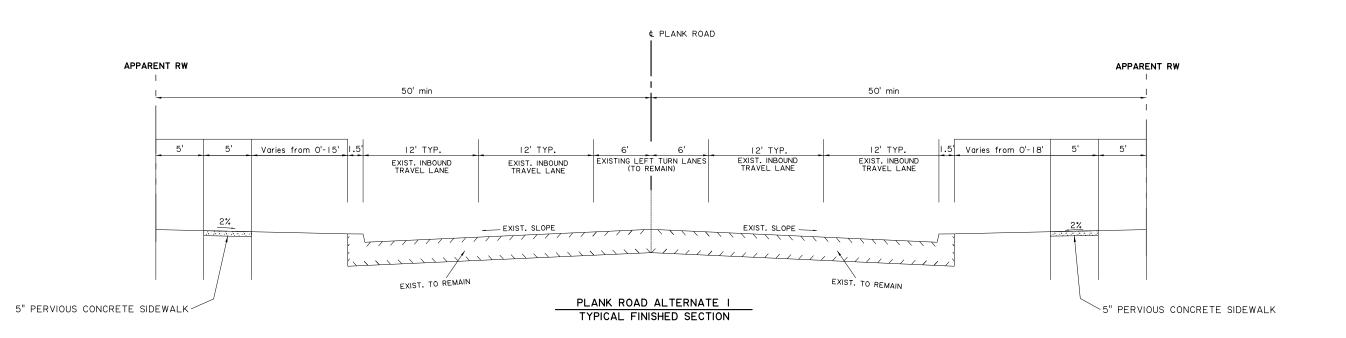
Phase Mode	Force Off:	Phase #:	1	2	3	4	5	6	7	8
Movement:	_		1 t		-					
PARAMETER	1	RANGE(sec)		*				Ţ		- L
WALK (WALK)		0-100		7		4		7		4
PED CLEARANCE	(P CLR)	0 - 100		15		22		15		22

Table C-2: LA 67 (Plank Road) at 72nd Avenue/Monarch Avenue Pedestrian Timings

Phase Mode	Force Off:	Phase #:	1	2	3	4	5	6	7	8
	Movement:	-		1		_				
PARAMETER		RANGE(sec)		. *		120				
WALK (WALK)		0 - 100		7		4		7		4
PED CLEARANCE	P CLR)	0 - 100		12		25		12		25

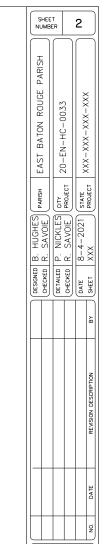
# **Alternatives Exhibits**

See Complete Streets Report



	BUFFER SPACING		BUFFER SPACING
	LEFT SIDE		RIGHT SIDE
O' BUFFER	STA. 106+81.00 - 108+12.56	O' BUFFER	STA. 105+62.40 - 109+34.30
5' BUFFER	STA. 108+12.56 - 112+98.83	5' BUFFER	STA. 109+34.30 - 112+98.83
5' BUFFER	STA. 117+47.00 - 122+98.45	5' BUFFER	STA.   7+47.00 -  22+ 3.24
BUFFER VARIES	STA. 122+98.45 - 127+54.90	9' BUFFER	STA. 122+13.24 - 128+45.40
5' BUFFER	STA. 127+54.90 - 132+72.53	5' BUFFER	STA. 128+71.68 - 132+72.53
5' BUFFER	STA. 134+32.28 - 135+80.00	5-9' BUFFER	STA. 134+75.00 - 136+13.76
IO' BUFFER	STA. 135+80.00 - 139+95.56	BUFFER VARIES	STA. 136+13.76 - 143+54.74
14' BUFFER	STA. 139+95.56 - 141+55.64	18' BUFFER	STA. 143+54.74 - 149+78.71
13' BUFFER	STA. 141+55.64 - 142+68.40	18' BUFFER	STA. 150+73.73 - 152+43.93
IO' BUFFER	STA. 142+68.40 - 143+84.94		
12-9' BUFFER	STA. 143+84.94 - 149+78.71		
8' BUFFER	STA. 150+73.73 - 152+43.93		

PRELIMINARY PLANS
PRELIMINARY
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CONSTRUCTION,
FOR REVIEW
ONLY.
ENGINEER:
BRENIMON HUBGHS
LICENSE #:
39985
DATE:
2/29/2022

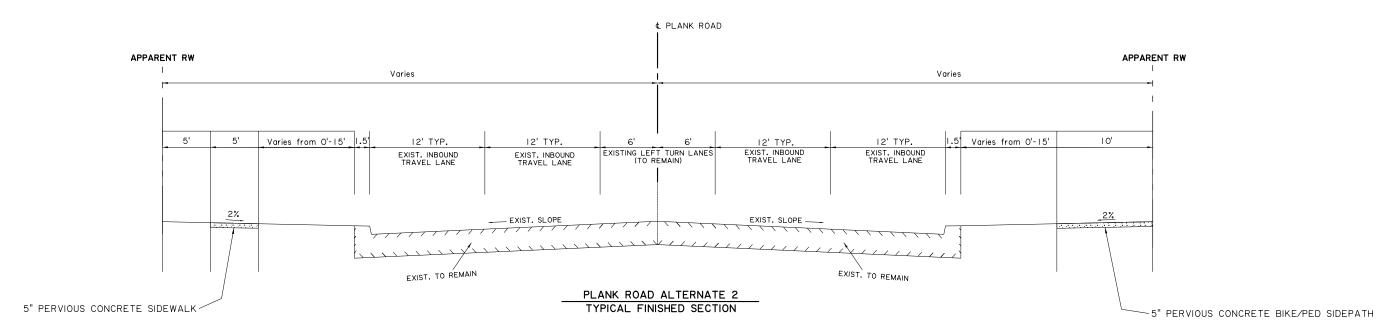




PICAL SECTIONS

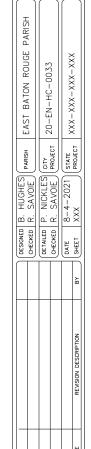
BR CITY OF BATON ROUGE

**¬** Gresham Smith



	BUFFER SPACING  LEFT SIDE	BUFFER SPACING RIGHT SIDE
	LEFT SIDE	RIGHT SIDE
O' BUFFER	STA. 106+81.00 - 108+12.56	O' BUFFER STA. 105+62.00 - 109+34.30
BUFFER VARIES	STA. 108+12.56 - 112+98.83	BUFFER VARIES STA. 109+34.30 - 112+98.83
BUFFER VARIES	STA. 117+47.00 - 127+54.90	BUFFER VARIES STA. 116+00.00 - 128+45.40
5' BUFFER	STA. 127+54.90 - 132+72.53	O' BUFFER STA. 128+71.68 - 132+72.53
5' BUFFER	STA. 134+32.28 - 135+80.00	2-12' BUFFER STA. 134+75.00 - 137+95.76
15' BUFFER	STA. 135+80.00 - 139+95.56	12' BUFFER STA. 137+95.76 - 143+54.74
14' BUFFER	STA. 139+95.56 - 141+55.64	13' BUFFER STA. 143+54.74 - 149+78.71
13' BUFFER	STA. 141+55.64 - 142+68.40	10' BUFFER STA. 150+73.73 - 152+43.93
10' BUFFER	STA. 142+68.40 - 143+84.94	
9' BUFFER	STA. 143+84.94 - 149+78.71	
8' BUFFER	STA. 150+73.73 - 152+43.93	

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SHEET NUMBER

2a

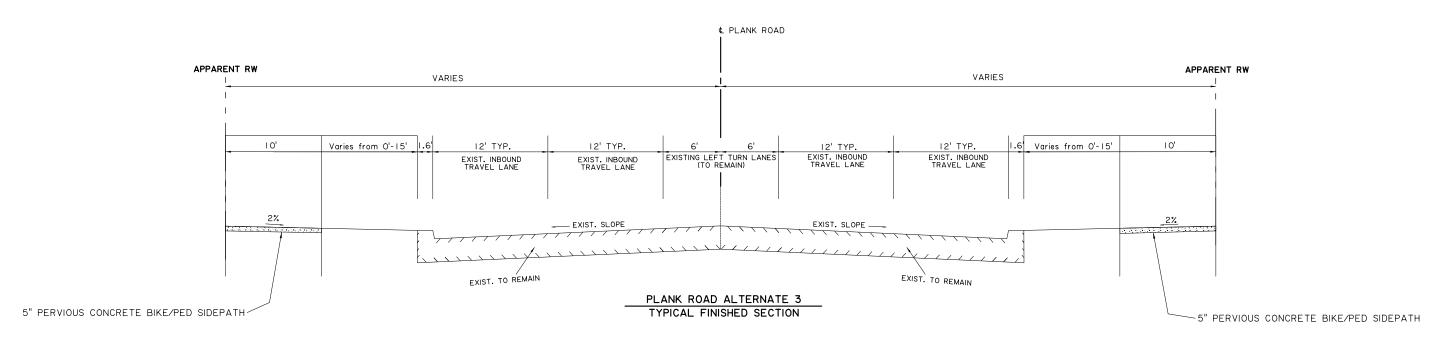


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BUFFER SPACING BUFFER SPACING LEFT SIDE RIGHT SIDE O' BUFFER STA. 106+81.00 - 108+12.56 O' BUFFER STA. 105+62.00 - 109+34.30 BUFFER VARIES BUFFER VARIES STA. 108+12.56 - 112+98.83 STA. 109+34.30 - 112+98.83 BUFFER VARIES STA. 117+47.00 - 127+54.90 BUFFER VARIES STA. 117+47.00 - 128+45.40 10' BUFFER STA. 127+54.90 - 132+72.53 O' BUFFER STA. 128+71.68 - 132+72.53 5' BUFFER STA. 134+32.28 - 135+80.00 2-12' BUFFER STA. 134+75.00 - 137+95.76 15' BUFFER STA. 135+80.00 - 139+95.56 12' BUFFER STA. 137+95.76 - 143+54.74 14' BUFFER STA. 139+95.56 - 141+55.64 13' BUFFER STA. 143+54.74 - 149+78.71 13' BUFFER STA. 141+55.64 - 142+68.40 10' BUFFER STA. 150+73.73 - 152+43.93 10' BUFFER STA. 142+68.40 - 143+84.94 9' BUFFER STA. 143+84.94 - 149+78.71

5' BUFFER

STA. 150+73.73 - 152+43.93

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