SCOPE OF SERVICES

STAGE 0 FEASIBILITY STUDY
Barriere Rd. Corridor
Plaquemines Parish
(RPC Task A-1.25PPG; FY-25 UPWP NO UA)

Introduction:

The Regional Planning Commission in coordination with Plaquemines Parish Government is conducting a conceptual feasibility study for the assessment of an extension and potential modification of Barriere Rd between LA 23 and Walker Road in the Belle Chasse area. This scope of work is in accordance with the Infrastructure Investment and Jobs Act (IIJA) emphasis on improving efficiency, safety, and planning for all roadway users.

Project Background

The corridor for analysis will be Barriere Road between LA 23 and Walker Road in the Belle Chasse area of Plaquemines Parish. The study area will be defined as the area south of the Gulf Intracoastal Waterway, Hurricane Protection Levee to the west, LA 23 to the south and East.

Given the unique geography of Plaquemines Parish, the sole downriver route on the westbank roadway network is LA 23. LA 23 is an NHS route in this area and parallels the Mississippi River as a four-lane arterial roadway from the Belle Chasse area, to the mouth of the Mississippi River at Venice. Land use developments occurring south of Belle Chasse on the westbank of the Mississippi river are therefore impactful to the population center of Belle Chasse.

Purpose and Need

The purpose of this study:

To update the planning parameters for modifying Barriere Road, including extension of its current alignment to Walker Road and potentially other, currently unimproved roads in the area south of the Naval Air Station Joint Reserve Base New Orleans (NASJRB); and determining high level implementation costs associated with said effort in order to facilitate alternative routing within the Belle Chasse area of Plaquemines Parish.

The need for the study effort is as follows:

1) Currently, LA 23 experiences significant congestion for several miles in the Belle Chasse areas for several hours a day and there are no alternative routes,
2) Assess alternative routing to LA 23 within the Belle Chasse area that would allow for more routing options for travel within this area of the parish and tie into planned and ongoing improvements;
3) Update the planning parameters for extending and possibly widening Barriere Road, including updates to Stage 0 Environmental Checklist and Preliminary Scope and Budget information for feasible alternatives;

4) Assess the impacts of the proposed relocation of the main entrance gate of the NASJRB from Russell Drive at LA 23 to Barriere Road by USDOD;
5) Assess Barriere Rd as a corridor that would support adjacent industrial development in the areas south of NASJRB;
6) Assess regional impacts to the roadway network of enhanced connectivity for an extended Barriere Road to the Peters Road Extension Project over the Gulf Intracoastal Waterway; and
7) Assess opportunities for green infrastructure, water management and resilience consistent with planning efforts by efforts by Plaquemines Parish, in order to preserve the roadway and the environment around it.

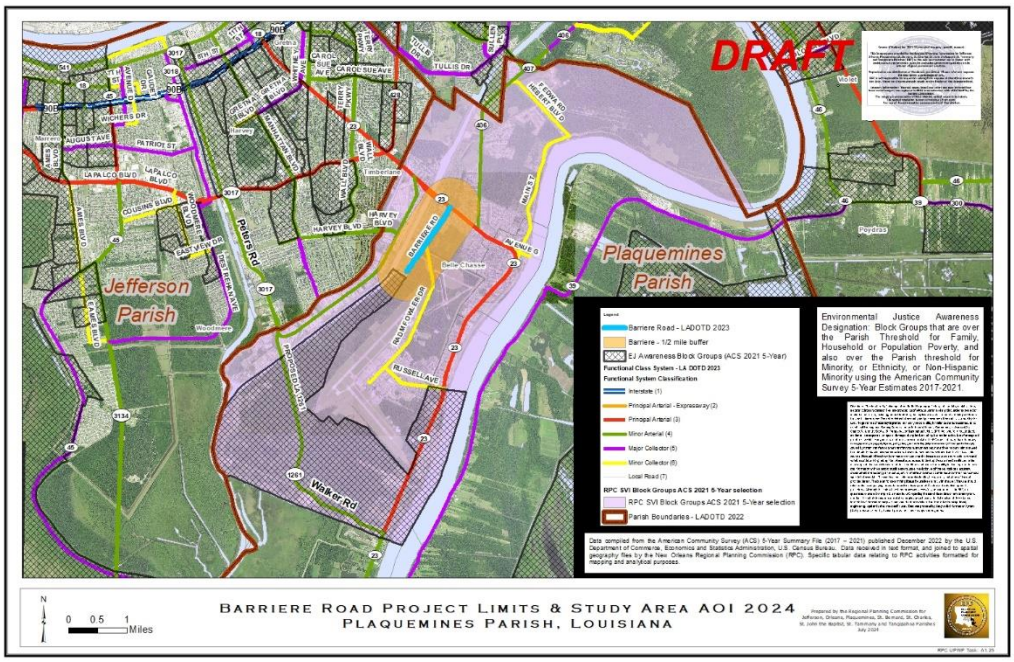
This Stage “0” Study will provide

1) A high-level overview that will present alignment and capacity options based on ongoing and forecasted developments in the immediate area of Barriere Rd as well as downriver developments related to activities generated from the Port of Plaquemines and changes in access resulting from the relocation of the main entrance gate of the NASJRB from LA 23 to Barriere Rd., and
2) Concept level cost estimates to complete an extension of Barriere Road and potential ancillary improvements in a configuration dependent on forecast demand.

The Conceptual Feasibility Study will be carried out in coordination with RPC, DOTD District 02, Plaquemines Parish, NASJRB personnel, Port of Plaquemines, and other community and stakeholder organizations as may be needed. The scope of work for this Stage "0" Feasibility Study consists of the following:

Study Geography:

The study area geography of the Barriere Rd corridor will be the area bounded by LA 23 to the north and west, the Gulf Intercoastal Waterway to the north and west, and the Hurricane Protection Floodwall to the south.



SCOPE OF WORK:

TASK 1: PROJECT MANAGEMENT TEAM

1A: Kickoff Meeting and Project Timeline

The consultant will organize an internal kick-off meeting that will take place within two (2) weeks of the Notice to Proceed, to be held in-person or virtually at the discretion of RPC. The kickoff meeting will include the RPC Project Manager, RPC's public outreach coordinator (and other RPC staff as appropriate), the Consultant Project Manager, a representative from each subconsultant, Plaquemines Parish, and LADOTD District 02. This meeting will address logistical details for the conduct of the project, including data sharing, invoicing requirements, RPC's Area of Interest Title VI Assessment and Standards, and other project expectations. The consultant will prepare a detailed project schedule including major milestones (Project Management Team meetings, site visits, draft reviews, final report submission, etc.) to be submitted and reviewed at the project kick-off meeting.

Deliverable: *Task product will include detailed project schedule with timeline and major milestones and a summary of the kickoff meeting.*

Task 1B: Project Management Team

The consultant will assist RPC in establishing and supporting a Project Management Team (PMT) to guide the technical work effort and to review the consultant's work products. The PMT will consist of the RPC, Plaquemines Parish, the LADOTD District 02 Traffic Operations Engineer or their designee, and personnel representing the NASJRB, as well as other stakeholders, as appropriate. The consultant will

provide all necessary agendas, handouts and exhibits in advance of PMT meetings for RPC review and approval and prepare summary minutes of the meetings.

The PMT will meet not more than four times during the study effort. Consultant will be responsible for organizing the meetings and will coordinate the venue to be used.

In addition, the consultant will assist RPC in the conduct of meetings (maximum of three) with other stakeholders in the area to discuss the project's purpose and need and project-related development opportunities and concerns, as appropriate. The RPC will initiate these contacts in consultation with the parish, and the consultant will prepare summary meeting minutes for review and discussion with the PMC.

***Deliverable**: Task products will include meeting agendas, handouts, summary minutes and support graphics. A report of the meeting activities and outcome, with a copy of the sign-in list, will be made available to attendees within 10 days of the kick-off meeting.*

1C: Demographic Profile

To review community equity, access and general impacts in the study area, an Area of Interest (AOI) will be established by the RPC. The RPC will provide the consultant with geographic, demographic and employment data, including measures identifying socio-economically distressed neighborhoods. The consultant shall describe how these data are to be used in the development of alternatives promulgated herein.

***Deliverables:** Task report summarizing findings from Subtask 1C.*

TASK 2 – EXISTING CONDITIONS AND PROPOSED LAND USE

Task 2A: Land Use

Land uses immediately adjacent to Barriere Road currently include the NASJRB to the south and residential to the north, between Barriere Rd and the Gulf Intercoastal Waterway (GIWW).

However, developments, some many miles downriver from Belle Chasse, are impactful to traffic conditions within Belle Chasse. Downriver growth and industrial development along the LA 23 corridor has contributed to significant traffic congestion in the Belle Chasse area as there are no alternative routes.

Working with the Plaquemines Parish Development Department, a land use and facilities inventory will be prepared in an Excel Spreadsheet and in map / graphic form showing existing and planned / forecast development in the study area adjacent to the corridor. The land use information will be reviewed by the PMT for accuracy. The land use information will be used for trip generation purposes and as input into a traffic analysis. The consultant will use the latest edition of the ITE Trip Generation manual to discern specific volumes from land uses. The traffic analysis will be performed based in part on this land use information to estimate projected traffic volumes for the alternative(s) and conceptual design

of intersections and access management opportunities along Barriere Rd. in the study area. It will also be used to inform conceptual design of alternatives in subsequent tasks.

Deliverable: *Task Report that includes a list of land use data collected, documentation of Trip Generation characteristics of same, and map/ graphic products.*

TASK 2B: Traffic Data Collection

Please note: This project is not intended to initiate LADOTD's Traffic Engineering Process and Report (TEPR). Any references to TEPR are related to formatting and display of traffic data for ease and consistency of review.

The consultant will work with the PMT to establish baseline traffic volumes (existing conditions) for the study area. The traffic network will be established by the RPC in consultation with the PMT and based on the region's federal-aid system and pertinent parish roadways.

1. Traffic data will be collected to determine traffic conditions both existing and projected within the study corridor and along LA 23. Requirements for collecting traffic counts are detailed in Appendix A. Traffic counts will be required at the following locations:

    - LA 23 north of Barriere Rd.
    - LA 23 south of Barriere Rd
    - LA 23 between Barriere Rd and LA 406
    - LA 23 between LA 406 and Avenue G
    - LA 23 between Avenue G and Avenue A
    - LA 23 between Avenue A and Magnolia Dr/ St. Ann Street
    - LA 23 between Magnolia St/ St. Ann St and Tiemaker Rd
    - LA 23 between Tiemaker Rd and Concord St.
    - LA 23 between Concord St and Highland Ave.
    - LA 23 between Highland Ave. and Russell Drive (Main Gate)
    - LA 23 between Russell Dr (Main Gate) and Buccaneer Rd
    - LA 23 between Buccaneer Rd. and Walker Rd.
    - Barriere Rd between LA 23 and Beta/ Good News Ave.
    - Barriere Rd between NASJRB Back Gate (Olsen Dr.) and Beta/Good News Ave.
    - Barriere Rd west of Olsen Dr.

2. Peak hour Turning movement counts:

    Peak hour turning movement counts will be undertaken at the following locations

    - LA 23 at Barriere Rd
    - LA 23 at LA 406
    - LA 23 @ Avenue G
    - LA 23 at Russell Dr.

3. All traffic data will be collected and formatted (Excel spreadsheet) for use with RPC's Regional Traffic Counting Program and consistent with DOTD standards. More information is provided in

Appendix A. The collected traffic data along with land use trip generation data will be used in preparing a planning-scale Highway Capacity Manual (HCM) analysis for the above intersections. The results of the analysis will be presented to the PMT for review.

Deliverable: *Consultant will prepare documentation of the above information to be used in subsequent tasks and prepare a standalone report that will be used as input for those same. RPC project manager will review this and results from Task 3. Upon approval, consultant will be authorized to begin subsequent tasks.*

Task product will include the transportation study network populated with existing and newly collected traffic data thereby establishing an existing conditions benchmark for use in the analysis. The consultant will coordinate with RPC's GIS Coordinator to ensure compliance with RPC standards and industry best practices related to GIS products and printed mapping.

Task 2C: Origins and Destinations

Consultant will work with RPC personnel to present Origin/ Destination data developed by RPC in a graphic format indicating estimates of trips traversing LA 23 south of the Hurricane Protection System to areas within and external to the Belle Chasse area. These data will inform subsequent tasks.

Deliverable: *Task product will include a graphic presentation of data developed by RPC that indicates general locations of origins and destinations for trips crossing a screenline on LA 23 at the hurricane protection levee south of Walker Rd.*

TASK 3: CONCEPTUAL ALTERNATIVES AND VULNERABILITY ASSESSMENT

Task 3A: Barriere Rd. Extension Conceptual Alternatives

Working with input from the PMT, consultant will develop conceptual alignments for extending Barriere Rd. from its current terminus to an end point in the vicinity of Walker Rd.

Consultant will obtain the proposed alignment of the Peter's Rd extension project and its connection to Walker Road in CADD format. Consultant will develop conceptual alignments of an extended Barriere Rd. that will access Walker Road and ultimately the LA 3017 corridor.

RPC will provide forecast traffic volumes of the study area consistent with the adopted Metropolitan Transportation Plan (MTP) roadway network for 2052. This will include forecasts of the extension of Peters Rd to Walker Road, as well as an estimate of NASJRB traffic utilizing the upgraded gate at Barriere Rd.

Consultant will perform a Level of Service and delay estimate for the study intersections using AM and PM peak hour demand based on projected traffic volumes discerned in Task 2. RPC will provide a growth rate for the corridor using the 2052 Existing + Committed roadway network from the SELATRAM model. Consultant will use said growth rate, and trip generation characteristics of land uses developed in Task 2 as input into a forecast year traffic analysis for a single build scenario.

The consultant will discuss with the PMT how the various intersection locations work under existing and forecast conditions. Consultant will propose conceptual improvement alternative(s), that will include access management improvements and policies for review.

Deliverable: *Consultant will prepare working visualizations of the proposed planning scale improvements and conceptual design alternatives to help the PMT understand environmental/water management design intent by using before and after graphic perspectives for important nodes and before and after graphics in plan view for the corridor.*

Task 3B: Vulnerability Assessment

The consultant will assess the proposed facility's vulnerability to natural hazards and provide recommendations for improving its ability to withstand hazards in the future.

1. Identify and Prioritize Hazards: The consultant shall identify the potential hazards that may affect the proposed facility. Hazards may be identified through review of existing Hazard Mitigation Plans, Emergency Operations Plans, and consultation with knowledgeable stakeholders such as parish staff, DOTD, the public, and the RPC. Once hazards have been identified they will be prioritized and selected for inclusion in further analyses through consultation with the Project Management Team and other relevant stakeholders.
2. Assess Vulnerability to Hazards: The consultant will assess the overall vulnerability of the proposed facility to the prioritized hazards. The assessment shall consider quantitative and qualitative data such as past occurrences of each hazard, presence of protective features, projected hazardous conditions, ROW elevation, and stakeholder input. Prior to conducting the assessment, the consultant will confer with the RPC and Project Management Team to ensure the appropriateness and availability of data to be used.

Deliverable: *Task Report that describes the prioritized hazards, identified vulnerabilities, and methodologies used to complete the assessment.*

TASK 4: NEAR-TERM AND LONG-TERM IMPROVEMENTS

The consultant will review information collected in previous tasks to identify current/ forecast problem areas, deficiencies, and opportunities for improvement. The consultant will undertake the following tasks:

<u>LA 23</u>:

Using the results of information developed in previous tasks the consultant will prepare near-term, high level conceptual alternatives to improve operating conditions for the LA 23 corridor between Walker Road and the GIWW. These alternatives will be developed at a planning level scale, and will be used as input for further advancement of feasible concepts derived from this analysis.

<u>Barriere Rd</u>.:

A. Using the results of information developed in previous tasks the consultant will prepare near-term and long-term conceptual alternatives for the corridor incorporating operational effectiveness, land use changes, and environmental feasibility for PMT consideration. Consultant will prepare conceptual layouts of the proposed improvements on recent aerial photography provided by RPC at a scale of 1" = 200'. Alternatives will be developed at a planning level scale, and will be used to as input for further advancement of feasible concepts derived from this analysis.

B. Phased Implementation: Consultant will develop above concepts with an eye toward possible phased implementation. Consultant will provide recommendations on how proposed improvements can be implemented in phases, as funding allows.

C. Resilience: Conceptual alignments and roadway configurations to be developed will assume implementation of resilience features for the road and right of ways. The resilience features should directly address vulnerabilities identified in the vulnerability assessment, and may include structural features (e.g., gray infrastructure), nature-based solutions (e.g., green infrastructure), policies, or a combination of features.

Additionally, consultant will adhere to the latest LADOTD policies related to access management and complete streets, as applicable for the corridor. Consultants will review best practices for resilience and water management and identify opportunities for inclusion in the conceptual plans.

Deliverable: *Task product will be high level conceptual plans for proposed improvements in both the near term and long term in the BARRIERE RD/ LA 23. corridors, and potential phased implementation of same*.

TASK 5: OPINION OF PROBABLE COST

The consultant will provide the PMT with a prioritized list of both short and long-term transportation and related capital improvements for each alternative development scenario, describing the forecast transportation deficiency, type of proposed improvement(s), details of construction line items, quantities, and opinion of probable cost. Consultant will also prepare an order of magnitude cost estimate for the resilience recommendations that will include operations and maintenance costs of same for concepts identified in earlier tasks. Costs will be provided for each phase of concepts promulgated in Task 4.

Deliverable: *A prioritized list of short and long-term transportation improvements with an opinion of probable costs for each development concept for further study and consideration.*

Task 6 – Draft and Final Report

All deliverables should be aggregated into a draft final document for review by the PMT before the project has been billed at 85%. The PMT and RPC staff may recommend changes to be addressed before a final plan is approved. The consultant will provide ten (10) hard copies of the final plan (including appendices), as well as a digital copy on a USB drive with all accompanying data. Six (6) hard copies of

the final report will be delivered to the Regional Planning Commission and four (4) hard copies shall be delivered to Plaquemines Parish Government.

Consultant shall finalize alternatives and prepare/submit the Stage 0 Feasibility Study, documenting the information and analysis described above. All studied alternative(s) deemed feasible by the PMT will be described in the Stage 0 Report.

The MPO will engage with the local public agency (LPA) following the completion of the Stage 0 report to determine a recommended alternative, should the LPA decide to advance the project. The consultant will prepare MPO Stage 0 checklists (ref. LA DOTD Program Development and Project Delivery System Manual, Chapter 4: Stage 0 Standard Operating Procedure, Checklist for MPO Stage 0-Preliminary Scope and Budget Worksheet, and Stage 0 Environmental Checklist) for the recommended alternative.

Deliverable:

Budget: $115,000

Timeline: Eight months

Appendix A: Traffic Count Methodology:

RPC template scope language for projects requiring traffic counts:

It is anticipated that traffic counts will be required at the locations referenced in Task 4:

Data collection will consist of 48 hour sessions conducted between Monday and Friday. Traffic data collection will adhere to the following provisions:

1) Traffic counts shall not be conducted during holidays, annual festivals, Mardi Gras, or other abnormal traffic/inclement weather conditions. School zone traffic factors into the count data; therefore, the counts shall take place when school is in session, unless otherwise approved by RPC.
2) Consultant must adhere to the provisions of 2016 LA DOTD Traffic Monitoring Manual, Chapter 4.0: Site Selection for Road Tube Placement and the FHWA 2016 Traffic Monitoring Guide (at least Chapter 3).
3) The consultant must utilize a raw traffic data file format that is compatible with the Traffic Server operated by the DOTD and certified as a current version of traffic data management software. A list of compatible file formats may be obtained from the RPC or DOTD.
4) 48 hour traffic counts will be collected at 15 minute intervals. Data delivery will include 15 minute interval counts, peak hour counts, and average daily traffic counts. The nominal traffic volume shall be based on the number of axles recorded assuming 2 axles per vehicle. Average daily traffic count data will be adjusted using the most recent, DOTD approved Traffic Count Adjustment Factor guidance. Both the adjusted and non-adjusted counts will be provided to the RPC.
    a. 15 minute counts with demand volumes included (Peak Hour Counts):
        i. May be requested during morning, midday, and evening peak hours at intersections, median opens, and driveways.
        ii. The terminology “with demand volumes included” requires the consultant to use procedures described in The Manual of Transportation Engineering Studies, 2nd Edition to determine arrival volumes. Arrival volumes shall be recorded when the demand exceeds the capacity and queues develop. Queues will develop when the intersection/driveway/median opening becomes saturated. Arrival volumes can be approximated by relating the departure count to the number of vehicles in the queue.
5) 48 hour vehicle classification counts will be collected at 15 minute intervals. Delivery will include 15 minute interval counts, total class counts, and percentage of each vehicle type as defined by FHWA Traffic Monitoring Guide (TMG).
6) Volume and vehicle classification counts shall be performed on the same week or at the same time if possible.
7) For both volume and vehicle classification counts: Data provided shall include the latitude and longitude coordinates of the site obtained by global positioning system (GPS) technology and recorded during the monitoring session at each site designated and identified by a station

number. Data must be collected for each direction of travel and the nominal traffic volume data will be reported by direction (North/South or East/West). Sites located on divided highways and other locations agreed to in advance will require two installations, one for each direction of traffic. For each of these sites, the monitoring sessions will be simultaneous.

8) A detailed description of the type of sensors including the name and manufacturer of the traffic monitoring equipment to be used is to be provided to RPC.
9) The consultant will adhere to a Quality Assurance /Quality Control program to reasonably assure the collecting and reporting of accurate and quality traffic data. The consultant must also reasonably assure good quality data and minimally adhere to the TMG standards and guidelines required for collecting and reporting traffic monitoring data.

The consultant will be responsible for the organization, processing, and delivery of the traffic data. Data will be provided to the RPC in the following formats:

1. A Microsoft Excel compatible (.xls or .csv) spreadsheet summarizing average daily traffic, based on a template to be provided by RPC. The spreadsheet must include latitude and longitude of the location of each count with projection information, including datum unit of measure and an assigned unique ID; AND
2. An ESRI compatible geographic file (shapefile or feature class) summarizing average daily traffic, based on a template to be provided by the RPC which will include count location unique ID (LOCAL_ID or IntID) and location description.

Raw traffic data files in a format that is compatible with the most current traffic data management software operated by the LA DOTD (currently MS2 Traffic Count Database System (TCDS)). A list of compatible file formats for LA DOTD upload may be obtained here:

https://docs.ms2soft.com/docs/ms2-help-data-import