

STAGE 0 FEASIBILITY STUDY
SCOPE OF SERVICES

Power Boulevard @ West Esplanade Ave.
Intersection Improvements Study
RPC Task A-1.19PWE; FY-19 UPWP

PURPOSE AND NEED

The purpose of this project is to perform a Stage 0 Feasibility Study to address existing traffic congestion and transportation mobility issues at the intersection of Power Boulevard and West Esplanade Avenue in Jefferson Parish. The intersection is under the jurisdiction of Jefferson Parish and serves both the City of Kenner and Jefferson Parish, providing access to the City of Kenner and the I-10 system.

Power Blvd. and West Esplanade Ave. are functionally classified as minor arterials on the federal-aid system. Power Blvd. northbound consists of two through lanes with left and right turn lanes; southbound is three through lanes with a right-turn lane. West Esplanade eastbound consists of a “u-turn” lane, two through lanes, and a right-turn lane; westbound has a double left-turns, two through lanes, and a right-turn lane.

Based on RPC’s 2016 Traffic Count Program, the intersection presently serves about 72,100 vehicles per day with an estimated Average Daily Traffic (ADT) volumes of 40,800 on Power Blvd. and 31,300 on West Esplanade. The study limits will extend outward along the intersection centerline a distance of approximately 250 feet along each approach and include any nearby “U-TURNS” which frequently result in impeding through traffic movements during peak hours. This project will include the following tasks.

TASK 1: PROJECT TIMELINE AND KICK-OFF MEETING

The consultant will prepare a draft project schedule including major milestones for the Tasks to follow. The timeline will be submitted at a project kick-off meeting that will include representatives from the consultant, sub-consultant, Jefferson Parish Engineering and Traffic Departments, City of Kenner Public Works Department, Regional Planning Commission (RPC), and DOTD District 02. The kick-off meeting will take place within two (2) weeks of the Notice to Proceed.

TASK 2: PROJECT MANAGEMENT COMMITTEE

The consultant will assist the RPC in establishing and supporting a Project Management Committee (PMC) to guide the technical work effort and to review the consultant’s work products. The PMC will include representatives from the above named organizations (see Task 1 above), and others stakeholders as necessary.

The PMC will meet three times during the course of the study effort: 1) to review data findings, 2) to review initial draft recommendations, and 3) to review final recommendations, costs, and next steps.

In addition, the consultant will, as directed by the RPC, conduct necessary meetings with elected officials and other local leaders and organizations in the area to discuss the project’s purpose and need and project-related opportunities and concerns.

TASK 3: SITE INVESTIGATION AND DATA COLLECTION

A comprehensive site investigation and data collection effort will be made at the study intersection to allow an accurate assessment of the traffic and physical characteristics of the site. Intersection traffic data will be provided by the Jefferson Parish Traffic Engineering Division including consisting of 7-day, 24-hour traffic volume counts on each intersection approach, including adjacent “U-TURNS”. These counts will contain hourly subtotals in order to determine A.M. and P.M. peak hours. Counts must be completed during a 7-day period that does not include a holiday or special event not typically seen at the site.

Peak hour turning movement counts, including bicycle and pedestrian counts, will also be provided by Jefferson Parish for the weekday A.M. and P.M. peak hours. A weekend, noon (midday) peak hour turning movement count will also be required. These counts must be completed during a period that does not include a holiday or special event not typically seen at the park.

TASK 4: INTERSECTION OPERATIONAL ANALYSIS

The consultant will prepare an existing site survey including traffic signal equipment, existing traffic signal layout and signal timing patterns, existing utilities, and the existing right-of-way within 250 feet limits to the north, south, east, and west of the intersection centerline, including “U-TURNS”.

Utilizing the traffic data from Tasks 3, the consultant will conduct an operational analysis for the Power Blvd. at West Esplanade intersection. For comparison purposes, a Highway Capacity Manual (HCM) Level of Service Analysis will be performed on the existing operational state of the intersection during the A.M. and P.M. peak hours using the existing geometry, traffic controls, and traffic volumes. Delay times (seconds per vehicles) and corresponding Level of Service (LOS) designations and v/c ratios will be calculated using Synchro Software (Version 7 or higher).

The collected peak hour traffic counts shall be projected out from the anticipated build year to allow a design life of 20 years. In this case the build year is considered to be 2 years from submittal of the traffic study. The consultant will coordinate with the RPC on the method to be used to determine the growth factor for the traffic projection, i.e., Regional Travel Model or growth in traffic over time. The final report will describe the growth factor and the assumptions used for its selection. The forecasted v/c ratios will then be compared with the existing condition using Synchro Software. The report must include an Auto-TURN analysis to demonstrate that the proposed intersection layout can accommodate a WB-67 truck.

TASK 5: CRASH HISTORY

A crash history of the intersection will be determined for the past 3 years and a chart developed listing the number of “correctible crashes”. Correctible crashes are defined as head-on, right-angle, and left-turn collisions. The crash data analysis will also examine any bike/ped incidents at the intersection.

TASK 6: CONCEPTUAL INTERSECTION LAYOUT DESIGN

The consultant will analyze low-cost improvement measures (such as changes in signal timing) which may be implemented as interim improvements to enhance intersection performance while other short-term capacity improvements (such as turning lanes or relocation of U-TURNS) are under design development.

The consultant will prepare a detailed conceptual drawing on an aerial photograph showing the proposed layout design. The layout shall follow to the greatest extent possible the LADOTD Roadway Design

Procedure and Details Manual for intersections. The concept drawing will include but not be limited to the following:

- Apparent right-of-way as determine from available information and site visits.
- Anticipated required right-of-way
- Nearby driveways, intersections, and traffic control types within the 95% queue length.
- Apparent utility locations determined from available information and site visit.
- Anticipated utility relocations
- Sidewalk locations, including ADA improvements
- Apparent drainage issues
- Potential horizontal and/or vertical geometry issues
- Appropriate geometry for the entry and exit of the design vehicle
- Potential bike/bed crossing improvements

TASK 7: VISSIM MODELING

A VISSIM computer software model will be prepared to show an animation of the existing and proposed intersection improvements. An electronic copy of the model will be submitted with the report. The VISSIM model shall be calibrated using the industry standards for the calibration of traffic models.

TASK 8: DRAFT REVIEW

A draft report (six bound copies) with all documentation described above will be submitted to the PMC, allowing two weeks for review and comment. The report will include the conceptual layout of the intersection and descriptions of the proposed improvements with an opinion of probable costs with estimated quantities and unit costs. The consultant will prepare and include LADOTD's Stage 0 Environmental Checklist in the draft and final reports. The consultant will also assist RPC with the preparation of the MPO Checklist for report inclusion.

TASK 9: FINAL DELIVERABLES

Following review and approval of the draft submission, the consultant will provide the RPC with six (6) bound hard copies and six electronic copies on disc (pdf format) of the Final Feasibility Study Report. The electronic version will include all accessory documentation created during the course of the study, including the VISSIM model.

TIMELINE: 6 Months

BUDGET: \$40,000