EXECUTIVE SUMMARY

A comprehensive Stage 0 Feasibility Study, conducted in accordance with the LADOTD Stage 0 Manual of Standard Practice, has been completed for the Lower St. Bernard Transportation Network. This study assessed current and future traffic conditions, particularly in anticipation of the Louisiana International Terminal (LIT) facility in Violet, LA.

The purpose of the project is to identify needed transportation infrastructure improvements and roadway network improvements in the lower St. Bernard Parish area resulting from the proposed development and expansion over time of the Louisiana International Terminal project in Violet, LA, specifically between the I-510/ LA 47 corridor and lower St. Bernard Parish. This includes assessments of LA 46 and LA 39, the National Highway System Routes that service the area. Transportation infrastructure improvements identified aim to accommodate the efficient movement of forecast traffic needs resulting from the anticipated addition of heavy truck traffic and ancillary value-added economic activities and land use changes while minimizing negative community impacts.

The needs of the project include the following:

System Linkage to improve connectivity between the I-510/LA 47 and Lower St. Bernard Parish to accommodate proposed economic development and growth.

Intermodal Relationships provide improved and efficient access to existing and planned intermodal port and rail facilities within the lower St. Bernard Region.

Economic Development accommodate future economic development associated with the LIT intermodal port facility and other land use changes within the lower St. Bernard Region.

Capacity Improvements provide capacity necessary to address the existing and projected future traffic growth within the transportation network of the lower St. Bernard Region.

Hurricane Evacuation to provide improved and resilient evacuation routes for residents in Lower St. Bernard Parish and the East Bank of Plaquemines Parish.

Additional Goal: An additional goal of the purpose and need is to reduce impacts of commercial truck traffic associated with the proposed LIT facility on existing state routes, within the project area**.** The reduction in commercial truck traffic on existing infrastructure will enhance freight efficiency, minimize congestion, and lessen the degradation of infrastructure.

This feasibility study identified key rail-related challenges affecting the Lower St. Bernard transportation network, particularly at-grade intersections along the Chalmette Branch Line of the Norfolk Southern Railroad (NSRR). The intersections at St. Bernard Highway and Judge Perez Drive currently experience significant vehicular delays due to rail traffic movements, including trains stopping and reversing to access industrial facilities. With the anticipated growth in Louisiana International Terminal (LIT) rail operations, delays are expected to increase, particularly as container rail traffic is projected to account for 29% of all rail movements by 2050. To mitigate these impacts, the study recommends the evaluation of grade separations (highway overpasses) at St. Bernard Highway and Judge Perez Drive. These overpasses would

provide substantial benefits in reducing traffic congestion, improving travel time reliability, and enhancing safety by eliminating at-grade rail conflicts. A detailed engineering study is required to assess footprint requirements, potential impacts on adjacent properties, and cost estimates. In addition to grade separations, the study evaluated two long-term conceptual rail realignment alternatives aimed at improving rail operational efficiency and reducing conflicts with roadway traffic. Both alternatives propose rerouting rail traffic along the hurricane protection levee near the 40 Arpent Canal, reducing interaction with the existing NSRR Chalmette Branch Line. While these alignments would streamline LIT rail movements, they would not eliminate the need for the existing rail line to remain in operation for industrial customers, nor would they fully resolve existing at-grade intersection delays. Due to significant construction costs and continued industrial rail use along the existing corridor, the study concludes that the most cost-effective and beneficial near- to mid-term solution is the construction of grade-separated overpasses at key intersections. A more detailed discussion on the rail findings can be found in Section 9 of this report. This recommendation ensures that transportation infrastructure improvements align with future rail demand, roadway efficiency, and community mobility needs, supporting the long-term economic growth of St. Bernard Parish.

The elevated highway alternatives development process considered the project's Purpose and Need, traffic conditions, community input, environmental impacts, constructability, and cost. An initial set of 32 elevated highway alternatives underwent screening, with twelve (12) advancing to a second round and seven (7) proceeding to the final round of evaluation. Ultimately, three (3) elevated highway alternatives were presented for further study in the Stage 1 Planning/Environmental phase.
The layouts of these three elevated highway alternatives are presented below in **Figures 1-3.**

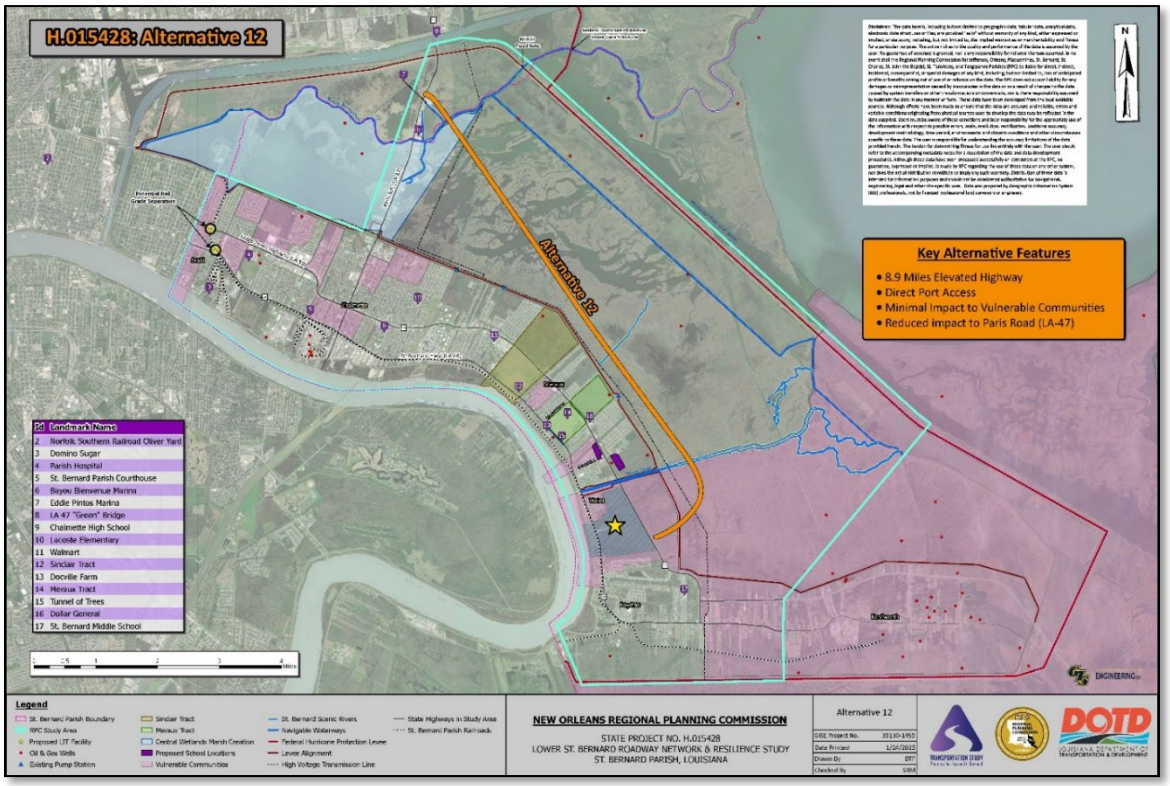

FIGURE 1: ELEVATED HIGHWAY ALTERNATIVE 12 (C-H-I-P)

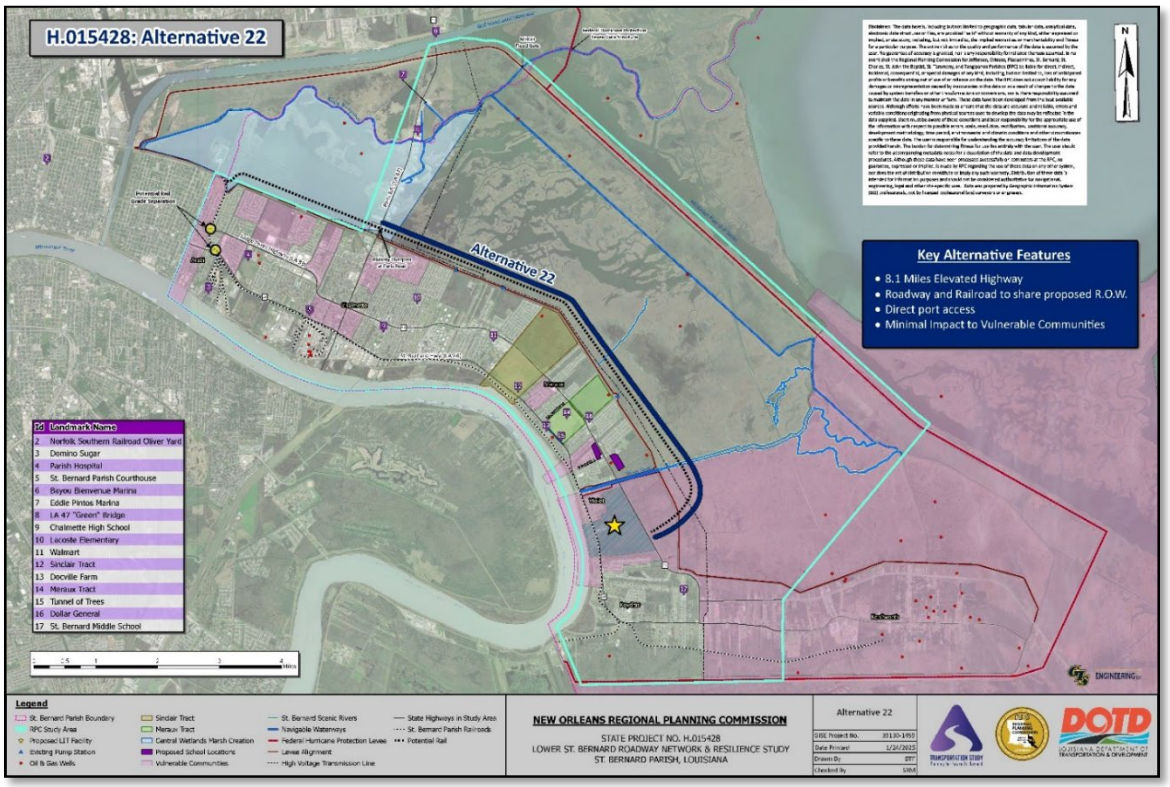

FIGURE 2: ELEVATED HIGHWAY ALTERNATIVE 22 (G-E-H-I-P)

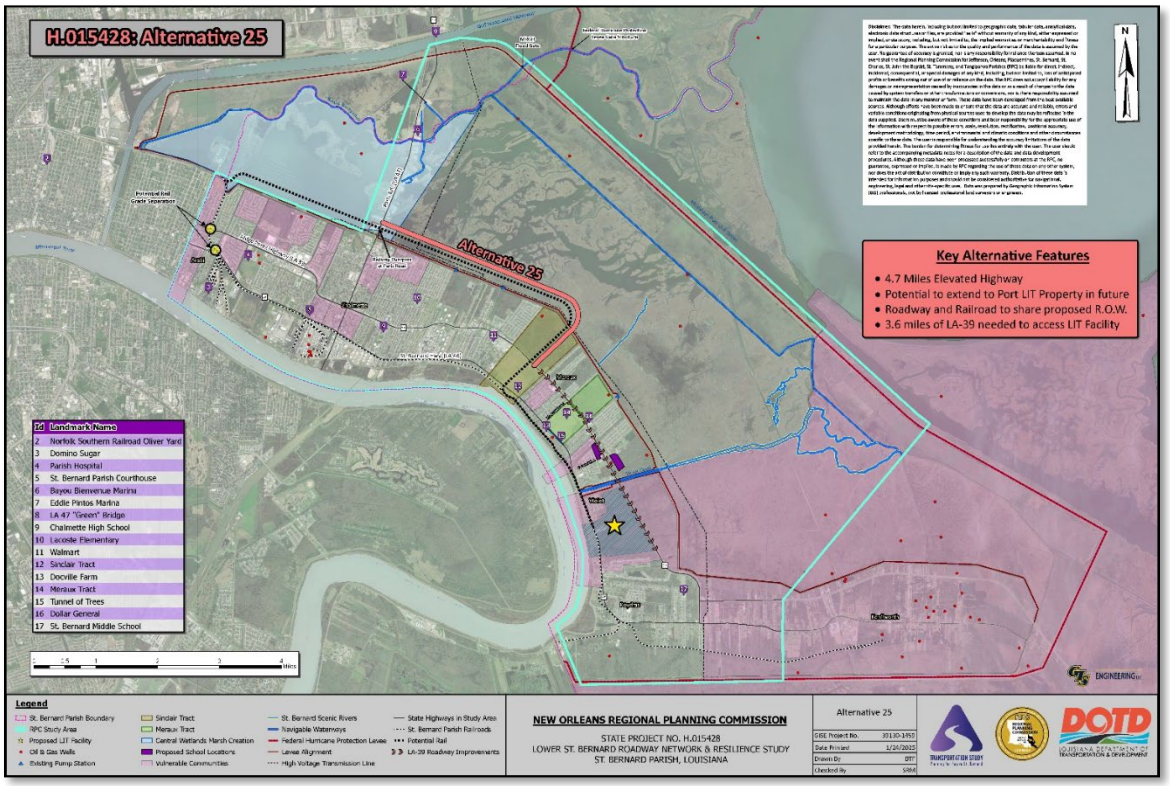

FIGURE 3: ELEVATED HIGHWAY ALTERNATIVE 25 (G-E-S)

Improvements to existing infrastructure were evaluated by analyzing traffic volumes, both, with and without the proposed elevated highway alternatives. The identification process followed Louisiana DOTD guidelines and procedures to ensure consistency with state transportation planning standards and are identified in the traffic study located in **Appendix B** and summarized in Section 8. The improvements to existing infrastructure, which would be required if an elevated highway is not constructed, are presented in the following **Figures 4-6**. Layouts and cost estimates for these alternatives are provided in **Appendix G**.

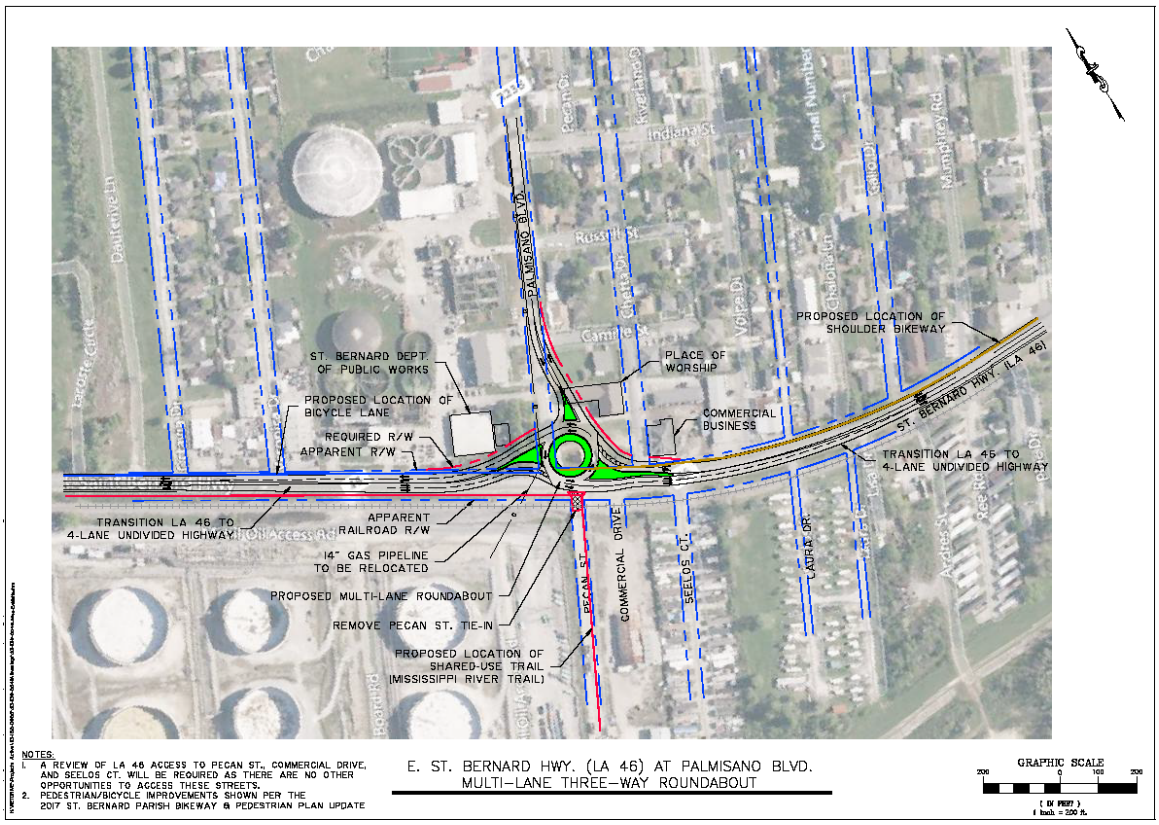

FIGURE 4: EXISTING INFRASTRUCTURE IMPROVEMENTS AT ESB HWY (LA46) AT PALMISANO BLVD. INTERSECTION

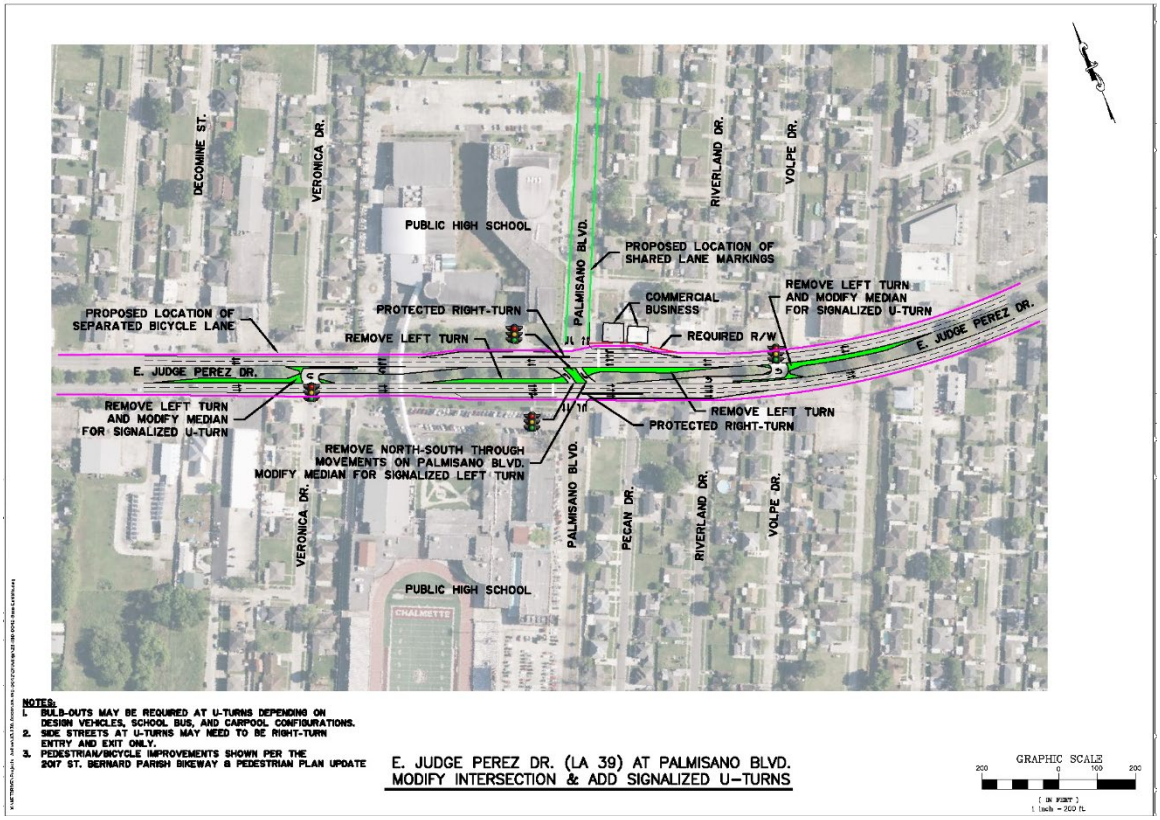

FIGURE 5: EXISTING INFRASTRUCTURE IMPROVEMENTS AT EJP (LA39) AT PALMISANO BLVD. INTERSECTION

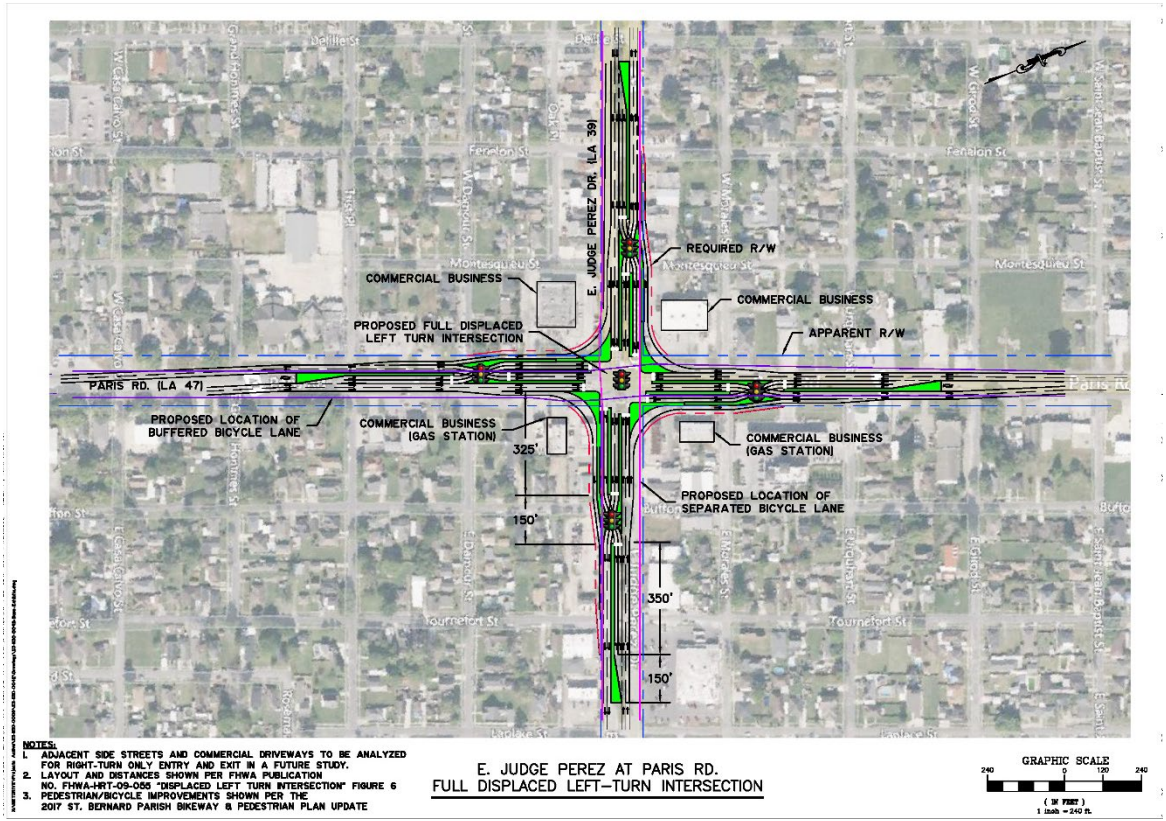

FIGURE 6: EXISTING INFRASTRUCTURE IMPROVEMENTS AT EJP (LA39) AT PARIS RD (LA47) INTERSECTION

To ensure a comprehensive and streamlined planning process, this study incorporates the Planning and Environmental Linkages (PEL) approach, aligning with 23 CFR 450.318 to facilitate the early consideration of environmental, community, and economic factors in transportation decision-making. The PEL approach enhances coordination between planning and project development while reducing duplication in the National Environmental Policy Act (NEPA) process. The Louisiana Department of Transportation and Development (LADOTD) intends to adopt or incorporate by reference any portions of this study that sufficiently meet the requirements of the NEPA process.

23 CFR 450.318 was selected as the guiding federal regulation to ensure compliance with Federal Highway Administration (FHWA) planning requirements and to facilitate a smooth transition from feasibility analysis to project implementation. To further support the integration of this document into the NEPA Environmental Stage, the Planning and Environmental Linkage (PEL) Questionnaire has been completed and is included in **Appendix K** of this report. Additionally, a Stage 0 Scope and Budget Checklist has been prepared and is provided as **Appendix I**.

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1.0 INTRODUCTION

This report presents the findings of a comprehensive Stage 0 Feasibility Study for the Lower St. Bernard Transportation Network, conducted in accordance with the Louisiana Department of Transportation and Development (LADOTD) Stage 0 Manual of Standard Practice. The study evaluates potential alternatives for an elevated highway connector and improvements to existing infrastructure to address current and future transportation needs in Lower St. Bernard Parish, particularly in anticipation of the Louisiana International Terminal (LIT) facility in Violet, LA.

The project focuses on improving connectivity, mobility, and access between I-10/I-510 and Lower St. Bernard Parish, with key corridors including Judge Perez Drive (LA 39), St. Bernard Highway (LA 46), and Paris Road (LA 47). Anticipated traffic growth, driven by the LIT facility and regional land use changes, requires planning and analysis to determine improvements to existing infrastructure and future elevated highway alternatives that satisfy the Purpose and Need of the project. A geographic representation of the project study area can be seen in **Figure 7** below.

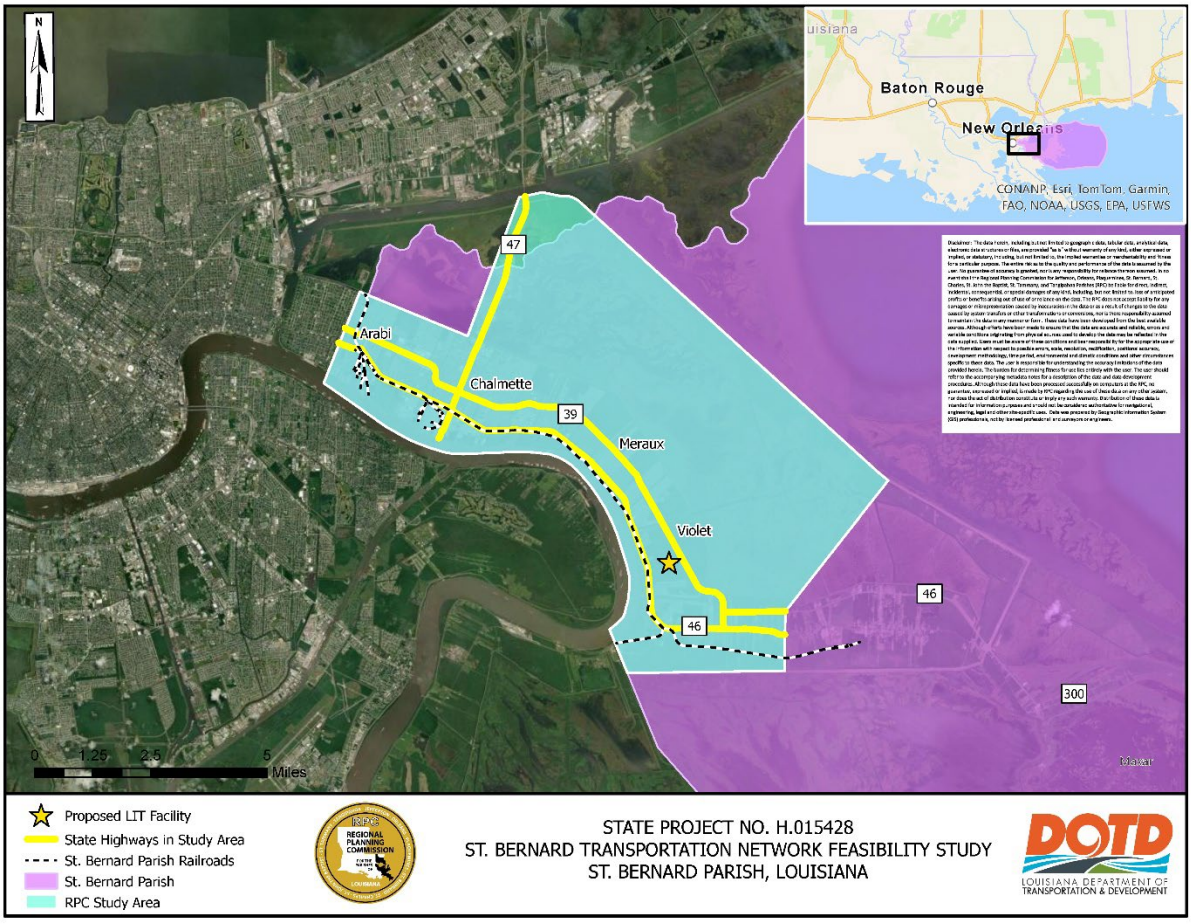


FIGURE 7: PROJECT STUDY AREA

This report examines existing and projected traffic conditions, evaluates alternative solutions, assesses potential environmental and community impacts, and identifies the most feasible and cost-effective options for advancing into the Stage 1 Planning/Environmental phase.

2.0 BACKGROUND

The Port of New Orleans (Port NOLA) is currently seeking to develop a new intermodal container terminal facility in Lower St. Bernard Parish. The planned Louisiana International Terminal (LIT) will be a $1.5 billion container terminal with an anticipated annual capacity of 2 million twenty-foot equivalent units (TEUs). The proposed terminal site in Violet, LA, was selected following a site feasibility analysis conducted from 2018 to 2020 due to its naturally deep water, proximity to existing rail networks, and location within the levee system. Port NOLA has acquired approximately 1,200 acres for the proposed LIT site (with an anticipated facility footprint of approximately 400 acres) and has initiated the permitting process with the U.S. Army Corps of Engineers (USACE).

The RPC Study aims to broaden the scope of analysis completed by Port NOLA and consider the feasibility of improvements to manage the anticipated increased freight and employment traffic in lower St. Bernard Parish from both the proposed Port NOLA project and other downriver projects impacting the future quality of life in the Parish. This study acknowledges that the future growth in the Parish could pose negative traffic impacts to the region if transportation impacts are not assessed, planned for, and implemented to support the region and impacted communities. Therefore, this study aims to enhance regional mobility, provide better access to existing and future intermodal port and rail facilities, and support economic development beyond the scope of the LIT project.

To ensure a comprehensive and streamlined planning process, the study follows the Planning and Environmental Linkages (PEL) approach, which allows for early consideration of environmental, community, and economic factors in transportation decision-making. The PEL process was chosen to improve coordination between planning and project development while reducing redundancy in later National Environmental Policy Act (NEPA) evaluations. In addition, 23 CFR 450.318 was selected as the guiding federal regulation to ensure that this study aligns with Federal Highway Administration (FHWA) planning requirements and facilitates the transition from feasibility analysis to project implementation. 23 CFR 450.318 permits the use of planning studies in NEPA and does not impose a time limit on using the information gathered during the PEL process, as long as the information is still valid, accurate, and applicable at the time of NEPA review. If the lead or federal agencies determine that any information has become outdated, additional studies may be required.

3.0 PRELIMINARY PURPOSE AND NEED

The Preliminary Purpose and Need statement is a foundational component of the Stage 0 Planning process, serving to define the transportation problem and establish the justification for potential improvements. The Preliminary Purpose and Need provides an essential link between transportation planning and environmental studies conducted under the National Environmental Policy Act (NEPA). The project's preliminary purpose and need statement was developed in coordination with LA DOTD, FHWA, and NORPC, and supports the identification and evaluation of reasonable alternatives by articulating both the underlying need for action and the broader planning context in which the project is being considered.

The purpose of the project is to identify needed transportation infrastructure improvements and roadway network improvements in the lower St. Bernard Parish area resulting from the proposed development and expansion over time of the Louisiana International Terminal project in Violet, LA, specifically between the I-510/ LA 47 corridor and lower St. Bernard Parish. This includes assessments of LA 46 and LA 39, the National Highway System Routes that service the area. Transportation infrastructure improvements identified aim to accommodate the efficient movement of forecast traffic needs resulting from the anticipated addition of heavy truck traffic and ancillary value-added economic activities and land use changes while minimizing negative community impacts.

The need for transportation improvements in the Lower St. Bernard Transportation Network is driven by several key factors, including projected economic development, increasing traffic volumes, and the construction of the Louisiana International Terminal (LIT) in Violet, LA. The LIT facility, once operational, will significantly increase freight and passenger traffic throughout the region, creating demand for improved connectivity and capacity on major roadways such as Judge Perez Drive (LA 39), St. Bernard Highway (LA 46), and Paris Road (LA 47). The existing infrastructure is inadequate to accommodate the anticipated growth, particularly in terms of efficient access and egress for both local traffic and freight transportation. The specific needs are outlined below:

In addition to the primary objectives of the study, an additional goal of the preliminary purpose and need is to reduce impacts of commercial truck traffic associated with the proposed LIT facility on existing state routes, within the project area**.** The reduction in commercial truck traffic on existing infrastructure will enhance freight efficiency, minimize congestion, and lessen degradation of infrastructure.

Addressing these needs are essential for supporting the continued economic growth of the Lower St. Bernard region, ensuring the efficiency of the transportation network, and improving the quality of life for citizens of St. Bernard Parish.

4.0 INTERNAL CONSULTANT COORDINATION AND PUBLIC OUTREACH PLAN

4.1 PROJECT LEADERSHIP TEAM

A Project Leadership Team (PLT) was established to oversee the study and ensure coordination among key stakeholders. This team includes representatives from the New Orleans Regional Planning Commission, St. Bernard Parish, Port of New Orleans, Louisiana Department of Transportation and Development, Federal Highway Administration, and the project consultant team. The team conducted monthly progress/update meetings to discuss project developments, address concerns, and guide decision-making throughout the feasibility study process. The members of this team can be found in **Appendix A: Stakeholder and Public Outreach Plan.**

4.2 PUBLIC PARTICIPATION PLAN

4.2.1 OUTREACH AND ENGAGEMENT SUMMARY

The Project Team conducted outreach and engagement to comply with Project parameters and support a potential future NEPA process. The Project Team reduced barriers to participation and supported more equitable representation in this Study's planning process by:

- Following Title 49 CFR 21.5 – Discrimination prohibited.
- Requesting (via public records request) stakeholder and resident contact information from Port NOLA project planning efforts to leverage existing, extensive ongoing community engagement – and to keep those involved in the process informed of RPC Study events and findings.
- Hosting Public Meetings at locations accessible to persons with a disability, bus riders, and bicyclists, that are convenient to neighborhoods with a concentration of minority and low-income persons.
- Providing translators/interpreters for meetings, if requested, and ensuring take-a-way materials are developed at an 8th grade or below reading level for the broadest accessibility.
- Including a statement at the bottom of all meeting notices in English, Spanish, and Vietnamese indicating that an interpreter, materials in alternate formats, or other accommodations will be made available if requested, at least 48 hours prior to the meeting.
- Providing both in-person and online engagement opportunities.

- Providing information, including meeting notices and press releases, to news media, including the St Bernard Voice, the St. Bernard Parish CivicEngage platform, the PortNOLA newsletter and news releases, and the St. Bernard Government Access Channel.

Communication methods employed by the Project Team, and described in more detail within **Appendix A**, included:

- Parish, RPC, and Port NOLA website
- Emails (e.g., e-blasts to mailing list)
- Virtual or in-person meetings
- Stakeholder Meetings
- Community Workshops
- Parish, RPC, and Port NOLA social media accounts
- Interactive "Mark the Map" Online Comment Portal & In Person Mapping Activities
- Community Survey (paper and online)
- Community Event / Tabling

Comprehensive outreach efforts are described in detail within **Appendix A,** which details all work completed (and associated outcomes) in support of Study findings. Key meetings are listed below (not including PLT meetings):

- **10/10/23 - Port NOLA Outreach Stakeholder Meeting.** Reviewed project objectives & discussed Port of NOLA outreach efforts to-date; aligned outreach efforts to complement Outreach Plan in development.
- **10/10/23 - St. Bernard Parish Staff Outreach Stakeholder Meeting.** Introduced RPC project to the Parish; addressed questions and concerns; and invited insight and input on the development of the Outreach Plan.
- **01/18/24 - Port NOLA CAC Meeting.** Introduced the St. Bernard and Violet Community Advisory Committee (CAC) to the Lower St. Bernard/Louisiana International Terminal Roadway Network and Resilience Study project.
- **02/05/24 - St. Bernard Parish Staff Outreach Stakeholder Meeting.** Coordinated with the Parish to enhance information sharing regarding upcoming meetings and key project updates through the parish website, social media accounts, and Government Access TV Channel.
- **02/23/2024 - Meeting with St. Bernard Parish President Pomes**. Introduced RPC project and provided the latest project updates to the Parish President Louis Pomes; addressed questions and concerns.
- **02/28/2024: Meeting of the United Houma Nation.** Shared social media post and project update narrative with the United Houma Nation for distribution at a regular meeting.
- **03/05/2024 - Stakeholder Group Meeting No. 1 – Economic Development and Private Sector.** Presented and discussed the St. Bernard Transportation Study to stakeholders in economic development and the private sector such as Norfolk Southern and private trucking companies. A full list of attendees can be found in Appendix A.
- **03/06/2024 - Stakeholder Group Meeting No. 2 - Resource and Government Agencies.** Presented and discussed the St. Bernard Transportation Study to stakeholders in resource agencies and governmental bodies such as the Federal Highway Administration, Louisiana

Department of Transportation and Development, St. Bernard Parish Government, Office of Cultural Resources, Louisiana Department of Energy and Natural Resources, and Louisiana Department of Wildlife and Fisheries. A full list of attendees can be found in Appendix A.

- **03/07/2024 – Stakeholder Group Meeting No. 3 – Community Groups.** Introduced and discussed the St. Bernard Transportation Study to community groups, such as St. Bernard Parish School Board and St. Bernard Council on Aging, focusing on maintaining community character amidst increased traffic and development. A full list of attendees can be found in Appendix A.
- **03/12/2024 - St. Bernard Parish Staff Project Update.** Meeting with St. Bernard Parish to provide local leadership with the latest project updates.
- **03/19/2024 - Port NOLA CAC Meeting (Violet).** Attended the Port NOLA CAC Meeting and delivered a presentation to introduce and discuss the RPC project and provide updates.
- **03/2024: Los Islenos Fiesta**. The Los Islenos Board of Directors denied a request to table the Fiesta on 02/17/2024. Goals were to distribute trifold project brochure, direct traffic to online surveys, facilitate community input via paper community survey and comment cards, answer community questions, and advertise upcoming Public Meeting in April '24.
- **03/20/2024: Port NOLA CAC Meeting (St. Bernard**). Attended the Port NOLA CAC Meeting and delivered a presentation to introduce and discuss the RPC project and provide updates.
- **04/01/2024: Norfolk Southern Stakeholder Meeting**. Discussed existing train operations on the Chalmette Branch, including daily train movements, industrial facilities served, potential growth, operating speeds, and restrictions.
- **4/11/2024: Public Meeting No. 1.** Introduced the public to the project via an in person presentation, reviewed and collected input on project preliminary purpose and need, conducted a tabling exercise focused on topic areas and addressing attendees' questions. Distributed trifold project brochure, direct attendees to project website and online surveys, facilitate community input via paper community survey and comment cards, answer community questions.
- **4/20/24-4/21/24: Tabling at Our Lady of Prompt Succor Tomato Festival (11-3pm).** Distributed trifold project brochure, direct attendees to project website and online surveys, facilitate community input via paper community survey and comment cards, answer community questions.
- **06/11/2024: St. Bernard Parish School Board Meeting**. Attended the St. Bernard Parish School Board Meeting and delivered a presentation to introduce and discuss the RPC project and provide updates.
- **2/4/2025: Public Meeting No. 2**. Reviewed public feedback to date, reviewed draft study findings and alternatives, conducted an interactive exercise to collect public input on 7 draft alternatives in development via an "open house" format enabling attendees to ask specific questions about the project. The process, materials, and results of the stakeholder and community outreach activities supported the development of an alternative exercise conducted as part of Public Meeting No. 2.

4.2.2 PUBLIC MEETING NO. 1 OUTCOMES

On April 11, 2024, forty-four attendees participated in Public Meeting No. 1, which began with an introductory presentation outlining the project. Following the presentation, round-table exercises were conducted to gather community feedback on transportation challenges and opportunities throughout the Parish. The Project Team also facilitated an in-person “Mark the Map” activity and provided assistance to attendees in completing online surveys. Pictures from the meeting are shown below. Additionally, written comments were collected to support the development of mapping alternatives and to capture input on future transportation options. A summary of the Public Meeting No. 1 outcomes, along with results from the online map and survey, is provided in the "Outreach Update" included in Appendix A.

FIGURE 8: PUBLIC MEETING NO. 1 PROJECT PRESENTATION

FIGURE 9: PUBLIC MEETING NO. 1 MARK THE MAP EXERCISE

4.2.3 PUBLIC MEETING NO. 2 OUTCOMES

Of 64 meeting attendees that signed in, the Project Team received 19 written comments during Public Meeting No. 2, as well as four emailed comments following this meeting. Of these 23 comments resulting from Public Meeting No. 2, the consultant team observed the following themes:

TABLE 1: COMMENT THEMES FROM PUBLIC MEETING NO. 2.

Total Comments in Theme	Comment Theme	Additional Information
6	**Expressing support or opposition to a design alternative presented at Public Meeting #2**	These comments stated which elevated highway alternative the commentor preferred. Some comments elaborated on reasons for their preference, examples include, "[Alternative] 22 is the most cost effective route."
4	**Project suggestion for design not included in the elevated highway alternatives**	Included suggestions for modifications to the presented alternatives, examples include, "consider the proposed reactivation of the rail system coming from Holy Cross Area."
4	**Comment on process or outreach methods**	Comments on best ways to notify residents of the public meeting or feedback on poster aesthetics, examples include, "mail people directly at these meetings, not everyone [is] on facebook."
3	**Concerns about future traffic**	Comments expressing concern for future traffic conditions.
3	**Opposition to LIT Project**	Comments expressing opposition to LIT project.
2	**Blank comment card.**	These were comment cards submitted with point of contact information filled out, but the comment area was blank.
1	**Support for LIT project**	Comments expressing support for LIT project.

ELEVATED HIGHWAY ALTERNATIVES EXERCISE RESULTS

The consultant Team presented seven elevated highway alternatives at Public Meeting No. 2. Attendees were provided three tickets each and encouraged to place their tickets in the corresponding box that represented their three preferred alternatives. Attendees were informed that they could put all tickets in a single box or could use them to indicate their first, second, and third preferred choices.

At the end of Public Meeting No. 2, the Consultant Team and RPC counted the total tickets for each alternative, detailed in **Table 2**.

TABLE 2: NUMBER OF TICKETS BY ATTENDEE FOR FAVORITE ALTERNATIVES FROM PUBLIC MEETING NO. 2.

Alternative	Number of Tickets
Alternative 11	1
Alternative 12	47
Alternative 15	3
Alternative 16	1
Alternative 22	118
Alternative 25	23
Alternative 26	4
TOTAL	197

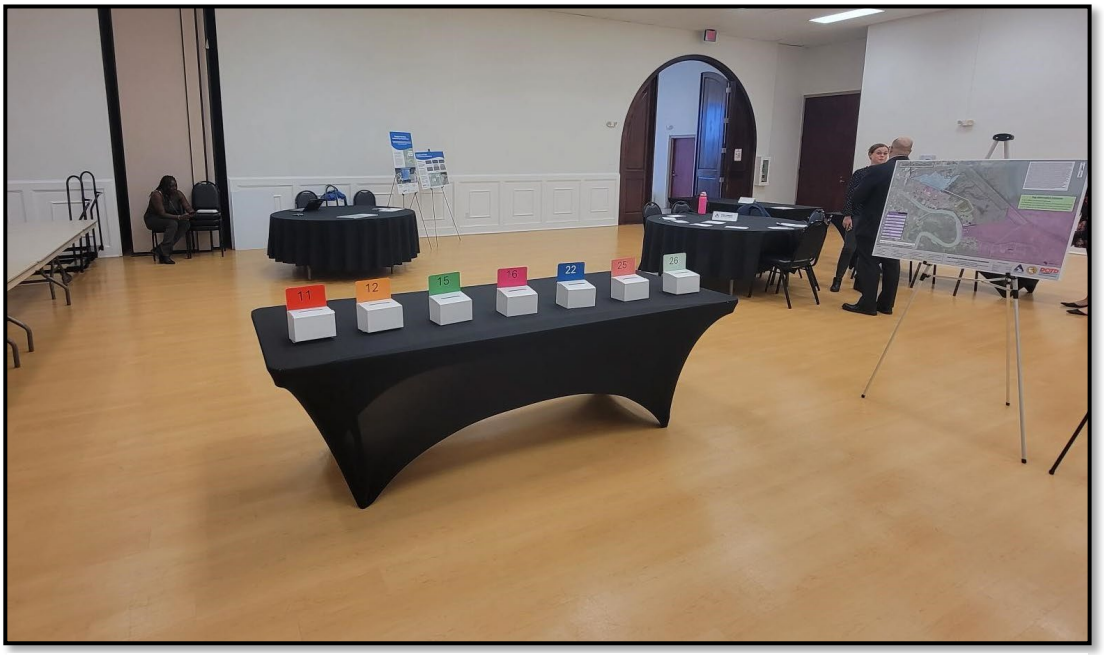


FIGURE 10:COLLECTION BOXES FOR PREFERRED ALTERNATIVES PRESENTED AT PUBLIC MEETING NO. 2.

FIGURE 11: PHOTO OF ATTENDEES AT PUBLIC MEETING #2.

5.0 EXISTING CONDITIONS

5.1 LAND USE

The U.S. Environmental Protection Agency (EPA) defines land use as the way land is utilized for human activity, encompassing economic and cultural practices within a given area. Geographic Information Systems (GIS) data for land use in St. Bernard Parish was provided by the New Orleans Regional Planning Commission (RPC) and refined to focus on the project's Study Area. It is important to note that this dataset does not include the expansive wetland areas north/east of the levee system, which represent a significant portion of the Study Area but remain largely undeveloped.

Within the Study Area, twenty (20) distinct land use categories were identified **(Table 3).** The five largest land use categories by total area include:

- Single-family detached housing – Representing the dominant residential land use.
- Woodland – Covering large portions of undeveloped or conservation land.
- Manufacturing & refining – Concentrated along industrial corridors and port facilities.
- Local businesses – Distributed along major roadways, supporting commercial activity.
- Agriculture – Primarily located in rural sections of the parish.

TABLE 3: LAND USE CLASSIFICATION IN PROJECT STUDY AREA

Land Type	Total Area (Acres)	Percent of Area Analyzed (%)
Agriculture	560.6	4.6
Church	24.5	0.2
Funeral Home/Graveyard	16.0	0.1
Government Buildings	106.4	0.9
Historic Preservation Site	142.4	1.2
Hospital/Medical	31.9	0.3
Local Business	666.7	5.5
Manufacturing & Refining	884.1	7.2
Multiple Family	189.1	1.5
Parks & Recreation	121.5	1.0
Ports & Harbors	541.5	4.4
Powerline ROW/Power Plant	28.7	0.2
Schools & Libraries	302.8	2.5
Single Family Detached	4353.6	35.6
Trailer/Mobile Home Park	243.5	2.0
Underdeveloped	164.2	1.3
Vacant	11.9	0.1
Warehouse/Distribution	84.0	0.7
Waterways/Lakes	86.2	0.7
Woodland	4226.0	34.6

Figure 12 provides a visual representation of land use distribution within the Study Area, illustrating how development patterns and economic activity are concentrated along key transportation routes. Understanding these land use trends is critical for evaluating transportation improvements and ensuring compatibility with future growth projections.

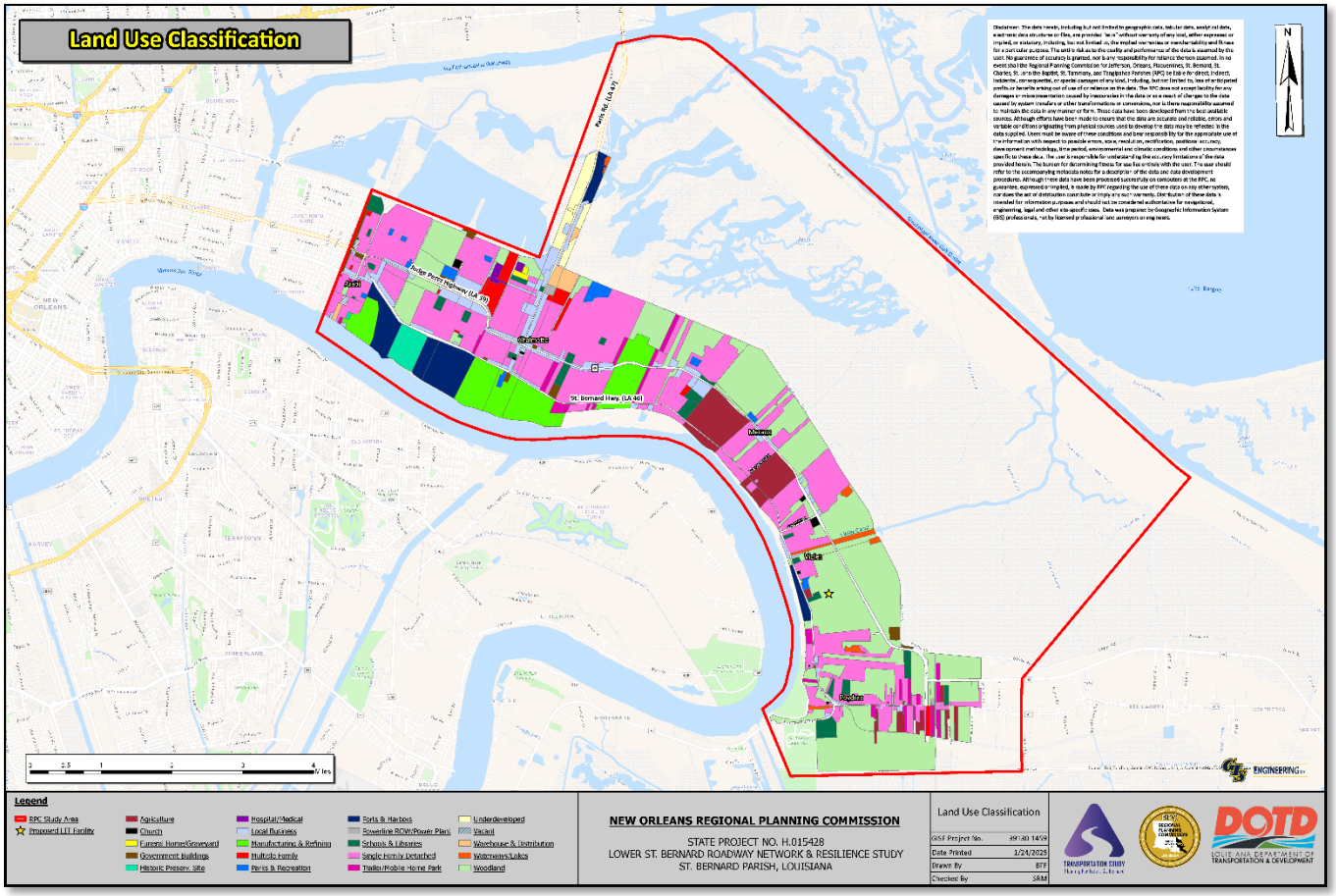


FIGURE 12: LAND USE CLASSIFICATION OF PROJECT STUDY AREA

5.2 TRANSPORTATION FACILITIES

St. Bernard Parish's transportation network is a combination of interstate highways, state routes, local arterials, bridges, ferry services, bus transit, bicycle, and pedestrian infrastructure, as well as rail connections. These elements provide essential connectivity within the parish and to surrounding regions.

INTERSTATE AND STATE HIGHWAY SYSTEM

Interstate Connectivity: I-10 and I-510 provide direct access to St. Bernard Parish, linking it to New Orleans and the broader regional transportation network. I-510 serves as a major connector, linking to Paris Road (LA 47), a critical north-south route into the parish. The transition from the I-510 Interstate designation to the LA 47 local state route takes place on the north side of the Intracoastal Waterway Canal Bridge (Green Bridge) near the Entergy Michoud Power Plant.

State Routes:

- *LA 39 (Judge Perez Drive)*: A principal east-west corridor serving the parish, facilitating local and regional traffic movements.
- *LA-46 (St. Bernard Highway)*: Runs parallel to LA 39, providing another major corridor for travel along the Mississippi River.
- *LA 47 (Paris Road)*: A key north-south route connecting the parish to I-510 and serving as a primary freight corridor.

These roadways are on the National Highway System (NHS) and as such are subject to performance standards for operations and maintenance per 23 USC 150.

MAJOR ARTERIALS AND BRIDGES

The parish's arterial network consists of key local roads that connect neighborhoods and commercial areas to state highways.

Several significant bridges provide access across waterways, including:

- *Violet Canal Bridge*: Provides an important connection for lower St. Bernard communities.
- *Bayou Bienvenue Bridge*: on Paris Rd. (LA 47)
- *Paris Road Bridge (Green Bridge)*: Critical for north-south connectivity, linking the parish to I-510.
- *Claiborne Avenue Bridge*: Facilitate access to neighboring regions.

FERRY SERVICE

There is one ferry service located within the project study area operated by the Regional Transit Authority. The Lower Algiers-Chalmette Ferry is for pedestrians and vehicles. This ferry operates between Plaquemines Parish and St. Bernard Parish and runs Sunday through Thursday. The ferry arrives/departs near Paris Road in Chalmette on the St. Bernard Parish side, and near Winston St. in Lower Algiers on the west bank of the Mississippi River in Orleans Parish.

PUBLIC TRANSIT

St. Bernard Parish's public transportation is managed by the St. Bernard Urban Rapid Transit (SBURT) providing local transit connections within the parish. SBURT operates a primary route between Arabi and Poydras, in St. Bernard Parish, Monday through Friday, with no service on weekends or holidays. Deviations

from the primary route are available to specific locations including St. Bernard Hospital, Trist Middle School, J.F. Gauthier School, St. Bernard State Park, and Fanz Trailer Park. All parish buses are equipped with bicycle racks to support multimodal transport.[1]

In emergencies, SBURT provides evacuation assistance to residents without transportation. However, the SBURT route does not connect the most southeast portions of St. Bernard Parish, beyond the community of Kenilworth.

BICYCLE AND PEDESTRIAN INFRASTRUCTURE

St. Bernard Parish is only 1 of 3 parishes in Louisiana with an adopted Complete Streets Policy. The most recent St. Bernard Bikeway and Pedestrian Plan Update (2024), identifies 47 miles of sidewalks that need to be installed or improved and 56 pedestrian crossing improvement projects to enhance pedestrian connectivity and safety.[2]

The parish has a 183-mile bikeway network, that links St. Bernard communities together and to neighboring parishes. This includes several multi-use trails, such as the 14-mile Mississippi River Trail, 26-mile 40 Arpent Trail, and others connecting neighborhoods and employment centers.

RAIL NETWORK

The Norfolk Southern Railroad (NSRR) operates the Chalmette Branch Rail Line which extends from the Norfolk Southern (NS) Oliver Railyard near downtown New Orleans to Braithwaite, Louisiana. There are numerous existing industrial users serviced by the NSRR along the Chalmette Branch as well as the planned Louisiana International Terminal (LIT).

In a meeting with Norfolk Southern Railroad (NSRR) on April 1, 2024, NSRR stated that trains operate 24/7 across approximately 100 at-grade crossings, most of which are private crossings along the Chalmette Branch Line. According to NSRR, approximately 10 train movements per day occur between the Oliver Yard and various industrial clients along the Chalmette Branch Line. Due to the numerous at-grade crossings, the operating speed of freight trains in this area is typically 5-10 miles per hour.

While there are approximately 100 at-grade crossings, there are three intersections in particular that are of concern relative to vehicular delay including:

1. Judge Perez Drive (LA39)
2. St. Bernard Highway (LA46)
3. Paris Road

Figure 13 shows the approximate full extent of the NSRR Chalmette Branch Line in gold, and its proximity to the planned LIT site. **Figure 14** shows an enlarged section of the Chalmette Branch Line and the three at-grade intersections with the most concern regarding vehicular delay. Both images were excerpted from Openrailwaymap.org.

[1] (St. Bernard Parish Government, 2025) https://www.sbpg.net/178/Transit
[2] (Soil Planning & Alta Planning & Design, 2017)

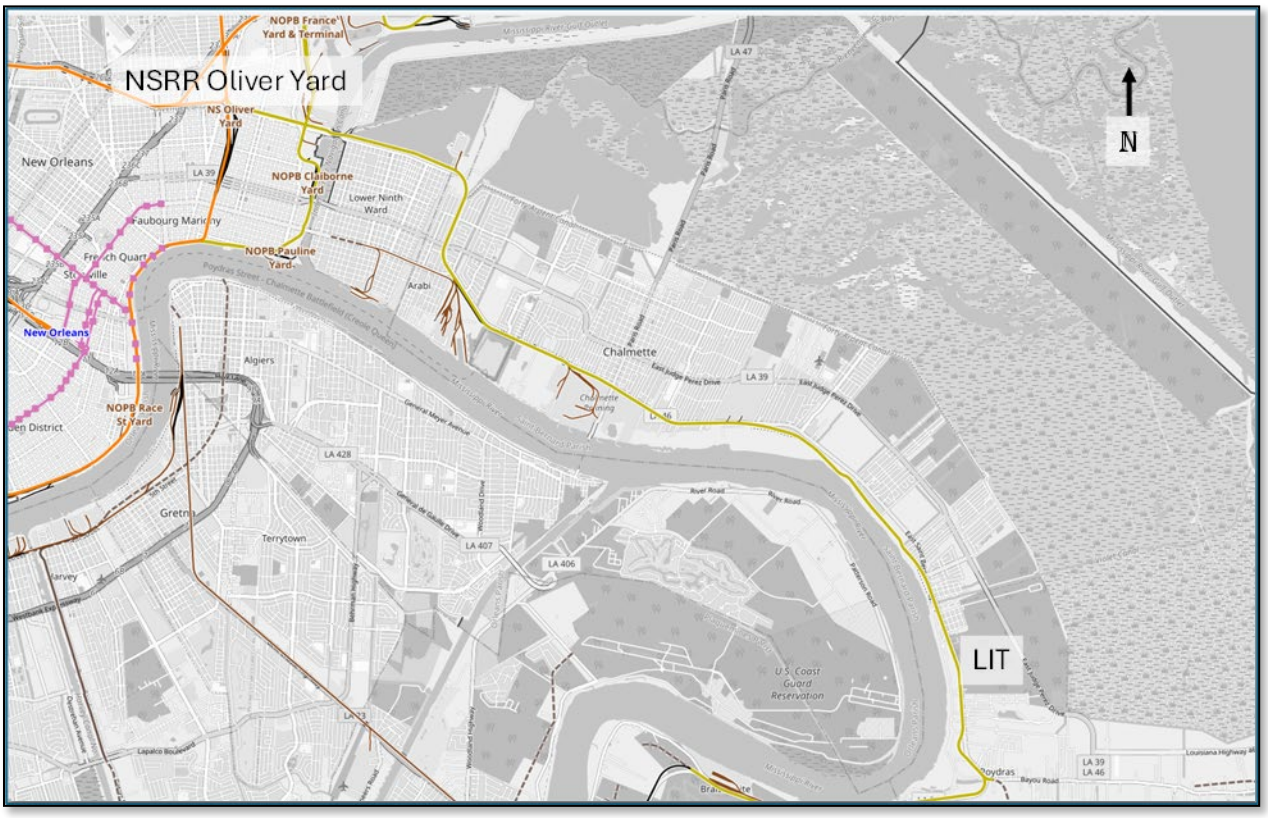


FIGURE 13: CHALMETTE BRANCH LINE

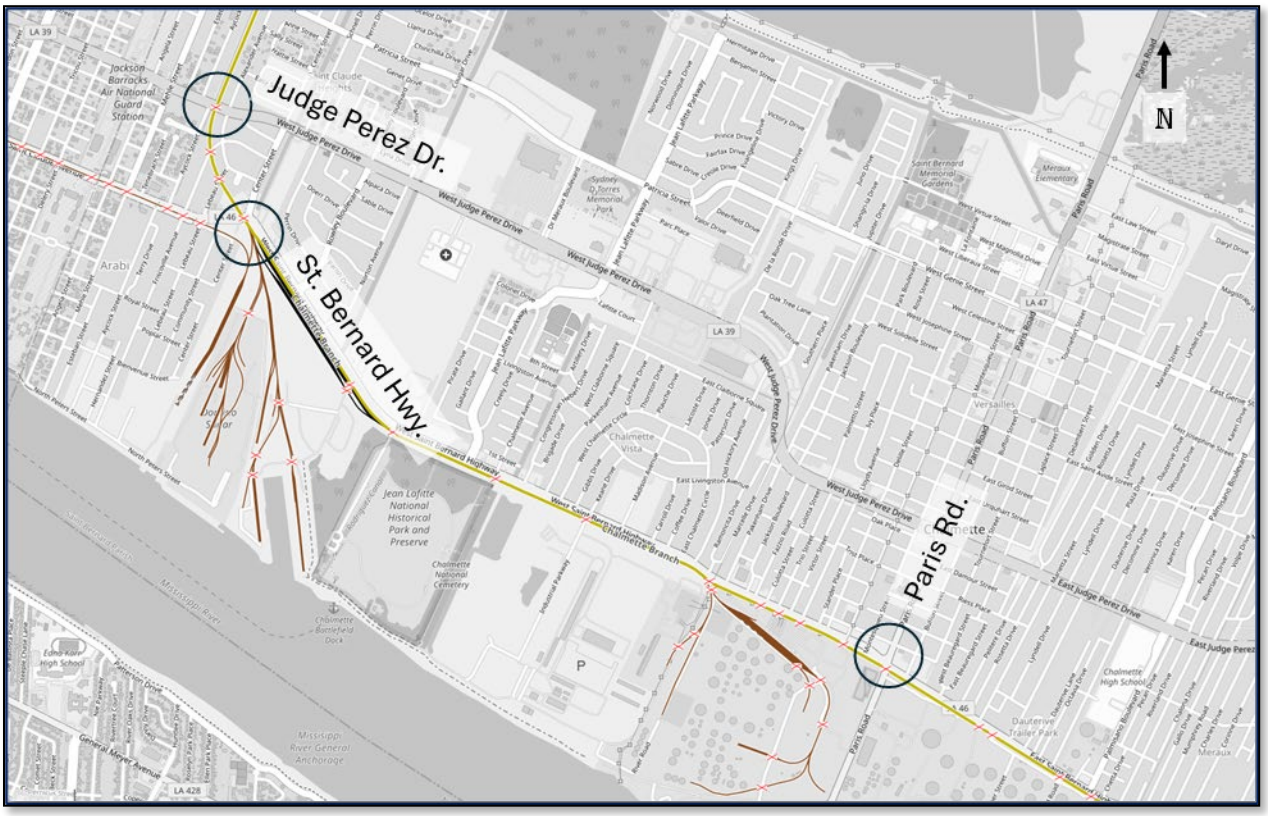


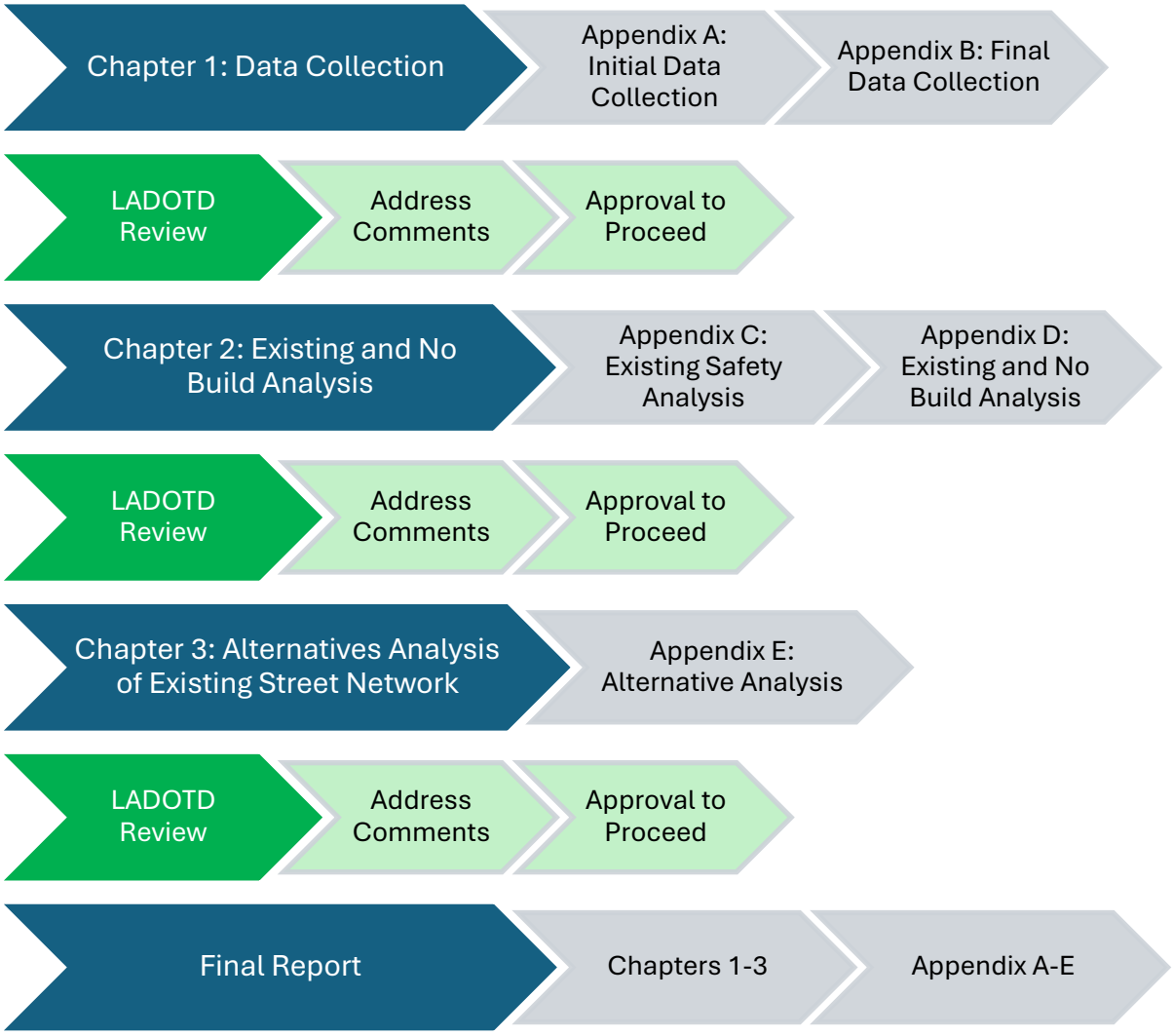
FIGURE 14: CHALMETTE BRANCH LINE ENLARGED AREA WITH KEY AT-GRADE INTERSECTIONS HIGHLIGHTED

5.3 TRAFFIC ANALYSIS

5.3.1 METHODOLOGY

A traffic study was conducted following the LADOTD Transportation Engineering Process and Report (TEPR) process to collect existing traffic volume data and identify alternatives to mitigate potential negative impacts of the forecast increase in road and rail traffic due to the construction of the Louisiana International Terminal.

The TEPR process is a structured and standardized approach for conducting traffic studies to ensure consistency, safety, and efficiency across the state's transportation network. The process divides the traffic study into three distinct phases, with each phase requiring LADOTD review and approval before the project team may proceed to the next. The final traffic study is a comprehensive compilation of these three phases. The first phase focuses on data collection, the second involves reviewing historic collisions and conducting operational analysis of the existing intersection geometry of the study area, and the third phase centers on the development and evaluation of mitigation measures to address the deficiencies identified in the second phase. The following is a flowchart of the TEPR process followed for this study:



CHAPTER 1, APPENDIX A, AND APPENDIX B

- Review of Background Studies.
- Seven (7) day twenty-four (24)-hour count data on Paris Rd, East Judge Perez Dr, East St Bernard Hwy, and on I-510 (including Lake Forest Blvd, US 90, and I-10 interchanges).
- Turning movement count data at the following study area intersections:
    - Paris Rd (LA 47) at Forty Arpent Canal
    - Paris Rd (LA 47) at Virtue St
    - Paris Rd (LA 47) at Genie St
    - Paris Rd (LA 47) at Solidelle St
    - Paris Rd (LA 47) at E Judge Perez Dr (LA 39)
    - Paris Rd (LA 47) at E St Bernard Hwy (LA 46)
    - E Judge Perez Dr (LA 39) at Palmisano Blvd
    - E St Bernard Hwy (LA 46) at Palmisano Blvd
    - E Judge Perez Dr (LA 39) at Campagna Dr
    - E Judge Perez Dr (LA 39) at Archbishop Hannan Blvd
    - E Judge Perez Dr (LA 39) at Guerra Dr
    - E Judge Perez Dr (LA 39) at Colonial Blvd
    - E St Bernard Hwy (LA 46) at Colonial Blvd
    - E St Bernard Hwy (LA 46) at North Access (W. Smith Elementary School)
    - E St Bernard Hwy (LA 46) at South Access (W. Smith Elementary School)
    - E St Bernard Hwy (LA 46) at E Judge Perez Dr (LA 39) (East Christie St)
    - E Judge Perez Dr (LA 39) at Bayou Rd
- Review of speed study findings.
- Background growth rates of study area traffic volumes for 2030 and 2050 No Build conditions without the Port NOLA proposed facility.
    - For the purpose of this study, the term ‘No Build’ refers to the transportation infrastructure without any improvements, changes, or upgrades to the existing infrastructure in design years 2030 and 2050.
- Background growth rates of traffic volumes for 2030 and 2050 No Build conditions with the Port NOLA proposed facility.
- Trip generation estimates of the proposed Port NOLA proposed facility and related traffic.
- Existing (2023) Volumes Figure for the study area intersections
- 2030 and 2050 No Build Volume Figure (without Port) for the study area intersections
- 2030 and 2050 No Build Volume Figure (with Port) for the study area intersections

CHAPTER 2, APPENDIX C, AND APPENDIX D

- Summary of a crash data review of the most recent 5-year period and data collection at numerous intersections throughout the project area.
- Intersection and roadway capacity analyses for the following horizon years:
    - Existing (2023)
    - 2030 and 2050 No Build (without Port)
    - 2030 and 2050 No Build (with Port)

Intersection and roadway capacity analyses was performed using Highway Capacity Software 2023 (HCS) which includes procedures developed by the Transportation Research Board contained in the Highway Capacity Manual (HCM). The Measures of Effectiveness (MOE) reported by HCS for the study intersections were approach delay (sec), 95th percentile queue length (ft/ln), and volume-to-capacity ratio (v/c), where applicable. According to the HCM, delays exceeding 80 seconds for signalized intersections and 50 seconds for unsignalized intersections, as well as v/c ratios at or above 1.0 for both, correspond to failing operations.

CHAPTER 3 AND APPENDIX E

- Tier 1 – high level analysis of alternatives to address deficiencies found in Chapter 2
- Tier 2 – operational analysis of the alternatives chosen in Tier 1
- Additional Analysis – Elevated Highway
    - Estimation of rerouted Paris Rd traffic from E Judge Perez Dr to the elevated highway
        - Intersections expected to experience reduced volumes due to the redistribution of traffic to the elevated highway:
            - Paris Rd at E Judge Perez Dr
            - E Judge Perez Dr at Palmisano Blvd
    - Resulting 2030 and 2050 No Build Volumes (with Port) at the above noted intersections after volume redistribution to the elevated highway.
    - Intersection and roadway capacity analysis of the two intersections
        - Existing infrastructure
        - Proposed improvements to the existing infrastructure to improve operational deficiencies.
- Summary of Proposed Improvements
    - Improvements to Paris Rd at E Judge Perez Dr and E Judge Perez Dr at Palmisano Blvd without vs with the elevated highway.
    - Improvements to the remaining intersections regardless of the construction of the elevated highway (i.e., their volumes are not expected to be impacted by redistributed trips to/from the elevated highway).

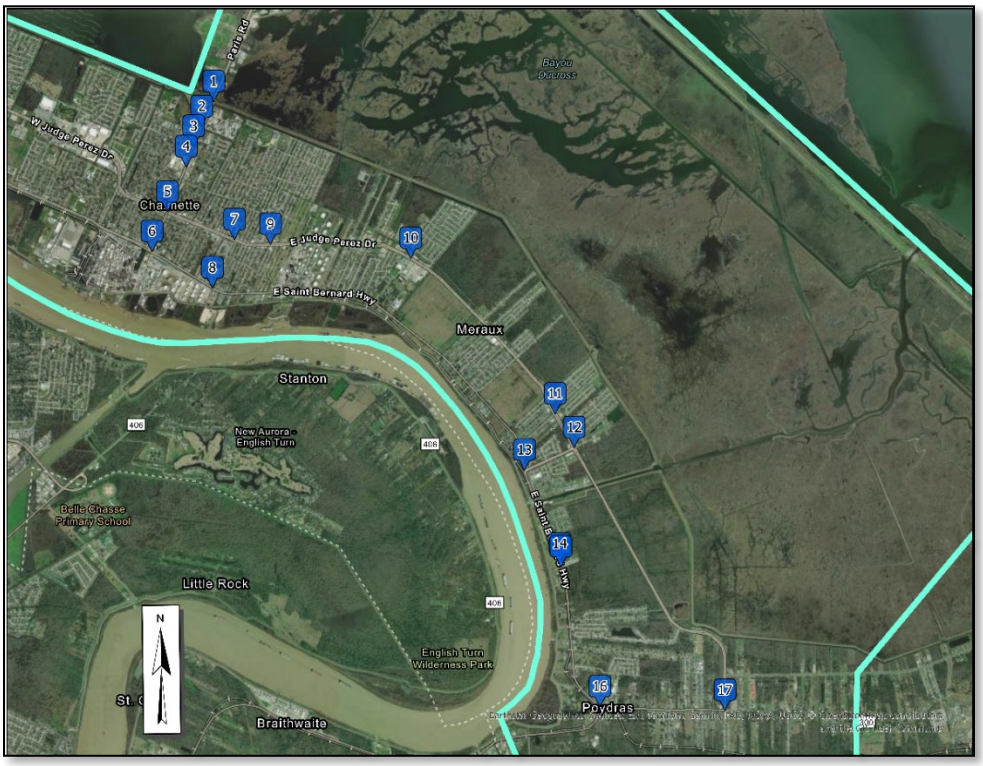
A summary of the results of the three phases of the TEPR process can be found throughout this report. The original detailed traffic report is presented in **Appendix B**.

5.3.2 BACKGROUND STUDIES

Port NOLA conducted a traffic impact analysis for their proposed LIT facility and has agreed to share data collected as part of their study, as well as trip generation information, as presented in **Appendix C**.

The St Bernard Parish Bikeway & Pedestrian Plan Update (Soll Planning & Alta Planning + Design, June 2017) was reviewed to identify background information that may be relevant to the study area. The purpose of the St Bernard Parish planning efforts was to identify improvements to the bicycle and pedestrian networks, to estimate the cost of the improvement projects, and to make implementation recommendations so that a coherent network comes together through long range planning while providing flexibility for the Parish to make improvements as opportunities arise. Multiple at-grade pedestrian crossing opportunities are recommended at LA 46, LA 47, and LA 39, including the installation of pedestrian signals, ADA curb ramps, high-visibility crosswalks, and tighter corner radii.

5.3.3 DATA COLLECTION



Seven (7) day twenty-four (24)-hour count data was collected on existing roadway segments on Paris Rd, East Judge Perez Dr, East St Bernard Hwy, and on I-510 (including Lake Forest Blvd, US 90, and I-10 interchanges) at 17 locations. **Figure 15** gives a geographical representation of where the data was collected, and **Table 4** shows the intersection name associated with each number in the figure.

FIGURE 15: STUDY AREA INTERSECTIONS

TABLE 4: STUDY AREA INTERSECTIONS

No.	Intersection Name	No.	Intersection Name
1	Paris Rd (LA 47) at Forty Arpent Canal	**10**	E Judge Perez Dr (LA 39) at Archbishop Hannan Blvd
2	Paris Rd (LA 47) at Virtue St	**11**	E Judge Perez Dr (LA 39) at Guerra Dr
3	Paris Rd (LA 47) at Genie St	**12**	E Judge Perez Dr (LA 39) at Colonial Blvd
4	Paris Rd (LA 47) at Solidelle St	**13**	E St Bernard Hwy (LA 46) at Colonial Blvd
5	Paris Rd (LA 47) at E Judge Perez Dr (LA 39)	**14**	E St Bernard Hwy (LA 46) at North Access (W. Smith Elementary School)
6	Paris Rd (LA 47) at E St Bernard Hwy (LA 46)	**15**	E St Bernard Hwy (LA 46) at South Access (W. Smith Elementary School)
7	E Judge Perez Dr (LA 39) at Palmisano Blvd	**16**	E St Bernard Hwy (LA 46) at E Judge Perez Dr (LA 39) (East Christie St)
8	E St Bernard Hwy (LA 46) at Palmisano Blvd	**17**	E Judge Perez Dr (LA 39) at Bayou Rd
9	E Judge Perez Dr (LA 39) at Campagna Dr		

The peak periods of 6:45 AM-8:45 AM and 3:30 PM-5:45 PM were selected based on these volumes. Trip generation information and previously collected intersection turning movement counts (TMCs) were provided by Port NOLA. Additional TMCs were collected as tasks within this scope of work for additional intersections. The TMC data was reviewed, and the peak hours were selected to be 7:00 – 8:00 AM and 4:30 – 5:30 PM. The TMCs included pedestrian, and bicycle counts at the signalized intersections within the study area.

As a part of this feasibility study, traffic volume data was collected and utilized in compilation with a previous rail study conducted by the Port NOLA, to identify possible rail improvements that should be considered in the next environmental phase of this project.

5.3.4 SPEED STUDY

A review of the speed study findings indicated that the 85th percentile speeds on LA 47 and LA 39 were observed to be generally near the posted speed limits, which suggests that the posted speed limits are appropriate per LADOTD standards. On LA 46, the 85th percentile speeds were observed to be 5-10 MPH higher which is likely a result of the count location being within a less urbanized portion of the LA 46 corridor.

5.3.5 BACKGROUND GROWTH AND TRIP GENERATION

Background growth rates of traffic volumes were selected for 2030 and 2050 No Build conditions using the output from the original RPC regional travel demand model (TransCAD model), which does *not include* the economic impacts of the proposed Port NOLA. The trips that were generated by the Port NOLA consultant team are based on their projected growth plan and understanding of terminal operations. The original RPC TransCAD model was updated with modified socioeconomic (SE) data that incorporates the economic impacts of the proposed Port NOLA development, as well as future developments that may result from the construction and operations in 2030 and 2050.

The following table provides a summary of the selected Background Growth Rates:

TABLE 5: BACKGROUND GROWTH RATES

Scenario	Annual Growth Rate	
	From 2023 to 2030	From 2031 to 2050
Without Port	0.37%	0.60%
With Port	0.62%	1.15%

The trip distribution of trucks was estimated by Port NOLA staff based on anticipated client locations and truck routes. As part of the planned development, the existing W. Smith Junior Elementary School is proposed to be moved from E St Bernard Hwy to one of two sites near the intersection of Colonial Blvd and E Judge Perez Dr on land currently owned by Port NOLA. The background growth, truck trips, and school rerouting were applied to the existing conditions volumes to forecast 2030 and 2050 No Build volumes.

5.3.6 NO BUILD INTERSECTION CAPACITY ANALYSIS

Intersection and roadway capacity analyses were performed to assess operational conditions in the 2023 existing conditions, as well as 2030 and 2050 No Build operations AM and PM peak hours, under No Build conditions, without and with the construction of the Port NOLA. This type of analysis and method utilized

are the industry standard for traffic studies to evaluate impacts on traffic operations. The capacity analysis was performed using Highway Capacity Software 2023 (HCS) which includes procedures developed by the Transportation Research Board contained in the Highway Capacity Manual (HCM).

The Measures of Effectiveness (MOE) reported by HCS for the study intersections were approach delay (sec), 95th percentile queue length (ft/ln), and volume-to-capacity ratio (v/c), where applicable. According to the HCM, delays exceeding 80 seconds for signalized intersections and 50 seconds for unsignalized intersections, as well as v/c ratios at or above 1.0 for both, correspond to failing operations.

The following table presents a summary of the No Build capacity analysis results for the five (5) study area intersections that were determined to have failing operations in 2023, 2030, and/or 2050 (both without and/or with the Port).

TABLE 6: NO BUILD CAPACITY ANALYSIS RESULTS

Intersection	Existing Conditions	No Build Without Port NOLA		No Build With Port NOLA	
	2023	2030	2050	2030	2050
Paris Rd at E Judge Perez Dr (Signalized)	Acceptable Delay	Acceptable Delay	Acceptable Delay	Acceptable Delay	Unacceptable Delay
	Volume Within Capacity	Volume Within Capacity	Volume Above Capacity	Volume Within Capacity	Volume Above Capacity
E St Bernard Hwy at Palmisano Blvd (Unsignalized)	Unacceptable Delay	Unacceptable Delay	Unacceptable Delay	Unacceptable Delay	Unacceptable Delay
	Volume Within Capacity	Volume Within Capacity	Volume Above Capacity	Volume Within Capacity	Volume Above Capacity
E Judge Perez Dr at Palmisano Blvd (Signalized)	Acceptable Delay	Acceptable Delay	Acceptable Delay	Acceptable Delay	Unacceptable Delay
	Volume Within Capacity	Volume Within Capacity	Volume Within Capacity	Volume Within Capacity	Volume Above Capacity
E St Bernard Hwy at Paris Rd (Signalized)	Acceptable Delay	Acceptable Delay	Acceptable Delay	Acceptable Delay	Acceptable Delay
	Volume Within Capacity	Volume Within Capacity	Volume Above Capacity	Volume Within Capacity	Volume Above Capacity
E St Bernard Hwy at Colonial Blvd (Unsignalized)	Acceptable Delay	Acceptable Delay	Acceptable Delay	Acceptable Delay	Unacceptable Delay
	Volume Within Capacity	Volume Within Capacity	Volume Within Capacity	Volume Within Capacity	Volume Within Capacity

As shown in the above table, the intersection of E St. Bernard Highway at Palmisano Boulevard is currently operating with unacceptable delays. This indicates the need for short-term mitigation measures to address existing operational deficiencies. For the remaining intersections, delays and volume capacity issues are projected to emerge between 2030 and 2050. Accordingly, mitigation strategies should be considered and implemented prior to 2050 to maintain acceptable operational performance as traffic volumes increase.

5.4 SAFETY CONSIDERATIONS

5.4.1 CRASH ANALYSIS[3]

The consulting team and RPC has analyzed five (5) years of crash data collected by the Louisiana Center for Analytics and Research in Transportation Safety (CARTS) using Geographic Information Systems software (GIS). Information drawn from the data, including collision, time of day, location, fatality rate, and vulnerable user, was used to approximate trends and evaluate problem areas within the study's limits.

The major corridors studied within the examination area include Judge Perez Drive (LA 39), Paris Road (LA 47), and St. Bernard Highway (LA 46). Most crashes were located within the major signalized intersections of E. Judge Perez Drive (LA 39), Paris Road (LA 47), and E. St. Bernard Highway (LA 46). The crash data collected by CARTS between 2017 and 2021 found an average of 740 crashes occurred per year, and there were 16 total fatal crashes within the five-year period. Rear-end collisions proved to be the most common type of crash, and right-angle and other types of crashes followed.

The severity of crashes can be classified to help analysts plan future safety implementation strategies based on the trends they exhibit. Crashes can be classified as non-injury, complaint, moderate injury, severe injury, and fatal. Crashes resulting in no injuries make up 73% of all data noted; although no physical harm resulted from the crashes, they affect the traffic flow, insurance claims, and safety. Crashes categorized as fatal make up 0.5% of documented data and require the largest demand of attention when analyzing. The study area has accounted for a total of 18 recorded fatal crashes; most have occurred on E St. Bernard Highway between Paris Road and Violet Canal. Most of the fatal crashes recorded were a result of roadway departures, and the remainder of the crashes involved vulnerable users. The surface conditions and time of day of the road were also considered when analyzing the crash data. 86% of all crashes have occurred on dry surfaces, while 13% have occurred on wet surfaces. The 5-year period shows a relation between traffic volume and peak travel times throughout the day and an increase in crashes within these times.

Nine out of the ten intersections of this study were signalized. A 500-foot radius measured from the center of intersections determined whether crashes were intersection related or located along the corridor. Increases in traffic volume within intersection radius increased the average number of crashes.

Bicycle and pedestrian crash data make up the smallest percentage of total crashes, but the 62% fatality rate is significantly higher. Within the St. Bernard Parish study area, the rate of bicycle and pedestrian crashes increased within the 2017 to 2021 study period indicating the need for an improvement in safety practices for vulnerable road users. Action to provide transportation safety enhancements to existing infrastructure and proposed projects, along with vulnerable user awareness and education, must be taken to improve these statistics. Louisiana has been ranked as one of the top nine states on the FHWA Pedestrian Focus List because of its high fatality rates among vulnerable users. This ranking will bring awareness to the parish's need for public education and funding for this topic. Continuous data collection must take place preceding and proceeding with the advancements of infrastructure.

The St. Bernard Parish Bike and Pedestrian Plan Update focuses on the safety, accessibility, and connectivity for bicyclists and pedestrians by identifying the 152-mile network of regional bikeways. The

[3] This document is exempt from discovery or admission under 23 U.S.C. 407.

incorporation of the 2016 Complete Streets Policy within St. Bernards plan mentions the installation and improvement of 47 miles of sidewalk and 56 pedestrian crossings.

Crash data collected between 2017 and 2021 was analyzed for the purpose of finding data trends and their relation to crashes within the study area. Over-represented areas were given an in-depth analysis to discover how factors like above average poverty rates, zero car households, and more relate to their above average crash data. This study did not include the analysis of individual reports and was not analyzed by CATScan. The data trends show no sign of a yearly reduction in crashes, except for the COVID pandemic that took place in 2020. COVID caused a discrepancy in crash data due to the reduction of vehicles traveling daily. Major types of crashes reported from the data included rear-end and right-turn collisions. The cause of these crashes can be attributed to the inattention of drivers. It was found that many crashes were categorized as non-injury and occurred during the peak hours of daily traffic.

The Level of Service of Safety (LOSS) of the study area intersections was also reviewed. According to the FHWA, Design engineers at CDOT pioneered development of the LOSS concept to quantify the magnitude of the safety problem.

- LOSS-I - Indicates low potential for crash reduction.
- LOSS-II - Indicates low to moderate potential for crash reduction.
- LOSS-III - Indicates moderate to high potential for crash reduction.
- LOSS-IV - Indicates high potential for crash reduction.

Important results of the existing safety analysis are listed below:

- Ten (10) intersections were identified in the Stage 0 project area that represent thirty percent (30%) of the total crashes.
- Seven (7) of the ten (10) intersections are in the St. Bernard Main Study Area Buffer. Each of the seven (7) intersections operated at LOSS 2 or greater.
- The intersection with the most crashes (185 crashes) was Judge Perez Dr (LA 39) at Paris Rd (LA 47).
- Seven of 18 fatalities between 2017 and 2021 were pedestrian fatalities. Three occurred on LA 39 between Voilet and LA 47 in block groups with percent zero car households, low income, and high minority populations.
- These safety deficiencies should be considered during the alternative vetting/selection process.

More detailed information on the crash/safety analysis can be found in **Appendix D.**

5.4.2 PEDESTRIAN SAFETY[3]

Out of the total number of crashes collected within the five-year period, the number of pedestrian crashes make up just 3% of all data. However, the fatality rate within the data collection for vulnerable users proves to be over-represented. Out of all modes of transportation, fatalities from pedestrian and bicycle crashes are 62% of all recorded data. Also, analysts have examined the percentage of vulnerable user fatalities in relation to the demographic variables of the area, which include the average age, poverty rate, minority population, and number of zero car households. Factors like these affect the number of pedestrians on area roadways.

[3] This document is exempt from discovery or admission under 23 U.S.C. 407.

Not only are pedestrian crash fatalities common within the study area but repeated throughout Louisiana. Louisiana is ranked within the top nine states for the greatest number of vulnerable user fatalities. This fact has gained Louisiana a spot on the FHWA Pedestrian Focus List. Although an in-depth analysis covered factors like above average poverty rates and zero car households, this study did not include the analysis of individual reports. The use of roadways within St. Bernard Parish by vulnerable users should be an area of focus when improving infrastructure throughout the studied area, and a closer, continuous examination of crash data with individual reports will help analysts gain the insight needed to make roadways safe.

5.4.3 BICYCLE SAFETY[3]

An increasing rate of bicycle and pedestrian crashes was discovered when interpreting crash data from 2017 to 2021[3]. On average, the severity of bicycle and pedestrian crashes are much worse when compared to vehicular crashes. The fatalities of bicycle and pedestrian crashes make up over half of the fatal crashes collected from all modes of transportation. The St. Bernard Parish Bike and Pedestrian Plan Update identifies the 152-mile network of regional bikeways and focuses on the safety, accessibility, and connectivity for bicyclists and pedestrians. The incorporation of the 2016 Complete Streets Policy within St. Bernard's plan mentions the installation and improvement of 47 miles of sidewalk and 56 pedestrian crossings. The addition of vulnerable user paths to the existing infrastructure of St. Bernard will give this area the attention and development it needs to enhance safety for its users.

5.5 RAIL OPERATIONS

The consultant team has analyzed two types of train movements along the Chalmette Branch Line upriver from Port NOLA: existing rail customers and future container trains. The existing volume of trains services a variety of industrial customers along the rail line in this area but does not include any container trains. This existing train volume was estimated at 10 train movements per day by NSRR. According to NSRR, this cargo is expected to grow at 3% per year. An assumption was made that the number of non-container trains stays constant, but the length of trains increases to absorb future growth.

Once the Port NOLA opens in 2028, container trains will be introduced to the same rail line. Port NOLA has provided data on total train-ft of demand for rail by year from 2028 to 2050. The longest train that can be accommodated at the proposed port facility is 8,000 ft. in length. Once the daily demand exceeds 8,000 train-ft, two trains will be required. To determine projected train blockage impacts, the consultant team has assumed that all trains will move at 10mph. The Consultant has also used an intermediate year when container volumes were forecast to increase, 2035, resulting in increased rail activity and long term future year forecast for rail traffic in 2050. **Table 7** summarizes the total expected activity in each of the three years of interest.

[3] This document is exempt from discovery or admission under 23 U.S.C. 407.

TABLE 7: SUMMARY OF PROJECTED TRAIN BLOCKAGE IMPACT

	2028	2035	2050
Non-container trains per day	10	10	10
Average length of non-container trains (ft)	2,319	2,852	4,443
Container trains per day	1	2	3
Average length of container trains (ft)	1,916	5,026	6,513
Total daily intersection blockage time (min)	40	55.8	86
Percentage of blockage due to LIT trains	8%	24%	29%
Average duration of blockage per auto (min)	1.8	2.3	3.3

There are two significant differences between field observations of train movement versus NS projections. Fewer trains were observed in the field, but these trains typically blocked the intersections for longer periods of time than would be predicted from steady state movement at 10mph. This means that some trains are stopping in the intersection and reversing direction to move between industrial facilities, such as the Arabi Terminal and Domino Sugar and rail storage yards in the area. Based on the train movement data acquired, this is primarily associated with the St. Bernard Hwy at grade rail intersection and, to some degree, the Judge Perez Hwy at grade rail intersection.

The blockage values were then compared to traffic counts taken at each of the three areas of interest:

- Paris Rd at Ferry Landing Crossing
- E St. Bernard Hwy at NSRR Crossing
- E Judge Perez Dr. at NSRR Crossing

Table 8 summarizes the total vehicle hours of delay expected in the three future years (No-Build) of interest. The areas of major delay are at Judge Perez and E. St Bernard. The much lower vehicular volumes at Paris Road result in much lower levels of delay.

TABLE 8: VEHICLE DELAY SUMMARY

	Total vehicles/day with some train delay			Total vehicle-hours of delay per day		
Year	Judge Perez Dr.	E. St Bernard Hwy	Paris Road	Judge Perez Dr.	E. St Bernard Hwy	Paris Road
2028	933	611	77	28	18	2
2035	1,318	863	109	51	33	4
2050	2,023	1,324	168	111	73	9

6.0 FUTURE CONDITIONS

The future conditions analysis considered projected population growth, future land use changes, and economic impacts associated with planned developments, including the Port NOLA facility.

- **Population Growth**: Based on socioeconomic projections, St. Bernard Parish is expected to experience an annual average population growth of 2% through 2050. The construction and operation of the Port NOLA facility are anticipated to add approximately 365 new residents to the Parish by 2050, in addition to the forecasted population growth, based on employment and housing demand projections.

- **Future Land Use**: The introduction of the Port NOLA facility could potentially drive industrial and commercial land use expansion within Lower St. Bernard Parish. Additional infrastructure investments will likely spur residential and commercial development in areas adjacent to the proposed transportation improvements.

- **Economic Impacts**: The Port NOLA facility is projected to create approximately 2,186 jobs, with a portion of employees choosing to reside within St. Bernard Parish. Increased employment opportunities will contribute to a higher median household income and greater demand for housing and services in the region.

- **Traffic Demand**: The anticipated economic and population growth will lead to increased vehicle miles traveled (VMT), particularly in corridors serving the Port NOLA facility. Enhancements to the existing transportation network, and an elevated highway connector, will be necessary to accommodate this growth while mitigating congestion.

- **Environmental Considerations**: With industrial and residential expansion, environmental mitigation strategies will be required to balance growth with sustainability. Infrastructure improvements will need to incorporate resilience measures to address climate-related risks such as flooding and storm surge, which is further discussed in section 10.

7.0 ELEVATED HIGHWAY ALTERNATIVES EVALUATION

As part of this Stage 0 Feasibility Study, a wide range of potential improvements to the existing surface transportation network in Lower St. Bernard Parish were evaluated in the TEPR process (Tier I and Tier II) to address anticipated growth and freight demands associated with the proposed Louisiana International Terminal (LIT) in Violet, LA. An outcome of this effort led to evaluating the feasibility of a new elevated corridor that could provide a direct connection between the interstate system and the vicinity of the Port Nola Facility. The alternatives development and screening process was designed to identify and refine only those alternatives that are consistent with the project's preliminary Purpose and Need and are appropriate for further environmental and engineering review.

The alternatives evaluation process began with the development of 32 conceptual elevated highway alignments. These initial concepts were informed by the project's Purpose and Need, land use forecasts, regional planning data, and input from stakeholders and the public. The alternatives were then screened through a rigorous, three-round evaluation framework designed to progressively narrow the range of options based on feasibility, environmental impacts, social considerations, and overall performance.

Round 1 utilized a "pass/fail" screening approach focused on threshold criteria such as consistency with the project Purpose and Need, location within the defined study area, constructability, and the potential for unmitigable environmental impacts—including protected species habitat and Section 4(f) resources. Alternatives failing to meet any of these baseline criteria were removed from further consideration.

Round 2 applied a scoring system to the 12 alternatives that passed the first round. This round focused on performance related to land use integration (e.g., potential for future expansion to the LIT site), impacts to vulnerable communities (per 49 CFR 21.5[5]), wetlands footprint, and the number of required navigable waterway crossings. Only alternatives scoring 8 or higher out of 12 were advanced to the third round.

Round 3 provided a more refined evaluation of the seven remaining alternatives, using additional metrics such as potential for traffic diversion from congested corridors, benefits to local communities, public preference, compatibility with future rail expansion, and relative construction cost. This phase identified the top three alternatives—Alternatives 12, 22, and 25—as the most promising based on their overall performance and alignment with regional transportation, environmental, and community objectives.

Each screening round included geospatial mapping of alternative alignments and a documented screening matrix. The alternative layout maps show the geographical representations of the elevated highway alternative alignments in relation to the parish boundary, major landmarks, state and local roadways, waterways, and other intermodal transportation within the project study area. This structured, multi-phase approach ensures that the alternatives recommended for advancement are conceptually feasible, responsive to stakeholder needs, and capable of supporting further project development in compliance with NEPA and other federal and state requirements.

The following subsections provide detailed documentation of the three-round screening process, including evaluation criteria, methodology, and outcomes, with corresponding maps and matrices to support transparency of the analysis.

7.1 FIRST ROUND SCREENING ANALYSIS

In evaluating potential alternatives for the proposed elevated highway, a rigorous screening process was conducted to assess the feasibility and potential impacts of 32 initial alternatives (shown in **Figure 16**). Each alternative was analyzed on a pass or fail basis utilizing key metrics. Firstly, each alternative meets the project's Purpose and Need, ensuring it effectively addresses the goals of the project. Additionally, alternatives were evaluated to confirm they fall within the defined project study area defined by the New Orleans Regional Planning Commission. Environmental considerations were also a critical component of the analysis, with particular focus on potential impacts to protected species habitat and Section 4(f) resources, including parks, recreational areas, and historic sites. This screening process ensures that only viable alternatives proceed for further detailed evaluation.

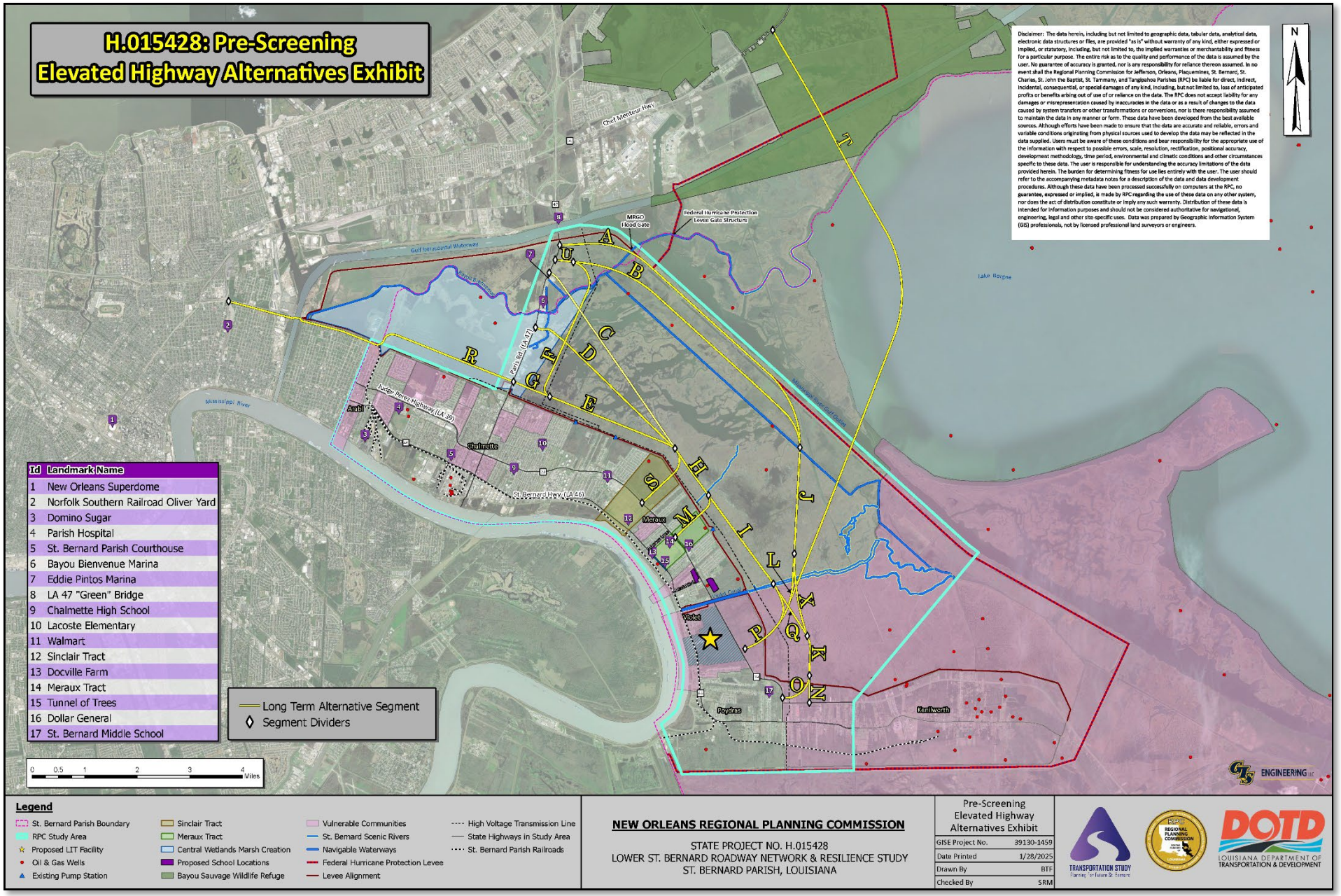


FIGURE 16: PRESCREENING ELEVATED HIGHWAY ALTERNATIVES LAYOUT MAP

7.1.1 DOES IT MEET THE PURPOSE AND NEED?

To determine whether an alternative meets the Purpose and Need of the project, it was assessed against key transportation goals. The alternative must improve connectivity between I-510/LA 47 and Lower St. Bernard Parish, accommodate economic growth, and provide enhanced hurricane evacuation routes. Additionally, it must support intermodal relationships by improving freight movement and reducing the burden of commercial truck traffic on existing roadways. Any alternative failing to adequately address these factors did not advance to the next phase of evaluation.

7.1.2 WITHIN THE STUDY AREA?

Each alternative was reviewed to ensure it remains within the established project study area. Alternatives extending beyond these boundaries could introduce unnecessary environmental and community impacts, increase project costs, or conflict with existing planning efforts. Ensuring geographic consistency helped maintain a focused evaluation process while maximizing potential benefits to the targeted region. If any alternative did not fall entirely within the study limits, it did not advance into the next phase of evaluation. A geographic representation of the project study can be seen in **Figure 17.**

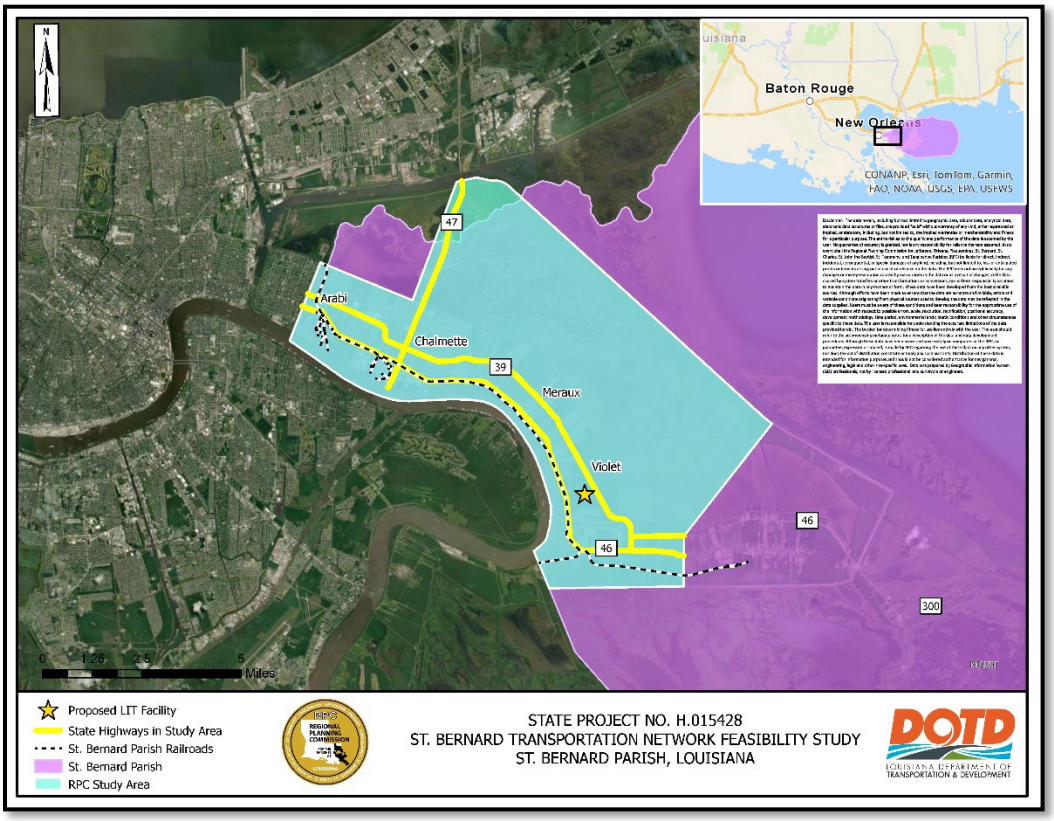


FIGURE 17: STAGE 0 PROJECT STUDY AREA

7.1.3 FEASIBLY CONSTRUCTABLE?

Elevated highway alternatives were assessed for constraints related to potential construction challenges. This evaluation accounted for conflicts with existing infrastructure, complexity of construction, and geometric challenges.

Alternatives with Segment D would require an interchange configuration on the existing at-grade bridge along LA 47. Additionally, the tie-in would create obstructions within the existing waterway potentially negatively impacting upstream and downstream. The alternatives that utilized Segment D were deemed not feasible to construct.

Alternatives with Segment O would create multiple intersections in close proximity to one another and require truck traffic to traverse away from their destination of I 510. The alignment also presents a sharp horizontal curve and advanced construction methods to terminate at grade with minimal stopping distance. The alternatives that utilize Segment O were deemed not feasible to construct.

7.1.4 PROTECTED SPECIES HABITAT IMPACTS?

The Endangered Species Act of 1973 (16 USC 35 §1531 et seq.) safeguards species classified as endangered, threatened, or candidates for listing, along with designated critical habitats essential for their conservation. These critical habitats, identified by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service (USFWS), contain key biological or physical features necessary for the survival and recovery of protected species. Alternatives that would unavoidably impact critical habitats were eliminated from further evaluation. Each alternative was assigned a designation of “No” for “No Impact” or “Yes” for “Potential Impact” based on its likelihood of affecting a known critical habitat. Alternatives that could disrupt critical habitats or encroach upon sensitive ecological areas were dismissed to avoid long-term environmental consequences. The only wildlife refuge identified in or around the study area was the Bayou Savage Wildlife Refuge, located northeast of the study area. It is important to note that a formal consultation with USFWS and the State Historical Preservation Office will need to be conducted in the NEPA phase.

7.1.5 SECTION 4(F) RESOURCES IMPACTS?

Alternatives were also analyzed for their potential impact on Section 4(f) resources, as outlined in the LADOTD Environmental Checklist. A Section 4(f) resource is a protected resource under the Department of Transportation Act of 1966, which includes publicly owned parks, recreation areas, wildlife and waterfowl refuges, and historically significant sites at the national, state, or local level. Any alternative expected to cause adverse impacts to these resources was deemed unreasonable and removed from further consideration. Alternatives were categorized as either “No” for “No Impact” or “Yes” for “Potential Impact” based on their likelihood of affecting an identified Section 4(f) resource. Any alternative that adversely impacted these protected areas was eliminated from the screening process. A report summarizing the desktop research into the cultural resources in the study area was done and the report can be found in **Appendix E.**

7.1.6 ROUND 1 SCREENING RESULTS

The results of the round 1 screening are geographically shown in **Figure 18.** Alternatives 7,8,10,11,12,13,15,16,22,23,25, and 26 (shown in yellow) all meet the purpose and need and fall within the study area limits. These elevated highway alternatives are the 12 alternatives that passed the round 1 screening analysis and moved into the next round of screening. These alternatives do not conflict with any existing geometry and are feasibly constructable. They also do not appear to have any potential impacts to protected species critical habitat or section 4(f) resources. All other alternatives either did not meet the project purpose and need, did not fall within the study area, or had potential impacts to critical habitats or section 4(f) resources. Alternatives that were eliminated from further evaluation are shown "blacked out" in the round 1 screening layout map and greyed out in the screening matrix table (**Table 9)** shown below.

TABLE 9: ROUND 1 SCREENING MATRIX FOR ELEVATED HIGHWAY ALTERNATIVES

STATE PROJECT NO. H.015428
LOWER ST. BERNARD TRANSPORTATION NETWORK FEASIBILITY STUDY
ROUND 1 SCREENING
ELEVATED HIGHWAY ALTERNATIVES

Alternatives	◊ Segments ◊	Meets Project Preliminary Purpose & Need?[1]					Limits within study area?[1]	Constructable	Protected Species Critical Habitat	Known Section 4(f) Resource[3]	Notes
		Enhanced System Linkage[2]	Intermodal Connectivity	Economic Development	Capacity Improvements	Hurricane Evacuation					
1	A-J-L-P	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	
2	A-J-X-K-N	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	
3	A-J-X-K-O	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Segment O conflicts with existing geometry
4	U-B-J-L-P	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
5	U-B-J-X-K-N	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
6	U-B-J-X-K-O	No	Yes	Yes	Yes	Yes	Yes	No	No	No	Segment O conflicts with existing geometry
7	U-F-E-H-I-P	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
8	U-F-E-H-I-Q-K-N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
9	U-F-E-H-I-Q-K-O	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Segment O conflicts with existing geometry
10	U-F-E-H-M	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
11	U-F-E-S	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
12	C-H-I-P	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
13	C-H-I-Q-K-N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
14	C-H-I-Q-K-O	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Segment O conflicts with existing geometry
15	C-S	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
16	C-H-M	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
17	D-H-I-P	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Segment D conflicts with existing bridge
18	D-H-I-Q-K-N	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Segment D conflicts with existing bridge
19	D-H-I-Q-K-O	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Segment D conflicts with existing bridge
20	D-S	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Segment D conflicts with existing bridge
21	D-H-M	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Segment D conflicts with existing bridge
22	G-E-H-I-P	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
23	G-E-H-I-Q-K-N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
24	G-E-H-I-Q-K-O	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Segment O conflicts with existing geometry
25	G-E-S	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
26	G-E-H-M	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
27	R-G-E-H-I-P	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	
28	R-G-E-H-I-Q-K-N	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	
29	R-G-E-H-I-Q-K-O	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Segment O conflicts with existing geometry
30	R-G-E-S	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	
31	R-G-E-H-M	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	
32	T-P	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	

Does not meet criteria to move into next round of screening
Meets Criteria to move forward into next round of screening

Table Notes:

[1] Alternative must meet this criteria in order to proceed to next round of screening

[2] System Linkage defined as connection to Judge Perez

[3] Section 4f Resource is considered, publicly owned parks and recreation areas, publicly owned wildlife and waterfowl refuges, and public or privately owned historic sites, including prehistoric and historic districts, buildings, structures, or objects. If section 4(f) criteria is unmet, the alternative does not proceed to the next round.

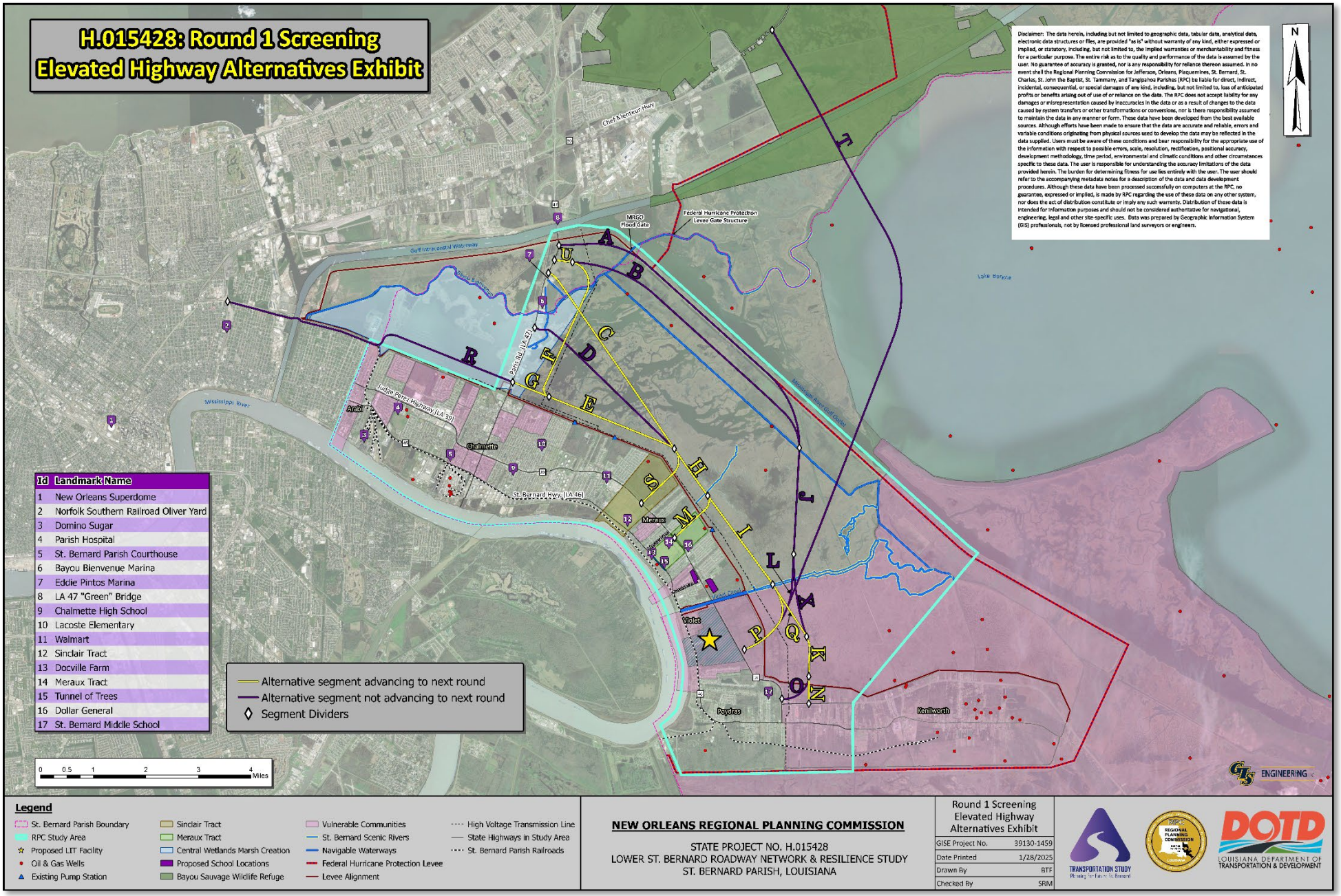


FIGURE 18: ROUND 1 SCREENING ELEVATED HIGHWAY ALTERNATIVES LAYOUT

7.2 SECOND ROUND SCREENING ANALYSIS

Following the first round of screening, 12 of the initial 32 elevated highway alternatives advanced to a second round of evaluation. This phase focused on additional critical factors that could impact project feasibility, environmental sustainability, and community well-being. Key considerations included each alternative's ability to integrate with planned developments, particularly the Port NOLA facility, its potential effects on vulnerable communities per 49 CFR 21.5[5], and its environmental footprint, such as wetlands impacts and required bridge crossings over waterways.

To ensure a structured assessment, a scoring system was implemented: alternatives were assigned green (3 points), yellow (2 points), or red (0 points) based on their relative performance for each metric. Only alternatives scoring 8 or higher advanced to the next round of screening. This approach ensured that only the most viable options proceeded for further evaluation in this Stage 0 study.

Scoring rubric for screening analysis:

Green	3 Points
Yellow	2 Points
Red	0 Points

7.2.1 POTENTIAL TO EXPAND TO THE PORT LIT PROPERTY

Given the anticipated economic growth associated with the Louisiana International Terminal (LIT), alternatives were evaluated for their ability to integrate with the port's infrastructure. A key consideration was whether the alignment allowed for future expansion to provide direct access to port facilities, bypassing existing roadways. Alternatives that did not provide a route for a direct connection to the LIT property or lacked the flexibility for future expansion were considered less favorable. Alternatives were screened on a "yes" or "no" basis. Alternatives with a yes and marked green earned 3 points in this metric. Alternatives with a no were marked red and earned 0 points for this metric.

7.2.2 IMPACTS TO VULNERBALE COMMUNITIES

This metric assessed whether an alternative would disproportionately affect vulnerable populations, including low-income, minority, or historically underserved communities per 49 CFR 21.5[5]. Vulnerable communities were identified in the Public Outreach Plan, which can be found in **Appendix A**. The analysis considered displacement risks, increased traffic, and subsequent noise and air quality effects, and potential barriers to community access to ensure no disparate impacts. Alternatives were screened on a "yes" or "no" basis. Alternatives with significant impacts to vulnerable communities were scored with a yes and marked red, earning 0 points in this metric. Alternatives with minimal impacts were scored with a no and marked green and earned 3 points for this metric.

7.2.3 NUMBER OF WETLANDS ACRES IMPACTED

Wetlands play a crucial role in flood control, water quality, and ecosystem stability. The USACE and EPA jointly define wetlands as "those areas that are inundated or saturated by surface or ground water at a

frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.[4] There are three essential characteristics used to identify wetlands: soils, vegetation, and hydrology. Hydric soils, hydrophilic vegetation specially adapted to prolonged presence of water, and varying levels and patterns of inundation indicate the presence of wetlands. Each alternative was evaluated based on the number of acres of wetlands affected, as identified by the USFWS National Wetlands Inventory Database. Any wetlands that fell within a 200-foot buffer zone of each alternative were quantified for each alternative. Alternatives were ranked based on impact level: those affecting less than 175 acres were categorized as low, between 176 and 220 acres as medium, and above 220 acres as high. The screening scoring system was applied, with low impacts marked green (3 points), medium impacts marked yellow (2 points), and high impacts marked red (0 points). This structured evaluation allowed for a clear comparison of alternatives, prioritizing those that minimized environmental disruption while still meeting transportation needs. It is important to note that a further coordination with the USACE will be required to obtain a jurisdictional wetland delineation and formal mitigation plan for unavoidable impacts.

7.2.4 NUMBER OF NAVIGABLE WATERWAY CROSSINGS REQUIRING MID-LEVEL BRIDGE

Several alternatives will require crossings over navigable waterways, necessitating the construction of mid-level bridges to maintain waterway access. The analysis considered the number of such crossings required, as well as the potential cost, permitting challenges, and engineering constraints associated with bridge construction. Alternatives that minimized the number of bridge crossings were generally preferred, as they reduced construction complexity and environmental disturbance. Alternatives that required 0 bridges were marked green (3 points). Alternatives that required 1 bridge were marked yellow (2 points). Alternatives that required 2 or more bridges were marked red (0 points).

7.2.5 ROUND 2 SCREENING RESULTS

Following the second round of screening, seven alternatives—Alternatives 11, 12, 15, 16, 22, 25, and 26—scored 8 or higher and were selected to advance to the third round of evaluation. The results of the round 2 screening are geographically shown in **Figure 19**, with the alternatives that move onto round 3 shown in yellow. The screening metrics and how each alternative scored can be seen in **Table 10**. The alternatives moving to round 3 demonstrated strong feasibility across multiple criteria, including their ability to integrate with the Port NOLA LIT property, minimize impacts to vulnerable communities per 49 CFR 21.5[5], reduce wetland disturbances, and limit the number of required mid-level bridge crossings. The structured scoring system ensured that only the most viable alternatives, those best meeting the project's purpose and need while balancing environmental and social considerations, moved forward for further assessment in the final screening phase.

[4] U.S. Environmental Protection Agency (EPA). Section 404 of the Clean Water Act, How Wetlands are Defined and Identified under CWA Section 4.4. Accessed 6/20/2024. https://www.epa.gov/cwa-404/how-wetlands-are-defined-and-identified-under-cwa-section-404

[5] Title 49 CFR 21.5 Part 21 – Nondiscrimination in federally assisted programs of the Department of Transportation – Effectuation of Title VI of the Civil Right Act of 1964 – Discrimination prohibited.

TABLE 10: 2ND ROUND SCREENING MATRIX FOR ELEVATED HIGHWAY ALTERNATIVES

STATE PROJECT NO. H.015428
LOWER ST. BERNARD TRANSPORTATION NETWORK FEASIBILITY STUDY
ROUND 2 SCREENING
ELEVATED HIGHWAY ALTERNATIVES

Alternatives	◊ Segments ◊	Approximate Length in Miles	Potential to Extend to Port LIT Property[1]	Impacts to Vulnerable Communities[2]	Number of Wetlands Acres Negatively Impacted[3]	Number of Navigable Waterway Crossings Requiring Midlevel Bridge[4]	Alternative 2nd Round Score Totals[5]
7	U-F-E-H-I-P	10.7	Yes	No	257	2	6
8	U-F-E-H-I-Q-K-N	11.5	No	Yes	278	2	0
10	U-F-E-H-M	8	Yes	Yes	178	1	7
11	U-F-E-S	7.5	Yes	Yes	172	1	8
12	C-H-I-P	8.9	Yes	No	216	2	8
13	C-H-I-Q-K-N	9.8	No	No	236	2	3
15	C-S	5.5	Yes	Yes	135	1	8
16	C-H-M	6.3	Yes	No	194	1	10
22	G-E-H-I-P	8.1	Yes	No	194	1	10
23	G-E-H-I-Q-K-N	9	No	No	215	1	7
25	G-E-S	4.7	Yes	Yes	109	0	9
26	G-E-H-M	5.5	Yes	Yes	115	0	9

Does not move into next round of screening
Moves forward into next round of screening
Score of 0
Score of 2
Score of 3

TABLE NOTES:

[1] Evaluated for potential of direct access to the Port Louisiana International Terminal (LIT) property.

[2] Impacts to vulnerable communities were evaluated based on forecast traffic on existing state highways and on the proximity of long-term alternative segments to vulnerable communities per 49 CFR 21.5. Vulnerable communities were identified in the Public Outreach Plan using ACS 5-year summary file data (2017-2022) published December 2022 by the U.S. Department of Commerce, Economics, and Statistics Administration, U.S. Census Bureau. Data received from the New Orleans Regional Planning Commission.

[3] Wetland acres impact calculated using a 200 ft buffer zone of each alternative mainline route with impacts being ranked low(< 175), medium(176 < 220), and high(> 220).

[4] Navigable waterways requiring midlevel bridges are Bayou Bienvenue and Violet Canal

[5] The 7 highest scoring alternatives will advance to the final round of screening. Scoring based on green=3, yellow=2, red=0

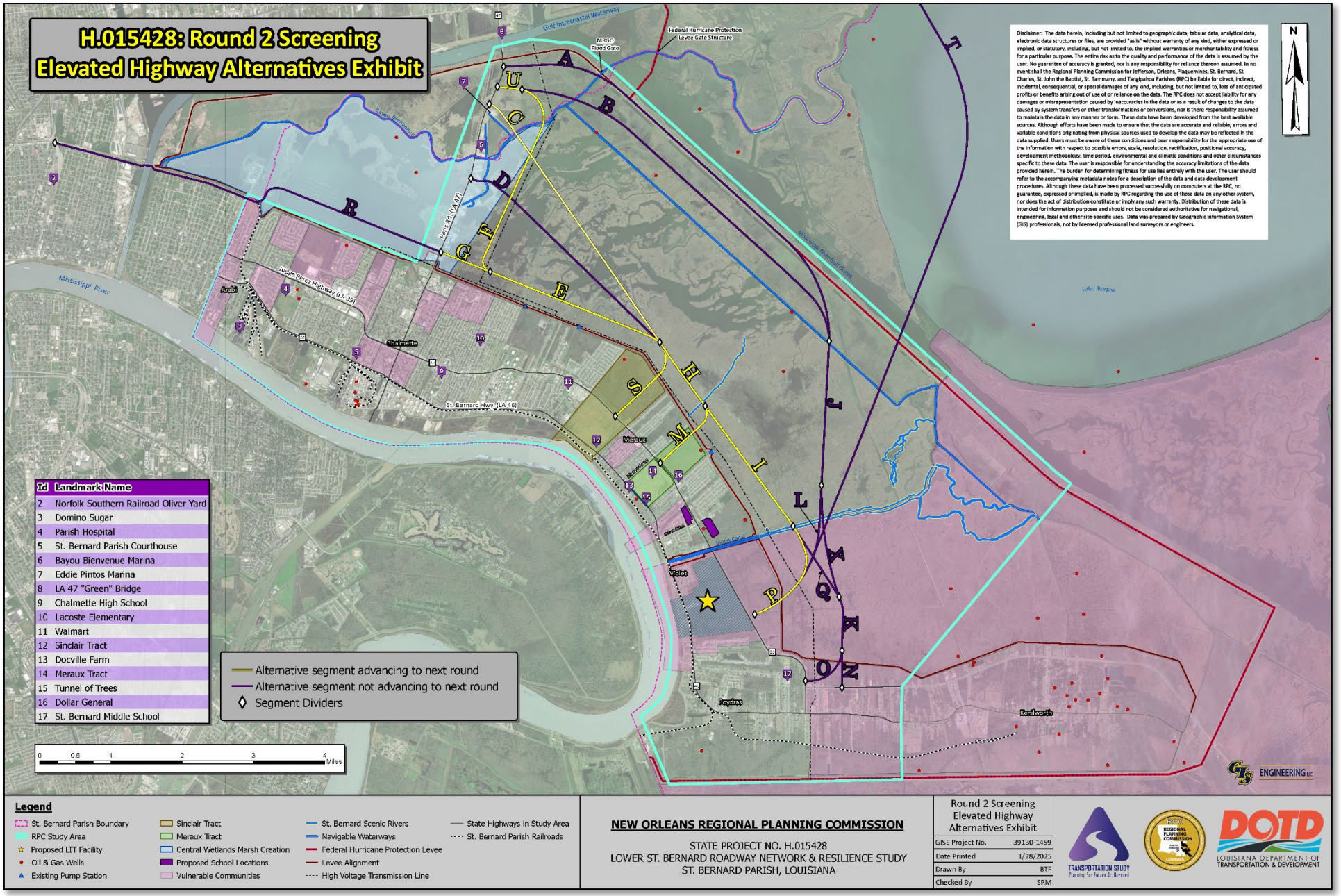


FIGURE 19: ROUND 2 SCREENING ELEVATED HIGHWAY ALTERNATIVES EXHIBIT

7.3 THIRD ROUND SCREENING ANALYSIS

In the third and final round of screening, the remaining 7 elevated highway alternatives were assessed using a refined set of criteria to determine their effectiveness in reducing traffic congestion. Considerations were given to alternatives that will attract the traveling public and truck traffic based on travel demand modeling results discussed in Section 8.5. Additionally, public feedback, future rail integration, and cost-effectiveness were also used to evaluate the final 7 elevated highway alternatives.

For the third round, the same scoring system from round 2 was implemented: alternatives were assigned **green (3 points)**, **yellow (2 points)**, or red **(0 points)** based on their relative performance for each metric. Only alternatives scoring **9 or higher** advanced to the next round of screening. This stage ensured that only the most viable alternatives moved forward for further study in the NEPA Environmental phase.

Scoring rubric for screening analysis:

Green	3 Points
Yellow	2 Points
Red	0 Points

7.3.1 INTERSECTION CAPACITY IMPROVEMENTS

Each alternative was evaluated based on its ability to relieve congestion on existing roadways by diverting traffic—especially freight traffic—from local streets. Existing road network capacity improvements were evaluated on Paris Road, East St. Bernard Highway, and Judge Perez Drive using the travel demand model to predict the amount of traffic that is anticipated to utilize the elevated highway alternative instead of traveling along East St. Bernard Highway and East Judge Perez Drive between the Port of New Orleans and Paris Road (LA 47). Alternatives that diverted 30% or higher of the traffic volume ranked high (green 3 points). Alternatives that diverted between 29% and 20% were ranked medium (yellow 2 points), and alternatives that diverted less than 19% were ranked low (red 0 points). The alternatives scoring the highest in this metric could improve overall traffic flow and reduce travel delays.

7.3.2 POSITIVE ENHANCEMENTS FOR LOCAL COMMUNITIES

The potential benefits to local communities were assessed by analyzing reductions in truck traffic on existing roadway facilities within communities adjacent to alternative routes. Alternatives that tie directly into the Port NOLA facility, bypassing existing roadways, provide the highest relief to the local communities, in that they decrease truck traffic along LA 39, and thereby improve air quality and noise reduction, and enhance pedestrian safety. As a result, these alternatives received the highest ranking (green 3 points) in this evaluation. Alternatives terminating at the Meraux tract (M) and Sinclair tract (S) scored low (red 0 points). Both the “M” and “S” alternatives would route additional traffic on existing infrastructure between Paris Rd. and the Port NOLA facility through communities like Meraux and Violet.

7.3.3 COMMUNITY PREFERENCES

Public input for each alternative was a crucial factor in the third-round screening. Feedback was gathered through a public meeting held in St. Bernard Parish, where residents, business owners, and local stakeholders expressed their preferences regarding the elevated highway alignments and could provide extensive written comments. An exercise was held where citizens were given 3 tickets to place in collection boxes that were colored and numbered to match the 7 alternative alignment layouts. They could place all tickets in one box or distribute them to reflect their preferences. They can be seen pictured below.

The number of tickets indicated most favorable to less favorable alternatives. Alternatives were ranked either low, medium, or high, depending on the number of tickets each received. The table below shows how many tickets each elevated highway alternative received during the exercise. A summary of all stakeholder and public outreach and engagement conducted during this Stage 0 study is provided in **Appendix A**.

Alternative	Number of Tickets
Alternative 11	**1**
Alternative 12	**47**
Alternative 15	**3**
Alternative 16	**1**
Alternative 22	**118**
Alternative 25	**23**
Alternative 26	**4**
TOTAL	**197**

7.3.4 FUTURE RAIL COMPATIBILITY

To accommodate potential future transportation needs, alternatives were analyzed for their feasibility in integrating a rail alignment within an allotted 200 foot right-of-way for the elevated highway. This evaluation assigned a low, medium, or high score based on the ease of adding a rail corridor alongside the highway without excessive design modifications or additional land acquisition. Alternatives with high compatibility for future rail expansion were ranked highest (green), as they would enhance multimodal connectivity and long-term transportation efficiency.

7.3.5 ESTIMATED COST TO CONSTRUCT ROADWAY

The estimated cost of construction was determined based on the total length of the elevated highway and an industry-averaged cost per mile. For an elevated highway that has two lanes (12 ft width) and two shoulders (8 ft width), the average cost per mile is estimated at $72 Million dollars per mile. This average cost per mile was based on best engineering judgement and recent bid tabulations from State Project No. H.008145.6: LA 1: Leeville to Golden Meadow (Phase 2) which reflects similar project features such as an elevated highway, mid-level bridge crossing navigable waterway, similar environmental terrain, and mitigation requirements. This analysis provided a comparative understanding of the financial implications of each alternative. Alternatives with construction costs lower than $750M were ranked high (green 3 points), alternatives with construction costs between $751M and $900M ranked medium (yellow 2 points), and alternatives with construction costs higher than $901M ranked low (red 0 points).

7.3.6 ROUND 3 SCREENING RESULTS

Following the third round of screening, Alternatives 12, 22, and 25 were identified as the most viable options based on their performance across the evaluation criteria. The results of the round 3 screening are geographically shown in **Figure 20**, with the alternatives that move onto round 3 shown in yellow. The screening metrics and how each alternative scored can be seen in **Table 11.** These alternatives demonstrated the following: the most reduction in vehicles on Paris rd. between St. Bernard Highway and the 40 Arpent Canal, the most positive enhancements for local communities, and received the most favorable community feedback. These top 3 alternatives also provide future rail compatibility. Alternative 25 (G-E-S) is significantly less when it comes to the cost of construction. However, when considering feasible alternatives, cost cannot be the deciding factor.

The evaluation process ensured that these alternatives align with the project's Purpose and Need, minimize adverse impacts, and provide effective transportation solutions for the Lower St. Bernard Region. With this determination, Alternatives 12, 22, and 25 shall advance to the Stage 1 Planning/Environmental phase for further environmental review and detailed engineering analysis.

This transition marks a significant milestone in the feasibility study, as the selected alternatives will undergo comprehensive environmental and regulatory assessments to ensure they meet state and federal transportation planning requirements. Future studies will further refine project details, assess mitigation measures, and engage stakeholders to facilitate a sustainable and effective transportation solution for the region.

TABLE 11: ROUND 3 ELEVATED HIGHWAY ALTERNATIVES SCREENING MATRIX

STATE PROJECT NO. H.015428
LOWER ST. BERNARD TRANSPORTATION NETWORK
FEASIBILITY STUDY
ROUND 3 SCREENING

Alternatives	◊ Segments ◊	Approximate Length in Miles	Existing Road Network Capacity Improvements[1]	Positive Enhancements for Local Communities[2]	Community Preference[3]	Future Rail Compatibility[4]	Total Project Cost[5] (in Millions)	Alternative 3rd Round Score Totals[6]
11	U-F-E-S	7.5	Low	Low	Low	Medium	$950.90	2
12	C-H-I-P	8.9	Medium	High	Medium	Medium	$978.50	9
15	C-S	5.5	High	Low	Low	Medium	$722.50	8
16	C-H-M	6.3	High	Low	Low	Low	$782.50	5
22	G-E-H-I-P	8.1	Low	High	High	High	$949.70	9
25	G-E-S	4.7	Medium	Low	Medium	Medium	$693.80	9
26	G-E-H-M	5.5	Medium	Low	Low	Low	$737.50	5

Does not move into NEPA Phase
Moves forward into NEPA Phase Evaluation
Score of 0
Score of 2
Score of 3

TABLE NOTES:

[1] Existing road network capacity improvements were evaluated on Paris Road, East St. Bernard Highway, and Judge Perez Drive using the travel demand model for the project to predict the amount of traffic that is anticipated to utilize the elevated highway alternative instead of traveling to/from East St. Bernard Highway and East Judge Perez Drive via Paris Road. The alternatives were ranked based on percentage of volume reduced along Paris Road between St. Bernard Highway and Forty Arpent, with high (>30), medium (29<20), Low (<19).

[2] Positive enhancements to local communities were evaluated based on reduced truck traffic on existing facilities in the local communities.

[3] Feedback from the public meetings, comment cards, online surveys, and stakeholder meetings was used to rank this criteria either low, medium, or high, with high receiving the most positive feeback and low receiving the least positive feedback.

[4] Rail compatibility is based on the feasibility to include a rail alignment along the elevated highway alternative alignments based on existing rail infrastructure and potential new rail alignments identified in this study, with alternatives that mostly align with the proposed rail alignments receiving the high ranking, and alternatives that do not align with the proposed rail alignments receiving the low ranking. For alignments that align partially with the proposed rail alignments, a ranking of medium was given.

[5] Construction cost ranking is either low(>$750M), medium($751<$900M), or high(<$901M) and is based on an average cost of $72M per mile of elevated highway. This cost is a total project cost that include Engineering and Design. This cost is also inlcusive of the reconstruction upgrades that would be needed along Judge Perez Hwy from the port facility vicinity to Paris Rd. and along Paris Rd. to I-510. The average cost per mile is based on the recent LA-1 Elevated highway from Leeville to Golden Meadow and best engineering judgement.

[6] Top 3 highest scoring alternatives will be selected to be considered in the NEPA phase.
Scoring based on green=3, yellow=2, red=0.

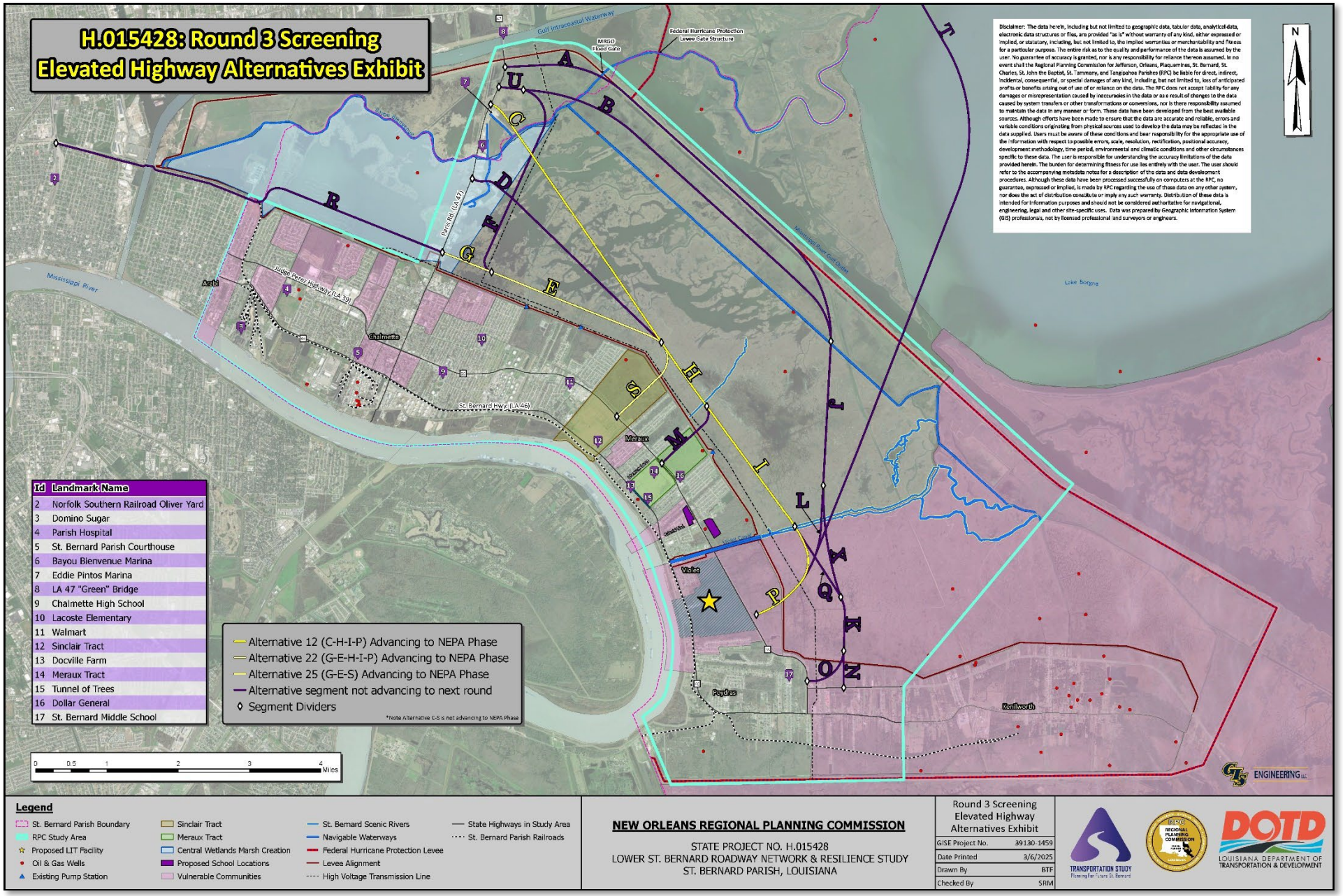


FIGURE 20: ROUND 3 SCREENING ELEVATED HIGHWAY ALTERNATIVES EXHIBIT

7.4 POTENTIAL FOR INTERSTATE EXTENSION

Determining the proper designation of new and existing highways is important and can influence project costs, funding, approval processes, and community impacts. The United States boasts a comprehensive network of controlled-access highways, known as the Dwight D. Eisenhower National System of Interstate and Defense Highways. This extensive Interstate Highway System is an integral component of the National Highway System. The National Highway System includes five subsystems of roadways (such as Interstates) and has more than one system designation on some corridors.

To specifically address the needs of urban regions, the system includes Auxiliary Interstate Highways. These highways include 'spur' routes off other Interstates, which facilitate urban connectivity. Each Auxiliary Interstate Highway is identified by a three-digit route number. Interstate 510 is a 'spur' Auxiliary Interstate Highway, cosigned with LA 47. It is approximately three miles in length terminating at Interstate 10 and approximately Almonaster Avenue on LA 47.

Extending or altering the current Interstate designations will require multiple approvals including those required by the National Environmental Policy Act, National Historic Preservation Act, and others. The project will also need to be included in the State Transportation Plan. The federal interstate access justification process must also be completed, with an approval as per the FHWA's Policy on Access. The following section is intended to describe the requirements and the process needed to secure the necessary approvals to extend the designation of Interstate 510 southward into lower St. Bernard Parish.

7.4.1 PROCESSES FOR EXTENSION/ DESIGNATION OF INTERSTATE FACILITIES

One option to provide the necessary mobility for the area would be to 'extend' the designation of Interstate 510. Under federal law, there are two established procedures for the designation of new Interstates. One method is through Congressional designation, while the alternative method follows an administrative process.

ADMINISTRATIVE PATH: High Priority Corridors and other National Highway System routes that have not been Congressionally designated may be designated as part of or a future part of the Interstate Highway System via this path. The criteria are more restrictive than with the Congressional path. Alterations to the future Interstate designations must meet the requirements specified in 23 USC 103(c)(4)(A) or 23 USC 103(c)(4)(B).

CONGRESSIONAL PATH: Some of the High Priority Corridors have been congressionally designated as future parts of the Interstate Highway System by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and multiple subsequent amendments. Congress can change designations without following all the steps of the Administrative Process, though this is seldom done, and can also be resource-intensive and protracted.

7.4.2 INTERMODAL CONNECTOR DESIGNATION

Rather than serving the Louisiana International Terminal with an extension of the Interstate system, other roadways can be improved and designated as Intermodal Connectors.

The 2015 FAST (Fixing America's Surface Transportation) Act began the designation of a National Highway Freight Network NHFN), which includes the Primary Highway Freight System (PHFS) and the Interstate System, Critical Rural Freight Corridors, and Critical Urban Freight Corridors. Each state, working with MPOs, designates Critical Rural and Urban Freight Corridors. Every five years the designations are updated, and every five years the lane miles designated may increase by not more than three percent.

In Louisiana there are 679 miles of Primary Highway Freight System Routes, but zero miles designated as Critical Urban or Rural Freight Corridors. NORPC and the LADOTD may designate a public road as a Critical Urban Freight Corridor. This designation is for connections between an intermodal facility (e.g., LIT) and the primary highway freight system or an Interstate. It must also be on a route on the primary highway freight system, be important to the movement of freight within the region or provide an alternative route important to goods movement. (23 U.S.C. 167(f)(3)).

Intermodal connectors are highways that provide access between major intermodal facilities and the other four subsystems making up the National Highway System. The State of Louisiana has 26 designated intermodal corridors and seven are in the New Orleans region. To be a designated an intermodal connector, the route must meet FHWA primary criteria of annual freight truck volumes of 50,000 TEU's or at least 100 trucks per day in each direction. These minimum requirements would be easily met by the forecast usage of the Louisiana International Terminal.

Whether a U.S. or State Highway, whether an Intermodal Connector or Critical Urban Freight Corridor, the project costs and environmental impacts will likely be less than that of an Interstate facility. Interstate standards were originally developed in the 1950s and adopted by the FHWA. Examples of design standards for the Interstate System include high design speeds (often 65 or 70 mph). wider shoulders for vehicles to pull off into during an emergency, and very constrained access for adjacent neighborhoods. A U.S. or State Highway is not subject to each of these requirements. These design standards tend to be less easily fitted into an existing community when compared to other types of highway design. Infrequent access points affect use of the facility by residents and businesses. The high speeds and wider shoulders often result in a wide cross-section as well which increases costs and the need to purchase additional right of way. Most of the technical analyses and approvals needed for an extension of I-510 would also be required for U.S. and State highways. For the development of the alternative corridors discussed in this Report, any of the highway designations would still require traffic and environmental studies and approvals.

7.5 FINANCIAL/TOLL ANALYSIS

A planning level toll feasibility analysis was conducted to provide a comprehensive and conservative framework for estimating potential 2050 traffic volumes and toll revenue for the proposed elevated Facility.

ASSUMED TOLL RATES

A key consideration for the traffic and revenue estimates are the toll rates in the 2050 Buildout year of the LIT. CDM Smith assumed that the proposed LIT Facility will be tolled at rates consistent with other toll facilities in the State of Louisiana. CDM Smith identified three toll facilities that are currently or planned to be owned and operated by the Louisiana Department of Transportation and Development:

- The Belle Chase Bridge
- The LA 1 Bridge
- The proposed Calcasieu Bridge

The average passenger car transponder toll rate for these three facilities inflated to 2050 levels is $3.30.

As a result of the widespread use of All Electronic Tolling (AET), most tolling agencies have instituted a toll differential for using a transponder, sticker or pass card, as compared to video tolling. This type of discount allows all drivers using a compatible transponder, sticker or pass card to pay a lower rate than those paying via video. One of the primary purposes of providing a toll differential to transponder customers is to encourage the use transponders, stickers or pass cards rather than video tolling. This reduces back-office processing costs and decreases the potential for uncollected fares. Generally, the additional tolls paid by video customers are also set high enough to cover these additional costs and to recover any revenue leakage.

In Louisiana, the current GeauxPass toll facilities include a set amount (roughly $1.00) as a toll differential for video customers, regardless of vehicle class. However, most toll agencies utilize a percentage difference between transponder and video payment methods. Based on a survey of national toll agencies, video toll differentials averaged about 40 percent. Based on previous direction received from LADOTD officials, an assumed video toll differential of 50 percent was indicated for the proposed facility. CDM Smith incorporated this assumption into the traffic and revenue forecasts.

The vast majority of facilities base their truck toll rates on the number of axles, either completely or in combination with other measures such as truck length. However, it is assumed that a truck payment structure will be utilized for the proposed facility comparable to other GeauxPass facilities in Louisiana:

- **Class 1:** Length < 23.5’ & Width ≤ 8.5’ & Height < 12’
  Includes passenger vehicles such as cars, pickup trucks, motorcycles;
- **Class 2:** Length > 23.5’ & < 35‘ or Length ≤ 23.5’ & Width > 8.5’ or Height >12’
  Includes light 2-axle trucks and passenger vehicles with trailers; and
- **Class 3:** Length >35’
  Includes heavy trucks, such as 5-axle tractor trailers.

Nationally, roughly 60 percent of toll agencies charge the same rate to both passenger cars and 2-axle trucks. The remaining facilities have an average 2-axle truck toll factor of roughly 2.5. The national average toll factor for a 5-axle truck is about 5 times the passenger car rate. These truck toll factors are somewhat

comparable to the average 2-axle truck (Class 2) and 5-axle truck (Class 3) toll factors (versus Class 1) for the existing GeauxPass Louisiana Toll Bridges. The toll factors used in this analysis are 1.9 for 2-axle truck (Class 2) and 4.4 for 5-axle truck (Class 3) which are consistent with existing GeauxPass Louisiana Toll Bridges.

Based on the tolling assumptions identified in this study, CDM Smith developed estimated toll rates by method of payment and vehicle class for the proposed LIT Facility for the opening year of 2050, which are presented in the table below. As previously noted, the toll rates assume AET utilizing GeauxPass, a 50 percent video toll rate differential, a 1.9 toll factor for Class 2, and a 4.4 toll factor for Class 3. All toll rates have been rounded up to nearest nickel.

TABLE 12: TOLL RATE ASSUMPTIONS FOR PROPOSED OPENING YEAR 2050
TOLL RATES BY METHOD OF PAYMENT AND VEHICLE CLASS

Vehicle Class	GeauxPass / Transponder Toll Rate	Video Toll Rate
Class 1:	$3.30	$5.00
Class 2:	$6.45	$9.65
Class 3:	$14.65	$22.00

Like other GeauxPass facilities, CDM Smith believes it is reasonable to incorporate an annual, biennial, or triennial Consumer Price Index (CPI)-based toll rate increase for the facility. The CPI is developed by the US Bureau of Labor Statistics and is used in this analysis to ensure that potential toll rates are calculated in order to keep pace with normal inflation.

TOLL FEASIBILITY ANALYSIS

In order to conduct the toll modeling analysis, the highway network and trip tables developed from the modified SELATRAM Model, reflecting the updated socioeconomics/land-use scenarios, future truck movements from the port, and proposed highway improvements were imported into CDM Smiths' tolling algorithm model. The model algorithm assesses the travel costs and times for each origin-destination movement for both a tolled route using the proposed LIT facility and the best toll-free alternative route. The relationship between the travel costs and times of those two routes is then used to estimate the share of traffic that will use the proposed tolled LIT facility and the various non-toll alternatives. However, the outputs of the toll modeling effort are dependent on the particular model inputs. These include the travel speeds, distances, and the configuration of the model network, as well as future estimates of variables such as value of time, vehicle operating costs, and the travel demand based on the underlying socioeconomic forecasts. Being based on a regional travel demand model, the toll feasibility analysis is also limited by the fact that regional travel demand modeling is not typically used to assess roadway operations, such as the impacts of signalized intersections. These can be addressed partially by included time penalties or other network-level restrictions. Given the high-level scope and schedule of this study, these additional refinements would need to be addressed in a future analysis. However, despite the limitations noted here, CDM Smith has significantly refined this modeling approach and believes that it is the best methodology for estimating toll

facility traffic demand and volumes. For the current high-level effort, CDM Smith believes the modeling effort conducted for this analysis represents a good "first pass" effort to assess the traffic and revenue potential of the proposed LIT facility under the identified configurations.

It is assumed that the proposed LIT facility will operate as an All Electronic Toll (AET) facility, utilizing the GeauxPass statewide toll transponder system and video tolling. No cash will be accepted to facilitate non-stop high-speed travel. A toll-pricing scheme was developed, and the toll rates and tolling points were then incorporated into the model.

A series of traffic assignments were run using CDM Smith's proprietary tolling algorithms for the 2050 opening year. These assignments were run with and without the proposed tolls to identify the potential toll diversion. The results of these assignments were reviewed for reasonableness and compared against the toll-free conditions. The table below presents the DRAFT average daily transaction estimates for the proposed LIT Facility under the three build scenarios by method of payment and vehicle class.

TABLE 13: ESTIMATED 2050 DAILY TRAFFIC VOLUMES FOR THE PROPOSED LIT FACILITY BY METHOD OF PAYMENT AND VEHICLE CLASS

Build Scenario				
Class	**Method of Payment**	**CHIP**	**GEHIP**	**GES**
Class 1	Transponder	2,290	1,320	2,210
	Video	720	410	660
Class 2	Transponder	200	100	160
	Video	100	50	90
Class 3	Transponder	440	310	370
	Video	580	410	470
	Total	**4,330**	**2,600**	**3,960**
Percent Transponder		67.7%	66.5%	69.2%
Percent Class 2 and 3		30.5%	33.5%	27.5%

As shown in the table, the CHIP scenario produces the greatest level of transactions, likely due to the fact that it bypasses all of LA 39 and lower Paris Rd. by connecting to LA 47 just south of the Green Bridge, avoiding congestion with St. Bernard Parish retail, marinas, and schools. However, the GEHIP scenario produces the greatest share of Class 2 and Class 3 vehicles, as this alternative bypasses all of LA 39 west of the LIT facility in Violet and connects to LA 47 north of St. Bernard urban retail. Lastly, the GES scenario produces the greatest share of GeauxPass transponder customers, likely due to its use as a partial local bypass to LA 39 connecting to LA 47 north of St Bernard urban retail.

The final daily traffic volumes output under the tolled scenarios were then multiplied by the proposed toll rates by method of payment and by vehicle class to develop the toll revenue estimates. It was assumed that 50 percent of video toll revenue would not be collected due to revenue leakage (bad images, incorrect

mailing address information, or non-payment). This level of leakage is a conservative estimate for a new toll facility such as the proposed LIT Facility. The average daily transactions and net toll revenues were then multiplied by 365 to produce the estimated LIT Facility transactions and toll revenue estimates for 2050 presented in the table below. All revenues provided are in 2050 dollars. Moreover, the Net Revenue estimates do not include adjustments for operations and maintenance costs associated with the toll system (or the LIT Facility in general), nor do they include the costs of revenue collection. Given their preliminary nature, these transaction and revenue estimates are for planning purposes only and should not be used in support of financing.

TABLE 14: ESTIMATED 2050 ANNUAL TRANSACTION AND NET TOLL REVENUES FOR THE PROPOSED LIT FACILITY

Build Scenario			
	CHIP	**GEHIP**	**GES**
Annual Transactions (000s)	1.6	1.0	1.4
Annual Net Revenue (Millions)	$8.7	$5.6	$7.6

CONCLUSION

In summary, the tolling assumptions and traffic modeling outlined in this analysis provide a comprehensive and conservative framework for estimating potential 2050 traffic volumes and toll revenue for the proposed elevated Facility. The toll rates were derived based on other Louisiana toll facilities and adjusted for inflation, vehicle classification, and payment method, incorporating a 50 percent video toll differential and industry-standard truck toll factors. The use of All Electronic Tolling (AET) via the GeauxPass system is expected to streamline toll collection, enhance operational efficiency, and reduce revenue leakage, although a conservative 50 percent leakage rate has been applied to video toll transactions.

The estimated daily transaction volumes under the three build scenarios—CHIP, GEHIP, and GES—reflect differences in projected route utility and regional connectivity, with CHIP producing the highest overall transaction levels, GEHIP attracting the highest proportion of commercial vehicles, and GES showing the greatest share of transponder usage. While the three proposed alternatives offer potential benefits to travelers and commercial vehicles seeking to bypass Judge Perez Drive and Paris Road in Violet, the projected travel time savings identified in the modeling analysis is primarily attributed to the close proximity of existing parallel routes, as reflected in the conservative usage projections.

While the traffic and revenue forecasts presented offer valuable insights into the facility's potential performance, they are preliminary and intended solely for planning purposes. Further analysis, refinement, and validation will be necessary to support financing and long-term investment decisions, especially as project development continues and more detailed engineering and financial information becomes available. Some potential areas for refinement in a future study include:

- A socioeconomic assessment of local population, employment, induced demand and special traffic generators – which would ultimately affect the underlying local travel demand;
- A detailed review of the travel times, traffic controls, pavement conditions, and local roadway restrictions associated with the competing toll-free arterial networks, particularly between the proposed LIT Facility and I-10 – which would lead to the use of time penalties or network restrictions in the model affecting estimated commercial vehicle travel times and routing;
- A stated preference survey or other specialized analysis of the value of time of commercial vehicles potential to the proposed LIT Facility – which would impact the share of vehicles willing to utilize the new facility at different toll rates; and
- A toll sensitivity analysis to assess multiple toll rates and estimate the revenue maximizing toll rate and the traffic volume optimizing toll rate for the proposed LIT Facility under future year conditions.

In order to conduct the toll modeling analysis, the highway network and trip tables developed from the modified SELATRAM Model, reflecting the updated socioeconomics/land-use scenarios, future truck movements from the NOLA Port, and proposed highway improvements were imported into the Cube Voyager model platform, which incorporates tolling algorithms. The elevated highway alternative is assumed to be developed as an all-electronic tolling facility to facilitate non-stop high-speed travel. A toll-pricing scheme will be developed in consultation with the RPC, LADOTD, and Port NOLA. The toll rates and tolling points will be incorporated into the model. A series of traffic assignments will be run using tolling algorithm for the 2050 opening year. It is anticipated that 40-year transaction and revenue streams will be developed.

As part of the toll feasibility study, high-level capital and operational costs associated with toll collection will be developed. All other capital and operational costs developed by the project team will be compiled. Net toll revenue will be computed on an annual basis for the 40-year period by considering toll revenue less operating costs. A high-level toll feasibility assessment will be made that looks at the project's potential bonding capacity against the proposed connector's capital costs.

The tolling analysis will be conducted at a planning level, consistent with a Level 1 Study, suitable for a high-level assessment of tolling potential. More detailed studies will be required for project financing purposes.

The full Toll Feasibility Summary report can be found in **Appendix F.**

8.0 EXISTING INTERSECTION IMPROVEMENT ALTERNATIVES

8.1 TRAFFIC TIER ANALYSIS

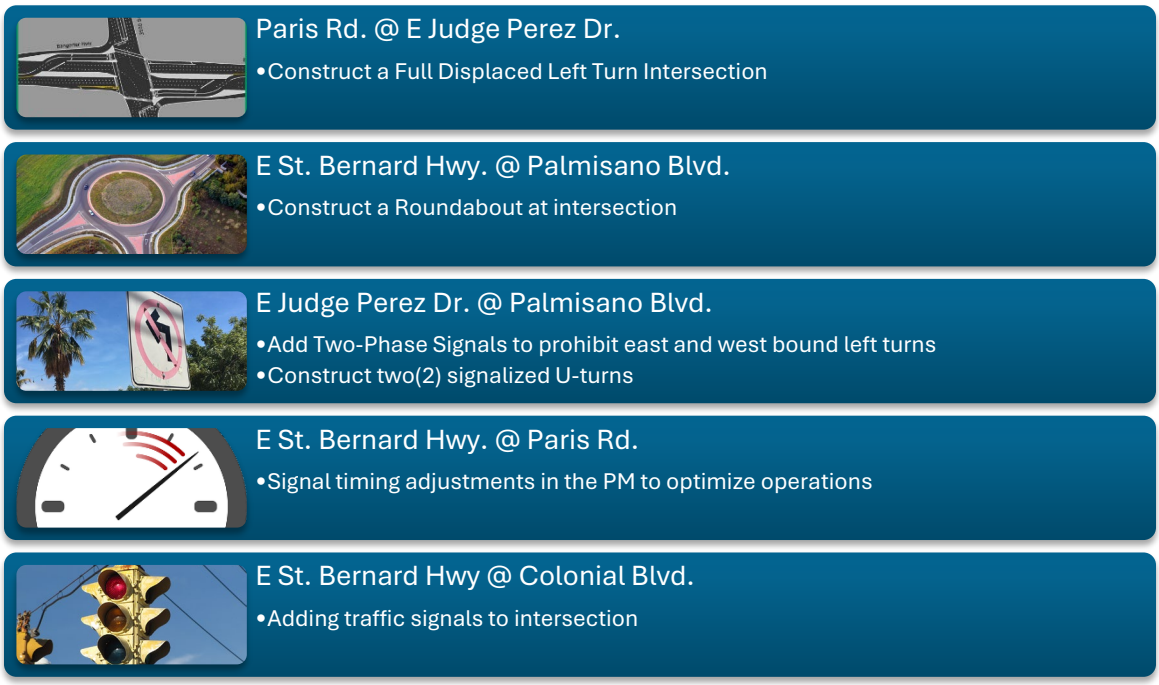
Alternatives were developed to mitigate the operational deficiencies identified in the No Build Conditions capacity analysis results (Section 5.3.5), using a tiered approach based on the LADOTD Traffic Engineering Process and Report (TEPR).

As part of the Tier 1 and 2 evaluations of the existing street network, a high-level analysis was performed to identify potential modifications to mitigate the additional delay resulting from Port construction. The following intersections were evaluated:

- Paris Rd at E Judge Perez Dr
- E St Bernard Hwy at Palmisano Blvd
- E Judge Perez Dr at Palmisano Blvd
- E St Bernard Hwy at Paris Rd
- E St Bernard Hwy at Colonial Blvd

The majority of the study area intersections are expected to operate with acceptable volume to capacity (v/c < 1.00) and with delays below HCM thresholds (delay < 50 seconds or < 80 seconds for signalized and unsignalized intersections, respectively). The exception is the unsignalized intersection of E St Bernard Hwy and Palmisano Blvd, where delays are expected to correspond to failing conditions in 2030 with or without the construction of the Port and are projected to continue to fail in 2050.

Operational constraints for the remaining four (4) identified study area intersections are expected to begin between the 2030 and 2050 study horizon years. Therefore, improvements implemented in earlier years would mitigate congestion as traffic volumes increase annually. The chosen alternatives from the Tier 1 and 2 analyses, are as follows (Conceptual layouts of these alternatives are presented in **Appendix G**):



8.1.1 ADDITIONAL ALTERNATIVE – ELEVATED HIGHWAY

An additional alternative for consideration is a new elevated highway that would connect lower St Bernard Parish to the interstate System, to alleviate future port-related and overall congestion in Chalmette, and to provide additional infrastructure for evacuation and emergency response purposes. The following three (3) alternatives were identified as the most viable alignments based on their performance across 3 rounds of screenings:

1. Elevated Highway Alternative 12 (C-H-I-P)
2. Elevated Highway Alternative 22 (G-E-H-I-P)
3. Elevated Highway Alternative 25 (G-E-S)

The TransCAD outputs without and with the elevated highway were compared to estimate the percentage of background traffic that currently travel on Paris Rd, between each proposed location of the elevated highway entrance and E Judge Perez Dr, who would instead use the elevated highway. A summary of the estimated percentage of rerouted traffic (not including Port truck traffic) for each alternative is presented in the following table **(Table 15)**. Based on discussions with Port NOLA, it is assumed that 100% of the truck traffic destined to/from I-510 via Paris Rd would instead use the elevated highway.

TABLE 15: PERCENTAGE OF TRAFFIC THAT WILL UTILIZE ELEVATED HIGHWAY ALTERNATIVES

Alternative	Percentage of Rerouted Paris Rd Traffic	
	Southbound	Northbound
12	25%	22%
22	15%	16%
25	22%	22%

The redistributed elevated highway traffic was removed from the southbound left turn and westbound right turn movements at the intersection of Paris Rd at E Judge Perez Dr as well as the eastbound and westbound through volumes on E Judge Perez Dr at Palmisano Blvd.

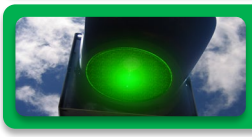
It is assumed that the traffic volumes at the remaining three (3) intersections identified in Section 8.1 will not change as a result of either of the three (3) elevated highway alternatives. With Elevated Highway (For all 3 Elevated Highway Alternatives), the following improvements to the existing street network are proposed:

Paris Rd. @ E Judge Perez Dr.

- Add Exclusive East Bound Right Turn Lane
- Additional Westbound Left Turn Lane

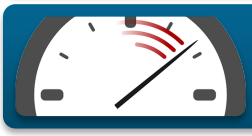
E St. Bernard Hwy. @ Palmisano Blvd.

- Construct a Roundabout at intersection



E Judge Perez Dr @ Palmisano Blvd.

- No improvements required



E St. Bernard Hwy @ Paris Rd.

- Signal timing adjustments in the PM to optimize operations

E St. Bernard Hwy. @ Colonial Blvd.

- Adding traffic signals to intersection

Operational analysis should be conducted at the tie-in locations for all three (3) elevated highway alternatives as part of later stages of the NEPA process during the alternative selection process.

Conceptual layouts of these alternatives are presented in **Appendix G**.

8.1.2 SUMMARY OF TRAFFIC TIER ANALYSIS

The following is a summary of proposed improvements to the existing street network with or without a new elevated highway projected, which would alleviate traffic congestion along E Judge Perez Dr and Paris Rd corridors:

TABLE 16: SUMMARY OF PROPOSED EXISTING INTERSECTION IMPROVEMENTS

Intersection	Proposed Improvements	
	Without Elevated Highway	With Elevated Highway
Paris Rd at E Judge Perez Dr	Construct a Full Displaced Left Turn Intersection	Add Exclusive East Bound Right Turn Lane Additional Westbound Left Turn Lane
E St Bernard Hwy at Palmisano Blvd	Construct a Roundabout at intersection	
E Judge Perez Dr at Palmisano Blvd	Add Two-Phase Signals to prohibit east and west bound left turns Construct two (2) signalized U-turns	No improvements required
E St Bernard Hwy at Paris Rd	Signal timing adjustments in the PM to optimize operations	
E St Bernard Hwy at Colonial Blvd	Add traffic signals to intersection	

8.2 TRAVEL DEMAND MODEL

For this analysis the most recent available version of the NORPC SELATRAM Model was provided by the RPC to forecast travel demand in the study area. The SELATRAM is a four-step regional travel demand forecasting model developed by the RPC to perform capacity deficiency analysis, future year demand analysis, long range strategic planning, and other transportation and land use related tasks in a geospatial database format. The Model includes 2015 Base and 2052 Forecast year scenarios as well as interim year network and Socioeconomic (SE) datasets.

As outlined in the scope of services, project forecasts were developed for 2030 LIT Phase 1 and 2050 LIT Buildout scenarios. Build project scenario forecasts were developed once the proposed elevated roadway alternatives were identified. For the purpose of this study, the term 'No Build' refers to the transportation infrastructure such that the No Build operations evaluation reviews what congestion would look like without any change or upgrade to the existing infrastructure in 2030 and 2050.

2030 NO BUILD FORECASTS

Development of 2030 No Build forecasts included updates to the model SE Data in St Bernard Parish to account for project background growth in employment and population as a result of the initial phased opening of the LIT facility. The SELATRAM model was updated with the projected number of truck trips that the new LIT facility is expected to generate (2,050 Multi-Unit trucks per day in the 2030 LIT Phase 1 opening year), as well as the general direction to/from the facility that the trips are forecast to travel based on data received from the Port of New Orleans. The additional truck trips were added to the SELATRAM Multi-Unit truck trip table in order to include them in the overall project vehicle assignments. Through coordination with RPC staff, it was determined that the 2023 Highway network included with the SELATRAM Model package would be used as the base highway network for the 2030 No Build model analysis. This was due to the fact that no major highway improvements are expected between 2023 and 2030 in the project area.

2050 NO BUILD FORECASTS

Development of 2050 No Build forecasts included updates to the model SE Data in St Bernard Parish to account for project background growth in employment and population as a result of the full buildout of the LIT facility. The SELATRAM model was updated with the projected number of truck trips that the full buildout of the LIT facility is expected to generate (6,450 Multi-Unit trucks per day in the 2050 LIT Buildout year), as well as the general direction to/from the facility that the trips are forecast to travel based on data received from the Port of New Orleans. The additional truck trips were added to the SELATRAM Multi-Unit truck trip table and the model's assignment process distributed these trucks with the overall vehicle assignments. The regional travel model distribution of the LIT truck trips resulted in 20% of those trips utilizing Paris Rd in order to travel to/from the east on I-10. The model routed the remaining 80% of estimated truck trips to/from the west to access other Port of New Orleans facilities and to exit the region to the west on I-10. It should be noted that a detailed corridor level operations analysis was not undertaken for this study, west of LA 47, and the percentages provided are discerned within a broad planning context. Regional travel models are not typically used to assess roadway corridor operations that include the impacts of signalized intersections, turning movements into individual driveways, movable bridge openings, upstream rail crossings and other impediments to traffic flow. Given the high level scope and schedule of this study, further refinement of the estimated LIT truck distribution is recommended as next step in future analysis.

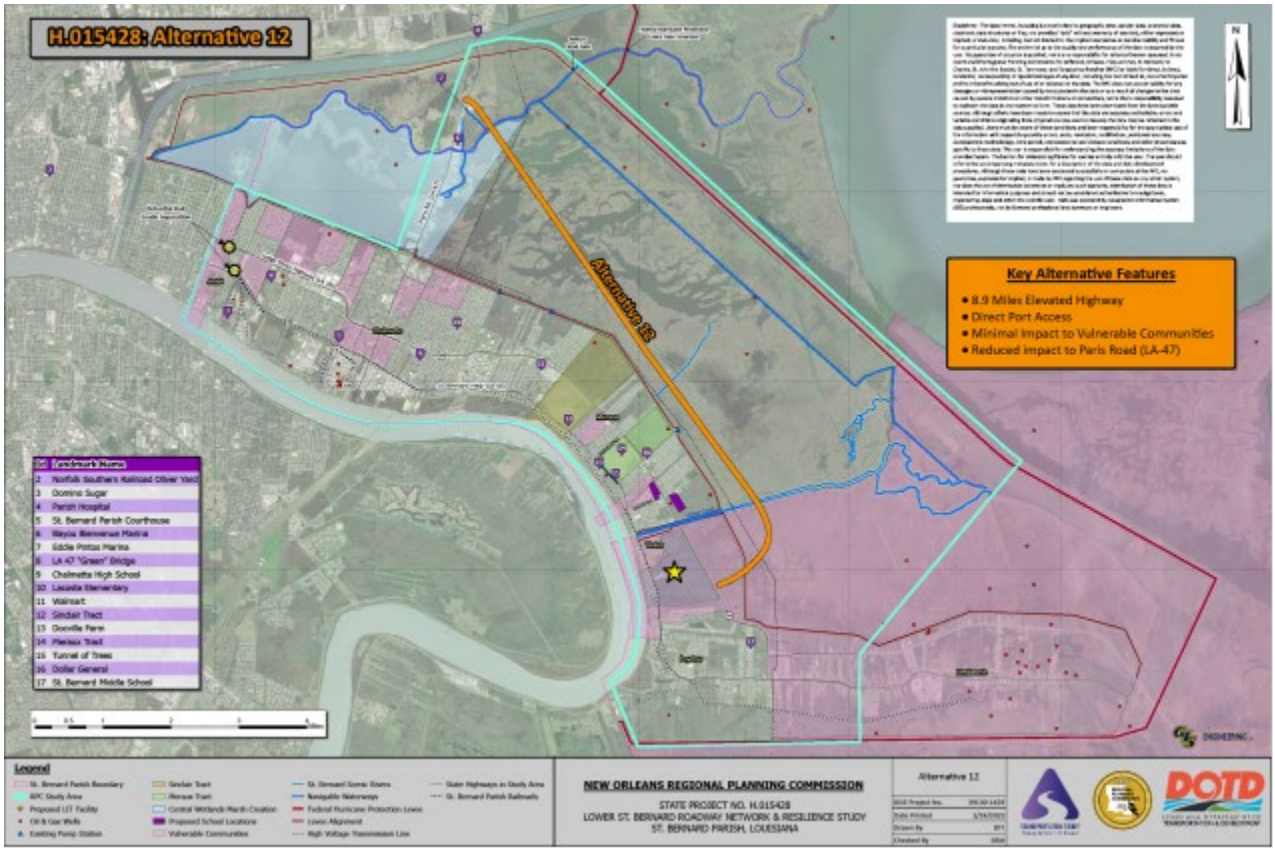
The 2052 highway network included with the SELATRAM Model package was used as the base highway network for the 2050 No Build model analysis. This was due to the fact that no major highway improvements are expected between 2050 and 2052 in the project area. The only update to the network was the removal of the north/south road highlighted in red in the image below. This road was included in the highway network of the 2052 SELATRAM model package that was received. The decision was made to remove this highway link due to the similarity to the Build alternatives that would be tested.

2050 BUILD FORECASTS

Build forecasts were developed to analyze the elevated highway alternatives with the 2050 Buildout of the LIT. Three Toll-Free Build alternatives were coded into the 2050 Model. The alignments are defined as follows:

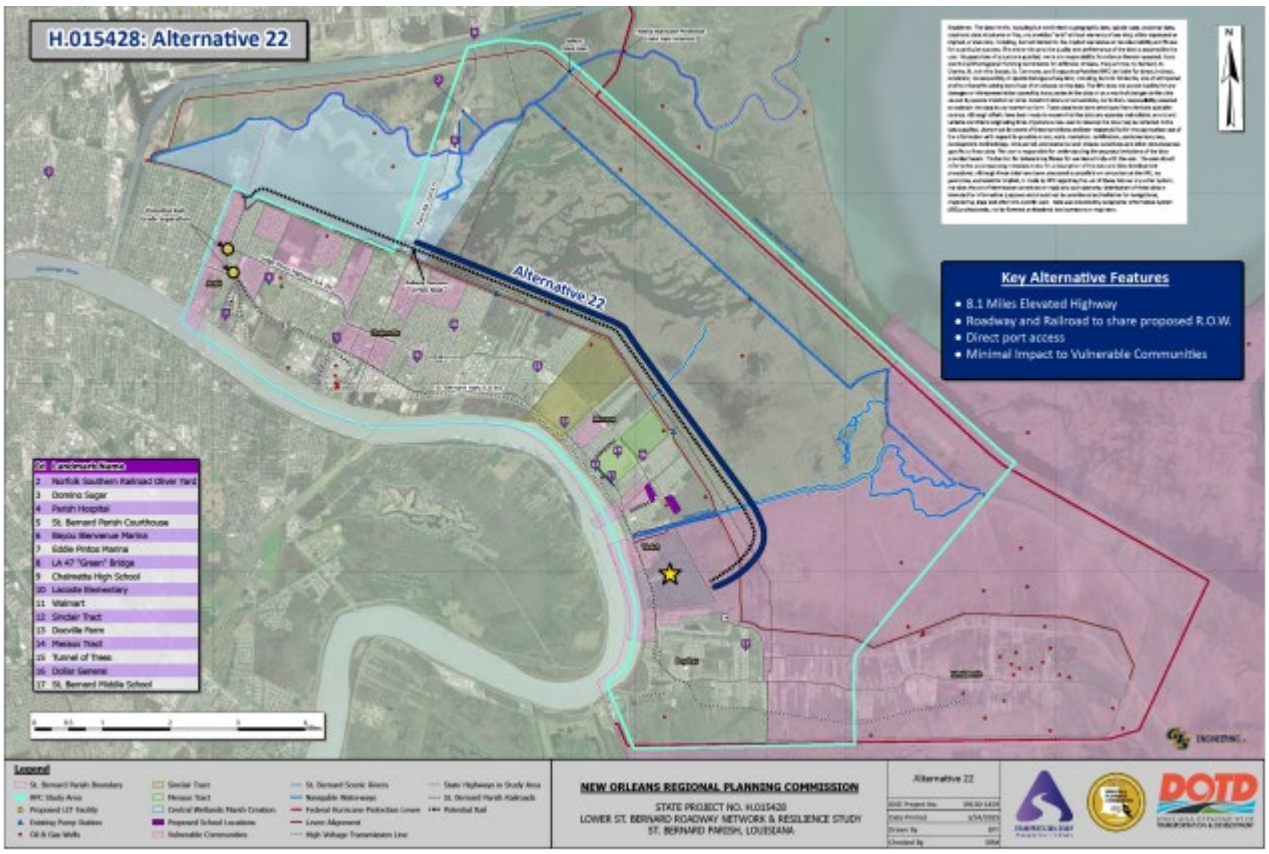
ELEVATED HIGHWAY ALTERNATIVE 12 (C-H-I-P)

Alternative 12 is an approximately 8.9-mile elevated roadway planned to have two 12-foot lanes and two 8-foot shoulders that originates at Paris Road (LA 47) north of Eddie Pinto's Marina. From there, the alignment crosses Bayou Bienvenue (requiring a mid-level bridge) before extending southeast over the marsh toward Meraux. The alignment then parallels the Forty Arpent Canal and crosses Violet Canal (requiring a second mid-level bridge) before making a southwest turn, ultimately terminating directly at the Port of New Orleans Louisiana International Terminal site on Judge Perez Highway (LA 39) near Violet.



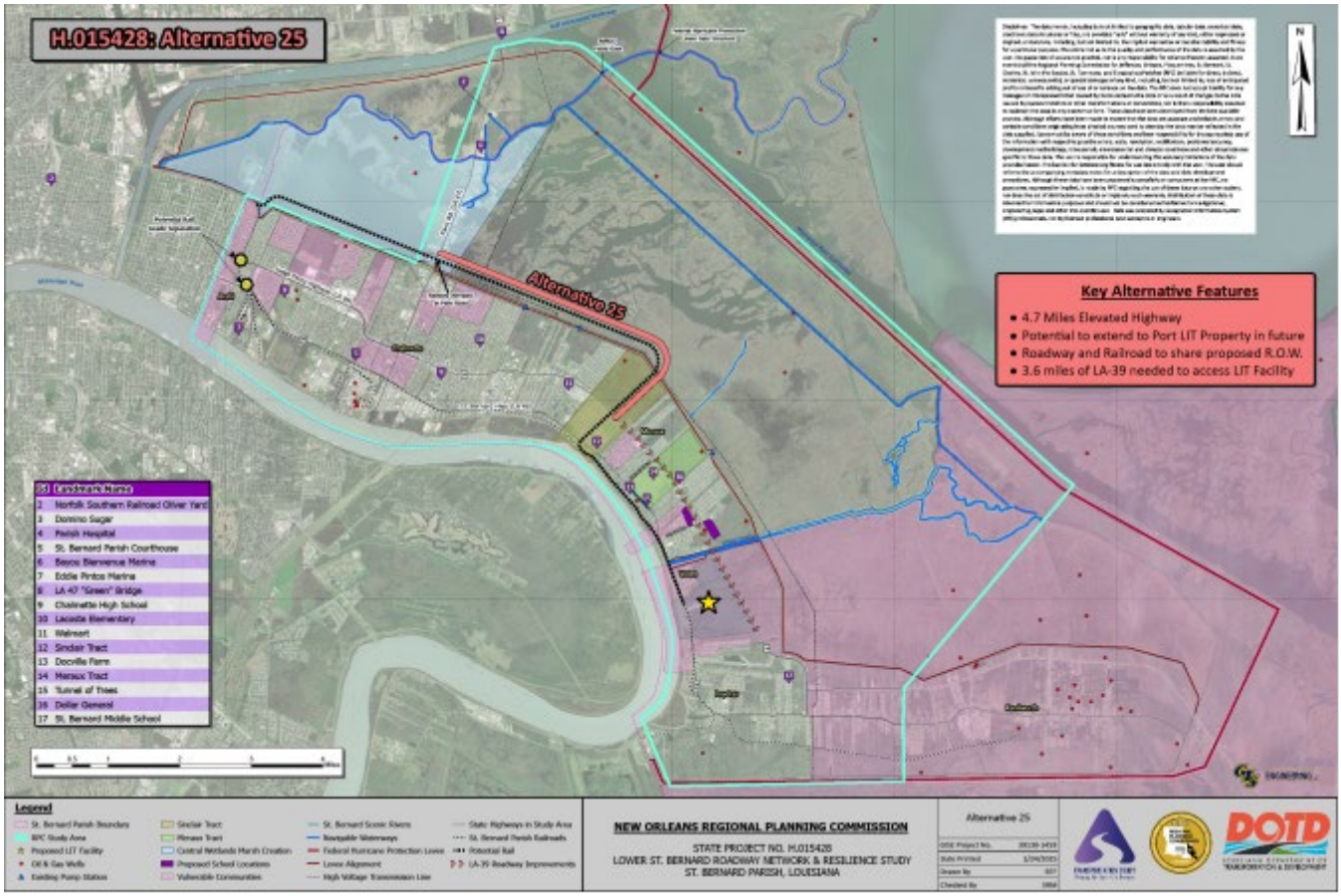
ELEVATED HIGHWAY ALTERNATIVE 22 (G-E-H-I-P)

Alternative 22 is an approximately 8.1-mile elevated roadway planned to have two 12-foot travel lanes and two 8-foot shoulders that originates on Paris Rd (LA47) near its intersection with Forty Arpent Canal Rd. The alignment parallels Forty Arpent through the marsh where it crosses over Violet Canal (requiring a mid-level bridge) before making a southwest turn, ultimately terminating directly at the Port of New Orleans Louisiana International Terminal site on Judge Perez Highway (LA39) near Violet.



ELEVATED HIGHWAY ALTERNATIVE 25 (G-E-S)

Alternative 25 is an approximately 4.7-mile roadway that originates on Paris Rd. (LA47) near its intersection with Forty Arpent Canal Rd. The alignment parallels Forty Arpent elevated through the marsh with a planned elevated section consisting of two 12-foot travel lanes and two 8-foot shoulders. The roadway then turns southwest and transitions to an at-grade section through the Meraux tract, ultimately tying into Judge Perez Highway (LA39) between Maureen Lane and St. Marie Dr.



9.0 CONSIDERATION FOR RAIL, BICYCLE, & PEDESTRIAN IMPROVEMENTS

9.1 RAIL IMPROVEMENTS

9.1.1 GRADE SEPARATION ON EXISTING NETWORK

This study shows that there is a high degree of vehicular delay located along the at-grade intersections with the NSRR along the Chalmette Branch Line. The two (2) at-grade intersections that are experiencing the most vehicular delay are at St. Bernard Hwy and Judge Perez Drive. The rail operations analysis indicates that projected increases in rail traffic associated with the NSRR and Port NOLA will result in additional vehicular delays in the future. These delays are exacerbated at the St. Bernard Hwy and Judge Perez Drive at-grade intersections by trains stopping in the intersection and reversing direction to move between industrial facilities such as the Arabi Terminal and Domino Sugar rail storage yards.

It should be noted that the impact of container trains associated with LIT will be moderated by the fact that there should be no reason for any container train to stop at any intersection. In the early years of LIT operations, the net impact on delays from LIT trains would be very small. However, LIT is projecting strong growth in rail business so the fraction of delay from container trains is expected to trend up over time from an estimated initial 8%, eventually accounting for an estimated 29% of rail traffic by 2050.

Based on the findings, one or more grade separations (overpasses) should be studied for the Judge Perez Dr. and St Bernard Hwy intersections. These will have great value from a reduction in vehicular delay, time savings and a safety perspective. This would allow for at least one of the major east-west routes into and out of St. Bernard Parish to not be incumbered by train delays. A detailed study will be required in order to assess the footprint required, potential impact on nearby homes and businesses, and estimated cost.

9.1.2 PROPOSED RAIL ALIGNMENTS

As part of this study, conceptual rail alternatives were developed and evaluated for consistency with roadway alternatives, minimization of vehicular delay associated with projected LIT rail traffic and community impacts.

Figure 21 shows two (2) conceptual rail alternative alignments. Alternative Alignment 1 extends from the northeast corner of the LIT site and parallels the hurricane protection levee/40 Arpent Canal to near the Orleans Parish Line where it connects back into the existing NSRR rail Line. The entire section is inside the federal hurricane protection levee but would have to be elevated on structure because it is over marsh. It would require elevated bridges over the Violet Canal and Paris Road. This alternative would remove LIT rail traffic from the existing NSRR Chalmette Branch Line. However, the existing NSRR rail line would remain in operation to service the numerous industrial customers. This conceptual rail alignment would not address the existing vehicular delay experienced on St. Bernard Hwy and Judge Perez Drive at the existing at-grade intersections with the NSRR rail line. However, it would likely provide more efficient rail operations associated with the LIT and remove LIT container rail traffic from the existing Chalmette Branch Line.

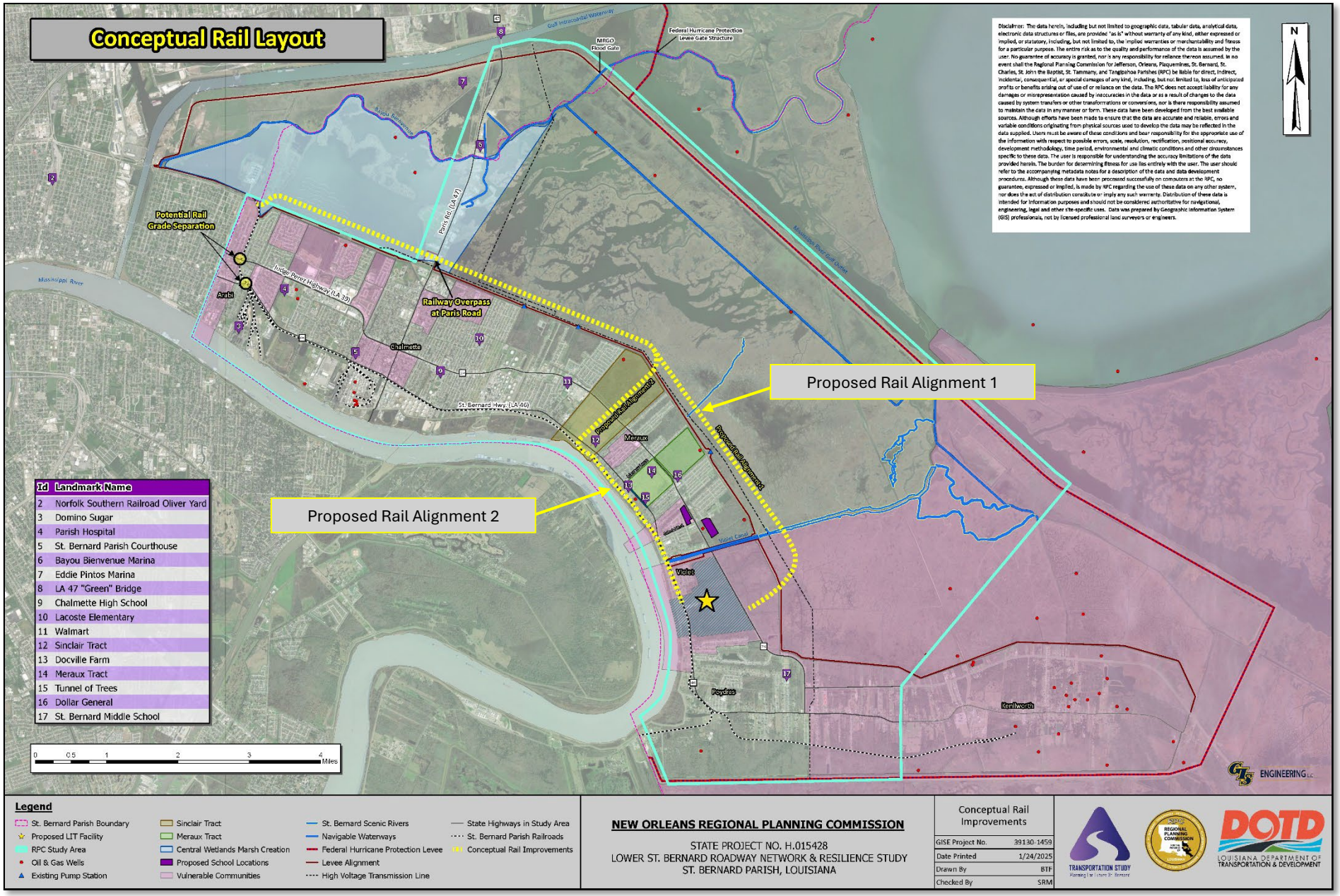


FIGURE 21: CONCEPTUAL RAIL ALTERNATIVE LAYOUT

Conceptual Rail Alternative Alignment 2, also shown in **Figure 21**, would utilize the existing NSRR rail line from the LIT facility to the Sinclair Track and then turn northeastward crossing both St. Bernard Hwy and Judge Perez Drive at-grade. New highway overpasses would be constructed at both of these crossings. Alternative Alignment 2 would then extend over the hurricane protection levee and 40 Arpent Canal and follow the same alignment as Alternative Alignment 1, eventually tying into the existing NSRR rail line near the Orleans Parish line.

Both of the Conceptual Alternative Rail Alignments would provide rail operational efficiencies for the LIT operations and NSRR. These conceptual rail alternatives would also remove the LIT related train traffic from all or a significant portion of the existing NSRR rail line helping to address the community concerns regarding the increased number of LIT trains, train length, noise and vibration. However, it should be noted that the existing NSRR rail line would still have to remain in operation to service existing industrial customers and accommodate growth associated with the existing industrial customer base. The conceptual rail alternative alignments would not address the NSRR concerns regarding encroachment of structures, parking and other uses of the NSRR ROW along the existing rail line as the existing rail line would need to remain in service due to the reasons noted above.

It should also be noted that neither Alternative Rail Alignment eliminates the vehicular delay at the existing St. Bernard Hwy and Judge Perez Drive at-grade NSRR rail crossings. Due to the significant cost and time required to construct either of these conceptual rail alignments, the most effective action to reduce vehicular delay is to evaluate the existing at-grade crossings and construct one or both rail overpasses at St. Bernard Hwy and /or Judge Perez Drive.

9.2 BICYCLE AND PEDESTRIAN IMPROVEMENTS

The St Bernard Parish Bikeway & Pedestrian Plan Update (Soll Planning & Alta Planning + Design, June 2017) was reviewed to identify background information that may be relevant to the study area.

The following are key findings and recommendations of the St. Bernard Parish Bikeway & Pedestrian study that may be applicable to the project's study area and should be considered in the evaluation of proposed infrastructure improvements in the NEPA phase:

- A review of pedestrian and bike crash history from 2012-2014 revealed that these types of crashes were concentrated along the major corridors of Paris Rd (LA 47), Judge Perez Dr (LA 39), and St Bernard Hwy (LA 46) and improvements along these corridors should be a high priority.
- The public input process revealed a significant need for bikeway and pedestrian improvements that involve crossing and travel along the three main state highways in the urbanized area – LA 47, LA 39, and LA 46. These roadways can function as barriers to non-motorized travel and discourage trips that involve them.
- A buffered bicycle lane (conventional bicycle lane paired with a designated buffer space via pavement markings to separate the bicyclists from motor vehicles) is recommended on LA 47 between 40 Arpent Trail and LA 46.
- A separated bicycle lane (protected bicycle lane, includes a vertical element to separate the bicyclists from motor vehicles) is recommended on LA 39 between LA 47 and Jacob Dr (between Campagna Dr and Archbishop Hannan Blvd).

- A shoulder bikeway is recommended on LA 39 between Jacob Dr and Bayou Rd (south of the proposed Port).
- A bicycle lane is recommended on LA 46 between LA 47 and Palmisano Blvd and between Trailhead at Violet Canal and St Bernard Pkwy.
- A shoulder bikeway is recommended on LA 47 between Palmisano Blvd and Trailhead at Violet Canal.
- Several bicycle lanes that will connect with LA 46, LA 47, and LA 39 are recommended on local roadways.
- New sidewalks are recommended along LA 47 from Forty Arpent Canal to E St Bernard Hwy, along LA 39 from Paris Rd to Violet Canal, and along LA 46 from Paris Rd to Poydras junction.
- A bicycle / pedestrian bridge over Paris Rd (LA 47) is recommended at 40 Arpent Canal.

Multiple at-grade pedestrian crossing opportunities are recommended at LA 46, LA 47, and LA 39, including the installation of pedestrian signals, ADA curb ramps, high-visibility crosswalks, and tighter corner radii.

Although bicycle and pedestrian crashes represent the smallest percentage of total crashes, they account for a disproportionately high fatality rate of 62%. Within the St. Bernard Parish study area, the incidence of bicycle and pedestrian crashes increased during the 2017–2021 study period, highlighting the need for these proposed bicycle and pedestrian improvements to be considered when evaluating the proposed infrastructure improvements resulting from this study. Details of pedestrian-involved crashes are provided in **Appendix D** and further discussed in Section 5.4.1 of this report.

The recommended pedestrian and bicycle improvements from the St. Bernard Parish Bikeway & Pedestrian study are shown on the conceptual layouts in **Appendix G** but were not included in the preliminary probable construction costs.

10.0 RESILIENCE ASSESSMENT

Surface transportation resiliency means having the ability for roads and bridges to anticipate, prepare, adapt, respond and recover from changing conditions. A resilience assessment of the transportation system provides an analysis of design factors for roadways and bridges to make them more resilient to St. Bernard Parish's two main categories of critical and prevalent disasters as defined in their "Hazard Mitigation Plan", which are flooding and high wind. **Appendix H** introduces surface transportation resiliency, background information and conceptual resilient transportation design parameters.

11.0 PRELIMINARY COST ESTIMATES

11.1 RAIL/HIGHWAY GRADE SEPARATION

Grade separation between the railroad and highway will reduce traffic wait times and maximize operations. Two existing intersections that have been identified as intersections that will provide immediate congestion relief are the rail intersections of W Judge Perez (LA 39) and St. Bernard Ave. (LA 46). These intersections will require property acquisitions to maintain access. These grade separations are estimated to be in the order of $50MM.

The proposed roadway connections to the proposed Louisiana International Terminal have two grade separations, one at W Judge Perez (LA 39) and at St. Bernard Ave. (LA 46). The expected cost for the Judge Perez (LA 39) grade separation is $50MM and $20MM for St. Bernard Ave. (LA 46).

11.2 EXISTING INTERSECTION IMPROVEMENTS

Preliminary probable construction costs for intersection improvements were estimated. These construction costs as well as costs for engineering design, utility relocation and property acquisition were estimated for the recommended existing intersection improvements based off the traffic analyses. The preliminary layouts and design concepts utilized typical details from the LADOTD and Federal Highway Administration (FHWA) publications as guidance to determine radii, storage lengths, lane geometry, etc. However, more detailed designs and costs will be calculated when design has progressed to the next level and a topographic survey has been conducted.

A 15% contingency was added to the preliminary construction cost since designs and quantity calculations are conceptual at this point. Engineering design was estimated to be 10% of the construction cost but would be adjusted according to industry standard fee curves at the time of design. A cost for utility relocation was estimated for each intersection since utilities such as sewer, water, power, drainage, etc. are typically required to be moved outside of the roadway pavement cross section. A cost for property acquisition was added to cost estimates for the intersections that required a widening for additional lanes and the roundabout. These property acquisition costs are approximate at this time and represent a rough estimate of property to be acquired. When detailed designs are laid out the amount of property to be acquired will be calculated with the current land appraisal value applied to get a more accurate property acquisition cost.

Utilizing these preliminary assumptions and guidance documents, see the preliminary probable costs for intersection improvements that were developed below. A preliminary breakdown of the following cost estimates can be found in **Appendix G.**

PARIS RD AT E JUDGE PEREZ DR (FULL DISPLACED LEFT)
(WITHOUT ELEVATED HIGHWAY)

Preliminary Cost Estimate (Paris @ EJP)	
Construction (includes15% Contingency)	$20,529,800
Utility Relocations/ROW Acquisition	$4,200,000
Engineering Design (10%)	$2,052,980
Total	**$26,782,780**

PARIS RD AT E JUDGE PEREZ DR (ADDITIONAL TURN LANES)
(WITH ELEVATED HIGHWAY)

Preliminary Cost Estimate (Paris @ EJP)	
Construction (includes15% Contingency)	$1,582,400
Utility Relocations/ROW Acquisition	$300,000
Engineering Design (10%)	$158,240
Total	**$2,040,640**

E ST BERNARD HWY AT PALMISANO BLVD (ROUNDABOUT)
(WITH & WITHOUT ELEVATED HIGHWAY)

Preliminary Cost Estimate (ESB @ Palmisano)	
Construction (includes15% Contingency)	$6,482,550
Utility Relocations/ROW Acquisition	$9,100,000
Engineering Design (10%)	$648,255
Total	**$16,230,805**

E JUDGE PEREZ DR AT PALMISANO BLVD (TWO-PHASED SIGNALS)
(NO IMPROVEMENTS REQUIRED IF ELEVATED HIGHWAY IS BUILT)

Preliminary Cost Estimate (EJP @ Palmisano)	
Construction (includes15% Contingency)	$3,307,400
Utility Relocations/ROW Acquisition	$2,100,000
Engineering Design (10%)	$330,740
Total	**$5,738,140**

E ST. BERNARD HWY AT COLONIAL BLVD. (SIGNALIZE INTERSECTION)
(WITH & WITHOUT ELEVATED HIGHWAY)

Preliminary Cost Estimate (ESB @ Colonial)	
Construction (includes15% Contingency)	$1,447,850
Utility Relocations	$50,000
Engineering Design (10%)	$144,785
Total	**$1,642,635**

11.3 ELEVATED HIGHWAY ALTERNATIVES

The preliminary cost estimates for the elevated highway alternatives consider a range of project components, including design, construction of elevated and at-grade roadways, environmental mitigation, utility relocations, and right-of-way acquisition. These estimates also encompass costs associated with mid-level bridges, interchanges, and necessary reconstruction upgrades to existing infrastructure where required. The estimated cost of construction for the elevated highway is based on the total length of the alignment, using an industry-averaged cost per mile.

For an elevated highway with two 12-foot travel lanes and two 8-foot shoulders, the cost per mile is estimated at $72 million. This figure is derived from best engineering judgment and recent bid tabulations from State Project No. H.008145.6: LA 1 – Leeville to Golden Meadow (Phase 2), which shares comparable project characteristics, including an elevated highway structure, a mid-level bridge, and similar environmental and mitigation requirements.

Each elevated highway alternative includes two interchanges—one at LA 47 and another at LA 39. The cost per interchange is estimated at $30 million, based on comparable interchange projects. Mid-level bridge costs are estimated at $12 million per structure, reflecting bid tabulations from the LA 1 project. Additionally, where required, the reconstruction of Judge Perez Highway (LA 39) and Paris Road (LA 47) is estimated at $21 million per mile to accommodate operational improvements and increased axle loads for anticipated port truck traffic. This reconstruction cost is derived using the square yard unit cost from recent bid tabulations from State Project No. H.011137.6: I-12: LA 1077 to LA 21. All bridge related items within the project bid tabulation were removed to only obtain the costs of the at-grade reconstruction of I-12. To compare the build out of these elevated highway alternatives, the portions of LA 39 and LA 47 required full depth reconstruction of existing pavement to meet similar termini. The only alternative that did not have existing reconstruction costs was Alternative 12, which ties into the Port NOLA property and the northern extent of LA 47.

ELEVATED HIGHWAY ALTERNATIVE 12 (C-H-I-P)

Alternative 12 is an 8.9-mile elevated roadway beginning at Paris Road (LA 47) north of Eddie Pinto's Marina. The alignment crosses Bayou Bienvenue via a mid-level bridge, extends southeast over the marsh toward Meraux, parallels the Forty Arpent Canal, and crosses Violet Canal via a second mid-level bridge before turning southwest to terminate directly at the Port of New Orleans' Louisiana International Terminal (LIT) site on Judge Perez Highway (LA 39). This alternative does not require reconstruction upgrades to LA 39 or LA 47 since all port traffic would utilize the new elevated highway, and the interchange on LA 47 would be located just south of the Paris Road "Green" Bridge. **Table 17** below shows the total project cost breakdown for Alternative 12.

TABLE 17: PRELIMINARY OPINION OF PROBABLE COST ALTERNATIVE 12

Preliminary Opinion of Probable Cost Alternative 12 (C-H-I-P)	
Cost Category	**Dollars (millions)**
Right-of-Way (ROW) Acquisition (2%)	$14.5
Utility Relocations (5.5%)	$39.9
Environmental Mitigation and Permitting Costs (2.5%)	$18.1
Engineering & Design and CE&I (10%)	$72.5
Estimated Pre-Construction Costs	**$145.0**
Elevated Highway Costs ($72M/mile)	$640.8
Mid-Level Bridge over Violet Canal and Bayou Bienvenue ($12M/bridge)	$24.0
Interchanges at LA39 and LA 47 ($30M/Interchange)	$60.0
Estimated Construction Costs	**$724.8**
Contingency of Estimated Construction Costs (15%)	**$108.7**
Total Estimated Project Cost	**$978.5**

ELEVATED HIGHWAY ALTERNATIVE 22 (G-E-H-I-P)

Alternative 22 is an 8.1-mile elevated roadway originating at Paris Road (LA 47) near its intersection with Forty Arpent Canal Road. The alignment parallels the Forty Arpent Canal, crosses Violet Canal via a mid-level bridge, then turns southwest to terminate at the LIT site on Judge Perez Highway (LA 39).

This alternative requires reconstruction of LA 47 northward to the Paris Road "Green" Bridge (approximately 2.3 miles) to support increased truck traffic along Paris Rd. **Table 18** below provides a total project cost breakdown for Alternative 22.

TABLE 18: PRELIMINARY OPINION OF PROBABLE COST FOR ALTERNATIVE 22

Preliminary Opinion of Probable Cost Alternative 22 (G-E-H-I-P)	
Cost Category	**Dollars (millions)**
Right-of-Way (ROW) Acquisition (2%)	14.07
Utility Relocations (5.5%)	$38.7
Environmental Mitigation and Permitting Costs (2.5%)	$17.6
Engineering & Design and CE&I (10%)	$70.4
Estimated Pre-Construction Costs	**$140.7**
Elevated Highway Costs ($72M/mile)	$583.2
Mid-Level Bridge over Violet Canal ($12M/bridge)	$12.0
Reconstruction along LA 47 ($21M/mile)	$48.3
Interchanges at LA39 and LA 47 ($30M/Interchange)	$60.0
Estimated Construction Costs	**$703.5**
Contingency of Estimated Construction Costs (15%)	**$105.5**
Total Estimated Project Cost	**$949.7**

ELEVATED HIGHWAY ALTERNATIVE 25 (G-E-S)

Alternative 25 is an approximately 4.7-mile roadway originating at Paris Rd. (LA47) near Forty Arpent Canal Rd. The alignment parallels Forty Arpent, elevated through the marsh. The roadway then turns southwest and transitions to an at-grade section through the Meraux tract, ultimately tying into Judge Perez Highway (LA39) between Maureen Lane and St. Marie Dr. The final tie-in point will be further evaluated and decided upon in the NEPA and Preliminary design phase. Alternative 25 would require the most reconstruction upgrades to existing state routes of the final 3 alternatives. This alternative would require reconstruction of both LA 47 and LA 39, totaling approximately five and half miles of roadway reconstruction. **Table 19** below provides a total project cost breakdown for Alternative 25.

TABLE 19: PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST ALTERNATIVE 25

Preliminary Opinion of Probable Cost Alternative 25 (G-E-S)	
Cost Category	**Dollars (millions)**
Right-of-Way (ROW) Acquisition (2%)	$10.3
Utility Relocations (5.5%)	$28.3
Environmental Mitigation and Permitting Costs (2.5%)	$12.8
Engineering & Design and CE&I (10%)	$51.4
Estimated Pre-Construction Costs	**$102.8**
Elevated Highway Costs ($72M/mile)	$338.4
Mid-Level Bridge	$0.0
Reconstruction along LA 39 and LA 47 ($21M/mile)	$115.5
Interchanges at LA39 and LA 47 ($30M/Interchange)	$60.0
Estimated Construction Costs	**$513.9**
Contingency (15%)	**$77.1**
Total Estimated Project Cost	**$693.8**

Funding and Financial Feasibility

- Federal and State Grants:
- Local Government Contributions:
- Public-Private Partnerships (P3):
- Bond Financing:

These are preliminary cost estimates and serve as a starting point for financial planning and funding strategies. These cost estimates will have to be refined as the projects move through the environmental phase and into detailed engineering.

11.4 RECONSTRUCTION OF LA 39 AND LA 47

In accordance with the project's preliminary purpose and need, the project team evaluated potential intersection improvements along the existing state routes in the study area, as discussed in section 8 of this report, to improve traffic operations. However, it is also important to consider the existing road surface conditions and axle load capacity of the roadways that will be utilized if the elevated highway alternatives are not constructed. The route that port truck traffic would have to utilize if the elevated highway is not constructed along LA 39 and LA 47 is approximately 10 miles from the port facility to just south of the LA 47 "Green" Bridge, and it is likely that major reconstruction of Judge Perez Highway (LA 39) and Paris Rd. (LA 47) would need to be considered. As noted in the previous section, the cost per mile for existing roadway reconstruction is estimated to be around $21 Million per mile. This would result in a reconstruction cost of roughly $210 Million. Aspects of improvements to be considered:

Structural Improvements

- Pavement Strengthening – upgrading the pavement structure to handle increased axle loads and high traffic volumes. This may involve full depth reconstruction or overlay with reinforced asphalt or concrete.
- Subgrade stabilization – improving the foundation beneath the pavement to support heavier loads, which may include soil stabilization or aggregate base reinforcement.
- Bridge reinforcement or replacement – strengthening existing bridges or constructing new ones to support heavier truck loads.

Geometric Improvements

- Lane Widening – expanding lanes to 12-foot width or wider for improved truck maneuverability.
- Shoulder Improvements – Adding or widening shoulders to provide recovery space for vehicles and accommodate stopped trucks.

Environmental and Community Considerations

- Noise and Vibration Mitigation – Installing sound barriers or vibration dampening measures near sensitive areas.
- Community Impact Mitigation – implementing landscaping, lighting, and pedestrian/bicycle accommodations.

TABLE 20: RECONSTRUCTION COST OF LA 39 AND LA 47

Preliminary Opinion of Probable Reconstruction Cost	
Cost Category	**Dollars (millions)**
Engineering & Design and CE&I (10%)	$21.0
Estimated Pre-Construction Costs	**$21.0**
Reconstruction along LA 39 and LA 47 ($21M/mile)	$210.0
Estimated Construction Costs	**$210.0**
Contingency (15%)	**$31.5**
Total Estimated Project Cost	**$262.5**

12.0 ELEVATED HIGHWAY ALTERNATIVE COMPARISON SUMMARY

The evaluation of the elevated highway alternatives for the Lower St. Bernard Transportation Network considered multiple factors across three rounds of screening, as well as additional considerations such as right-of-way (ROW) acquisition, the number of affected parcels and structures, and utility impacts. The screening processes assessed key metrics through multiple rounds of screenings. Among the alternatives analyzed, **Alternative 12 (CHIP), Alternative 22 (GEHIP), and Alternative 25 (GES)** emerged as the top-performing alternatives.

The following sections provide a summary of how the top three elevated highway alternatives performed throughout the screening process.

PERFORMANCE ACROSS SCREENING ROUNDS

ROUND 1 SCREENING RESULTS

In the first round of screening, Alternative 12, Alternative 22, and Alternative 25 met all the required criteria, including:

- Alignment with the purpose and need of the project.
- Location within the study area.
- Feasibility of construction.
- No impacts to protected species' critical habitats.
- No impacts to known Section 4(f) resources.

ROUND 2 SCREENING RESULTS

In the second screening round:

- **Port Expansion Potential:** All three alternatives scored high in their ability to support future expansion to the Port LIT Property.
- **Impacts to Vulnerable Communities:** Alternative 12 and Alternative 22 did not negatively impact vulnerable communities, while Alternative 25 would have some negative impacts, as it would route traffic through the Sinclair tract and existing vulnerable communities.
- **Wetland Impacts:** Alternative 12 impacts 216 acres, Alternative 22 impacts 194 acres, and Alternative 25 impacts 109 acres—giving Alternative 25 an advantage in minimizing wetland disruption.
- **Bridge Requirements:** Alternative 12 requires two mid-level bridges over waterways, Alternative 22 requires one, and Alternative 25 does not require any, making it the most favorable in this category.
- **Overall Ranking:** Alternative 22 achieved the highest overall score in Round 2 among these three alternatives.

ROUND 3 SCREENING RESULTS

- **Existing Road Network Capacity Improvements:** Alternative 12 scored medium, Alternative 22 scored low, and Alternative 25 scored medium.
- **Positive Enhancements to Local Communities:** Alternative 12 and Alternative 22 scored high as they would divert traffic away from local communities, while Alternative 25 scored low due to utilizing existing infrastructure in these areas.

- **Community Preference:** Alternative 12 received a medium ranking, Alternative 22 received a high ranking, and Alternative 25 received a medium ranking, based on public preference.
- **Future Rail Compatibility:** Alternative 12 and Alternative 22 scored high, while Alternative 25 scored medium.
- **Estimated Total Project Cost:**
    - Alternative 12: **$978.5M**
    - Alternative 22: **$949.7M**
    - Alternative 25: **$693.8M**
- **Overall Ranking:**
    - Alternative 12: **9 points**
    - Alternative 22: **9 points**
    - Alternative 25: **9 points**

ADDITIONAL CONSIDERATIONS NOT INCLUDED IN SCREENING ROUNDS

The number of acres impacted, number of parcels and structures affected, and the amount of utilities impacted by these alternatives should be considered in next stage of environmental review. The impacts to these were calculated using a 200-ft buffer template placed around each of the alternatives.

Factor	Alternative 12 (CHIP)	Alternative 22 (GEHIP)	Alternative 25 (GES)
ROW Acquisition (Acres)	218	198	114
Parcels Affected	7	39	34
Structures Affected	0	0	0
Utility Impact (LNFT)*	4,790	5,623	4,067

*Utility impacts based on permits from Louisiana DENR permit database.

FINAL CONSIDERATIONS

Each alternative presents trade-offs between land acquisition, utility relocation costs, and the complexity of ROW negotiations:

- **Alternative 12** is the most favorable in terms of minimal landowner impact, reducing potential delays in the Right of Way Acquisition phase, and scored the highest in Round 3.
- **Alternative 22** had the highest Round 2 score and ranked high in community preference but requires the most parcel acquisitions and utility relocations.
- **Alternative 25** has the lowest ROW acquisition and wetland impact and is the most cost-effective but ranks lower in local community enhancements and capacity improvements.

The final selection should balance cost efficiency with feasibility in ROW acquisition, utility relocations, and environmental and community considerations to minimize delays and financial risk.

13.0 PLANNING AND ENVIRONMENTAL LINKAGE (PEL) QUESTIONNAIRE

Th PEL questionnaire is intended to act as a summary of the Planning process and expedite the transition from planning to a National Environmental Policy Act (NEPA) analysis. This questionnaire is consistent with the 23 CFR 450 (Planning regulations) and other FHWA policy on Planning and Environmental Linkage (PEL) process. The Planning and Environmental Linkages study (PEL Study) is used in this questionnaire as a generic term to mean any type of planning study conducted at the corridor or subarea level which is more focused than studies at the regional or system planning levels. For this specific project PEL study will be referencing The Lower St. Bernard Roadway Network & Resilience Study. FHWA will use this questionnaire to assist it in determining if the study meets the requirements of 23 CFR §§ 450.318. The questionnaire is presented as **Appendix K.**

14.0 CONCLUSIONS

The Stage 0 Feasibility Study for the Lower St. Bernard Transportation Network evaluated potential transportation improvements to support future growth, particularly in response to the anticipated Port NOLA facility. The study examined multiple elevated highway alternatives and improvements to existing infrastructure, considering connectivity, traffic capacity, economic development, environmental impacts, and community concerns.

Key findings from the study include:

- The need for improved system linkage between I-510/LA 47 and Lower St. Bernard Parish to accommodate economic expansion and regional growth.
- The importance of intermodal connectivity to enhance freight movement and support the operations of the Port NOLA facility.
- The projected increase in traffic demand, necessitating capacity enhancements to manage congestion and maintain efficient transportation operations.
- The need to minimize negative impacts on local communities by reducing truck traffic on existing state routes.

The study conducted a three-tiered screening process to evaluate 32 elevated highway alternatives, ultimately identifying three viable options—Alternative 12, Alternative 22, and Alternative 25—that best meet the project's Preliminary Purpose and Need. These alternatives will progress into the Stage 1 Planning and Environmental phase for further environmental analysis and design refinement.

The existing intersection improvement recommendations are presented both with and without the elevated highway alternatives. If an elevated highway alternative is not constructed, the estimated cost of existing intersection improvements is approximately $52M. Alternatively, should one of the elevated highway alternatives be constructed, the existing intersection improvements cost would reduce to approximately $ 49.5M.

Additionally, the study considered the reconstruction of existing state routes between the Port Nola facility and the I-10/I-510 interstate system if an elevated highway alternative is not constructed, at an estimated cost of approximately $262.5 million. This reconstruction cost plus the intersection improvements, without an elevated highway alternative, totals roughly $314.5M. The tables below show a breakdown of each plausible scenario and its associated cost.

Without Elevated Highway Scenario	
Description	**Total Project Cost (in Millions)**
Reconstruction of LA 39 & LA 47	$262.5
Existing intersection improvements	$52
Total Investment	**$314.5**

With Elevated Highway Alt. 12 Scenario	
Description	**Total Project Cost (in Millions)**
Elevated Highway Alternative 12	$833.52
Existing intersection improvements	$49.5
Total Investment	**$883.02**

With Elevated Highway Alt. 22 Scenario	
Description	**Total Project Cost (in Millions)**
Elevated Highway Alternative 22	$809.02
Existing intersection improvements	$49.5
Total Investment	**$858.52**

With Elevated Highway Alt. 25 Scenario	
Description	**Total Project Cost (in Millions)**
Elevated Highway Alternative 25	$590.99
Existing intersection improvements	$49.5
Total Investment	**$640.49**

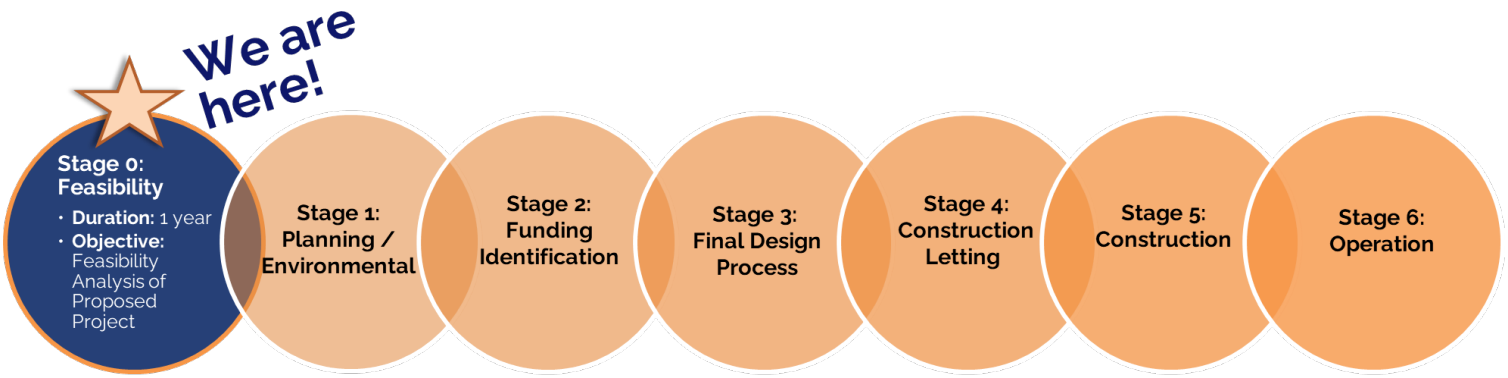
This report has been prepared in accordance with the Planning and Environmental Linkages (PEL) approach and will be reviewed by the Federal Highway Administration (FHWA) and the Louisiana Department of Transportation and Development (LADOTD) for potential incorporation—either in full or in part—into the Stage 1 Planning and Environmental phase.

23 CFR 450.318 was selected as the guiding federal regulation to ensure that this study aligns with FHWA planning requirements and facilitates a seamless transition from feasibility analysis to project implementation. Under 23 CFR 450.318, planning studies can be used to inform the National Environmental Policy Act (NEPA) process without a strict time limitation, provided the information remains valid, accurate, and applicable at the time of NEPA review. If federal or lead agencies determine that any information has become outdated, additional studies may be required.

The recommendations outlined in this study establish a framework for future transportation improvements by integrating stakeholder input, environmental considerations, and planning feasibility.

Next steps include:

1. FHWA and LADOTD review of the PEL Study to determine how it can be incorporated into the Stage 1 Planning/Environmental process.
    - Time Required for Stage 1: 1-3 years
    - Outcome of Stage 1: Conceptual Design and environmental decision, scope and budget memorandum.
2. Public input and recommendations from this study to inform the Metropolitan Transportation Plan.



15.0 PROJECT TEAM

In October of 2023, the New Orleans Regional Planning Commission contracted with GIS Engineering, LLC and a team of sub-consultants to conduct a Stage 0 Planning and Environmental Linkage Study as part of State Project No. H.015428: Lower St. Bernard Roadway Network & Resilience Study with the ultimate purpose of the project to identify a feasibly constructable connector road between I-510 and Lower St. Bernard Parish.

Members of the project team include:

NEW ORLEANS REGIONAL PLANNING COMMISSION:

- Jeff Roesel
- Karen Parsons
- Tosha Shanableh
- Malissa Givhan
- Lynn Dupont
- Leslie Couvillion
- Tom Haysley

GIS ENGINEERING, LLC.

- Jacob Loeske
- Sam Mestayer
- Brandi Fontenot
- Connor McCarthy
- Andy Fontenot
- Mohan Menon

MEYER ENGINEERS

- David Dupre
- Ann Theriot
- Tyler Gettys
- Alex Carter
- Evelyn Campo

URBAN SYSTEMS INC.

- Nicole Stewart
- Fadi Madi

AECOM

- Tom Hunter
- Greg Trahan
- Derek Chisholm

CDM SMITH

- Richard Tillery

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