



# Plank-Nicholson Bus Rapid Transit

## Baton Rouge, Louisiana

**2019 BUILD Grant Application**

Submitted by the City of Baton Rouge, Parish of East Baton Rouge, Louisiana

Point of Contact: Melissa Glascock, Department of Transportation & Drainage



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**SHARON WESTON BROOME**  
**Mayor-President**

July 15, 2019

The Honorable Elaine Chao  
US Department of Transportation  
1200 New Jersey Ave, SE  
Washington, DC 20590  
United States

**Reference:** Baton Rouge BUILD Grant Application for the Plank-Nicholson Bus Rapid Transit Project

Dear Secretary Chao:

The City of Baton Rouge-Parish of East Baton Rouge (City-Parish), Louisiana is pleased to submit this application for **\$15 million** in grant funding from the Better Utilizing Infrastructure to Leverage Development (BUILD) program.

After our election to office, we transformed a light rail project into the Plank-Nicholson Bus Rapid Transit (BRT) project. The savings-per-mile from that transformation allowed us to double the length of the service route while capitalizing on the existing planning and environmental processes already undertaken.

In partnership with the Capital Area Transit System (CATS), the Capital Region Planning Commission, our Metropolitan Planning Organization; the Louisiana Department of Transportation and Development (LADOTD); and Build Baton Rouge, our land redevelopment authority, we have committed a total of **\$17.5 million in local funding** exceeding the amount requested for the BUILD grant. Another \$7 million in federal funds programmed for CATS are also committed to this project. The BUILD funds requested represent only 37% of total project costs.

The value added from in-kind contributions provided by other community partners and projects cannot be overlooked. The Plank Road Master Plan (Build BR), the EBR Pedestrian-Bike Master Plan (Baton Rouge Recreation Commission and LADOTD), Louisiana State University Campus Master and Mobility Plans, and my Healthy City Initiative have provided public outreach activities promoting transit in general and the BRT project in particular. Build BR is looking for properties in its land bank for future transit-oriented development (TOD) along the BRT corridor. We will inaugurate a bikeshare program this month and CATS is implementing a micro-transit demonstration project. Both these activities will address the final mile issue for many transit riders and connect users to a robust active transportation network.

Secretary Chao  
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Input from the public has been overwhelmingly positive. Our leaders are keenly aware that great cities offer premium transit services. Our employers are anxious to expand their pool of available workers. Our students want reliable transportation options. The City-Parish is determined to provide these benefits, and improve the safety, economic prosperity, and quality of life for all our citizens.

A positive response to this grant application is all that we need to complete the project. Please partner with us to fully leverage the resources that the City-Parish is bringing to the table in answer to the President's call for more sustainable infrastructure investments.

Sincerely,

A handwritten signature in blue ink, reading "Sharon Weston Broome", with a long horizontal flourish extending to the right.

Sharon Weston Broome  
Mayor-President

Attachment



## Project Description

### Project Summary

The City of Baton Rouge-Parish of East Baton Rouge (City-Parish) in Louisiana, in partnership with the Capital Area Transit System (CATS) and Build Baton Rouge, envision a **transformational transportation investment** to link the neighborhoods of north and south Baton Rouge to the City-Parish's largest employment centers, institutions, commercial centers, and cultural destinations. **The Plank-Nicholson Bus Rapid Transit (BRT) project** will be Baton Rouge's (and the State of Louisiana's) first BRT line and will serve as a **central spine to the region's transit system**. The nine-mile route will transform Baton Rouge by providing **high-quality, high-frequency, and high-capacity transit service** connecting North Baton Rouge, downtown, and the Louisiana State University (LSU) campus.

The \$40.2 million project will feature enhanced stations with real-time information and level boarding, unique branded vehicles and other enhancements designed to make the line attractive to existing riders and prospective riders alike. Additional corridor infrastructure improvements will enhance connectivity to stations, improve pedestrian safety, streamline traffic and transit operations, and add to overall effectiveness of Plank-Nicholson BRT.

The Plank-Nicholson BRT will expand local and regional mobility options, improve job access, support transit-oriented development (TOD) and enhance livability along the corridor. The BRT project has evolved from an initial TramLinkBR modern streetcar proposal along Nicholson Drive. City leaders re-envisioned the project as a BRT line, doubling the length of the route and extending the reach of the investment to the North Baton Rouge and Mid City communities. The BRT will connect regional medical facilities, governmental centers, colleges and universities, commercial centers, the downtown Central Business District, and residents along Plank Road, Florida Street, and Nicholson Drive urban arterials. Initial planning has been completed and a Project Definition Study has further refined the project. Current efforts to be completed by the end of 2019 include National Environmental Policy Act (NEPA) clearance of the corridor and advanced conceptual planning.

#### *Goals of the Plank-Nicholson BRT include:*

- Provide a modern, efficient and reliable transit option that increases the attractiveness and utilization of transit service.
- Address the transportation needs of residents and workers by improving mobility between neighborhoods, employment centers, and major destinations.
- Enhance multimodal connections by integrating BRT with the existing and future transit network, bicycle facilities, pedestrian network and planned passenger rail system.
- Support neighborhood revitalization and economic development by leveraging the Plank Road Corridor Master Plan, downtown investments, and Nicholson Drive growth to drive transit-oriented development.
- Increase pedestrian activity and calm traffic to provide safer street conditions that generate transit ridership, improve aesthetics and support small business activity.

Several major components of the Plank-Nicholson BRT have been identified as instrumental to the success of the project and benefit to the community.

### Vehicles

Most BRT systems use stylized buses to distinguish BRT vehicles from the rest of the transit fleet. The Plank-Nicholson BRT will feature a fleet of uniquely stylized and branded BRT vehicles. Project partners intend to use **fully electric BRT buses** to enhance air quality and passenger experience.

### Effective Use of Technology

In addition to electric bus technology, stations will feature **real-time arrival (RTA) displays** providing arrival times and schedule information directly to customers. RTA information improves customer experience by increasing perceived reliability and making transit service more attractive and accessible.

### Transit Signal Priority (TSP)

Targeted street improvements and signal upgrades along the route are being evaluated to enhance safety in the corridor and improve the operational efficiency of the Plank-Nicholson BRT service in mixed traffic. TSP, along with signal technology upgrades, street improvements and corridor design efforts will help the BRT achieve faster travel times, improve schedule adherence and reliability.

### Stations

Modern stations with passenger amenities will be constructed for the Plank-Nicholson BRT. These high-visibility, uniquely branded and accessible stations will each include a shelter, level boarding platform, station vertical marker, RTA displays, bicycle facilities, benches, and trash receptacles.

**Figure 1: Typical BRT Station along Plank Road**



### Corridor Sidewalk and Intersection Improvements

Much of the corridor lacks basic pedestrian infrastructure and the project will prioritize installation of sidewalks and intersection treatments including crosswalks, pedestrian signals, and ADA improvements. Due to average traffic speeds, safety, and right-of-way constraints, bicyclists will be encouraged to use parallel routes with key connections to stations along the BRT corridor. Sidewalks vertically separated from vehicular traffic will be a key feature and improvement for pedestrians.

The total capital cost to purchase vehicles, construct stations, and implement roadway and sidewalk improvements is estimated at \$40.2 million. This cost would be funded through a combination of federal, state and local sources. Federal funding will cover approximately 56 percent of the total project costs. Planned federal funding sources include the US DOT's BUILD Program, FTA's 5339 Bus Capital, and the Federal Surface Transportation Program (STP). Local sources include funding from the LaDOTD's road transfer program, Baton Rouge's MoveBR Infrastructure Enhancement and Traffic Mitigation Plan sales tax recently approved by City-Parish voters, and CATS capital funding sources.

The preliminary funding program includes:

- \$22.7 million Federal Sources
- \$6.6 million Road Transfer Program
- \$9.0 million MOVEBR Sales Tax
- \$1.9 million CATS Capital Funding

Additional operating costs of approximately \$1 million annually would be funded through CATS operating budget. CATS will operate the BRT line as part of their regional transit network and has .

### Project Need and Challenges to be Addressed

Plank Road is one of CATS' highest ridership corridors serving a high percentage of **transit-dependent passengers** and passing through neighborhoods with high concentrations of minority and low-income residents. Recent focus along the corridor has spurred investment in infrastructure and revealed economic development opportunities. An investment in the Plank-Nicholson BRT project will provide an impetus for additional investment in the corridor as demonstrated by BRT in other communities.

The challenges to be addressed with the Plank Corridor BRT include:

- **Enhance Transit Mode Choice** – Provide a modern, efficient and reliable transit option that increases the attractiveness and utilization of transit service.
- **Expand Transportation Accessibility** – Address transportation needs of residents and workers by improving mobility among neighborhoods, employment centers, and major destinations.
- **Transit Service Gaps** – Enhance multimodal connections by integrating BRT with the existing and future transit network, bicycle facilities, pedestrian network, and planned passenger rail system.
- **Economic Development** – Support neighborhood revitalization and economic development by leveraging the Plank Road Corridor Master Plan, Downtown Development District improvements, and state investments along Nicholson Drive to spur transit-oriented development.
- **Multimodality and Transit-Oriented Development** – Increase pedestrian activity and calm traffic to provide safer street conditions that generate transit ridership, improve aesthetics and support small business activity.
- **Corridor Safety and Walkability** – Improve safety of people who walk, bicycle, and use transit along Plank Road, the City-Parish's highest crash density and crash risk corridor.



## Project History

The planning and design efforts for the Plank-Nicholson BRT leverage previous work completed for the TramLinkBR project, and will implement many recommendations from previous plans and studies. These studies will inform and strengthen the project, and include the Plank-Nicholson BRT Project Definition Report (2019), FUTUREBR Comprehensive Plan (2018), Plank Road Corridor Master Plan (underway), East Baton Rouge Pedestrian & Bicycle Master Plan (underway), Florida & Plank Corridor Study (2016), Bicycle and Pedestrian Mobility Assessment of Old South Baton Rouge (OSBR) Neighborhood (2015), Nicholson Corridor Plan (2014), LSU Campus Master Plan (2017) and the LSU Mobility Plan (underway).

### Plank-Nicholson BRT Project Definition Report (2019)

- Documents the transition from TramlinkBR to BRT.
- Identifies preferred alternative for BRT route.
- Includes public and stakeholder outreach to prioritize improvements and communicate project details.

### FuturEBR Comprehensive Plan (2018)

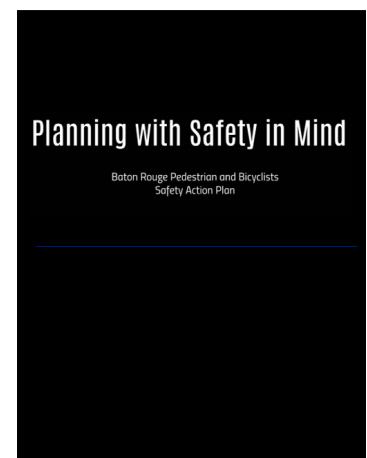
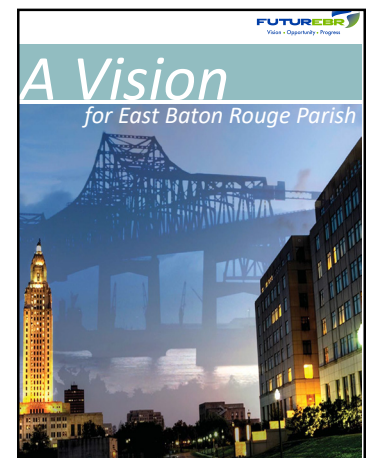
- Recognizes three employment centers adjacent to the BRT route
- Proposes several areas for mix-used flanking the BRT route, a reflection of the community's vision to maintain and revitalize the traditional neighborhood developments once prevalent along the corridor.
- Encourages even denser development in the core of downtown.

### Plank Road Corridor Master Plan (2019)

- Addresses land, economic, and community development for the corridor and adjacent neighborhoods through a comprehensive corridor master plan.
- Focuses on TOD and revitalization to address blighted areas.
- Identifies tools including land banking of adjudicated parcels and greater transit investment through BRT as key components of the larger Plank Road Project.

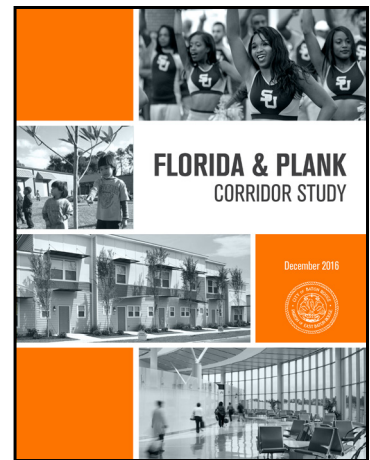
### Baton Rouge Bike/Ped Safety Action Plan (2016) and East Baton Rouge Pedestrian & Bicycle Master Plan (underway)

- Acknowledges high number of bicyclist and pedestrian fatal crashes and identified the Plank and Nicholson corridors as high fatality corridors.
- Prioritizes future infrastructure improvements based on safety analysis.



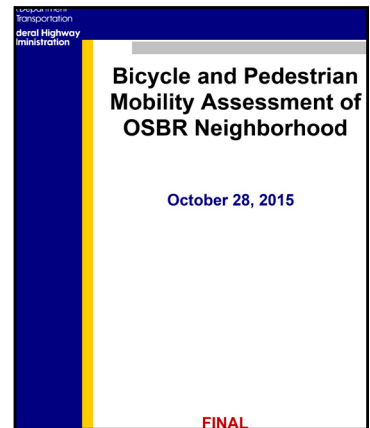
### Florida and Plank Corridor Study (2016)

- Identifies key actions to expand housing options, encourage economic development, improve transit use, and ensure mobility for all users.
- Recommends closing gaps and improving connectivity for pedestrians, bicyclists, and transit users along Plank Road and Florida Street.
- Recommends BRT routes along Florida Road and Plank Street to provide high-quality service.



### Bicycle and Pedestrian Mobility Assessment of OSBR Neighborhood (2015)

- Identifies gaps in accessibility for non-motorized users.
- Conducts a mobility assessment that was used to inform station locations for the Plank-Nicholson BRT.
- Recommends infrastructure improvements to improve bike and pedestrian accessibility.



### Nicholson Corridor Plan (2014)

- Defines the vision for Nicholson Drive as a high-capacity transit corridor to address congestion, connect LSU to downtown, and spur corridor revitalization.
- Defines high-capacity transit and recommends a route along Nicholson Drive.



### LSU Campus Master Plan (2017)

- Guides development and capital investment on the campus.
- Recommends strategies for enhancing campus facilities, infrastructure, and new development to accommodate growth.
- Identified the needs for an LSU Mobility Plan (currently underway).

### LSU Mobility Plan (underway)

- Recommends a campus mobility system intended to shift the balance of mode choice towards greater transit use, walking, and biking.



## ***Broader Context – Other Local Transportation Infrastructure Investments***

In the Spring of 2019 voters in Baton Rouge **overwhelmingly passed a ½-cent sales tax** to advance the MovEBR Infrastructure Enhancement and Traffic Mitigation Plan. The tax, which is **expected to generate \$1 billion over 30 years**, will fund nearly 70 transportation and infrastructure projects across the region to modernize the area's transportation system. The program includes the following:

- \$636M for new capacity improvements- new roadways or existing roadways / intersections where additional through lane capacity and increased turning lane capacity will be constructed to increase the volume capacity of the roadway.
- \$170M for improving existing corridors- existing roadway corridors that will be reconstructed to provide resurfacing, access management, signal synchronization, turning lane improvements, ADA compliance features, cycling paths, or sidewalks.
- \$66M for constructing community enhancement road projects- represents existing roadways that may be improved with resurfacing, repairing, enclosing drainage ditches, lighting, curbs, sidewalks, or landscaping.
- \$40M for Parish-wide signalization/synchronization- equipment/software updates to the Advanced Traffic Management Center facility and upgrading over 400 existing traffic signals throughout the Parish with increased fiber connectivity and uninterruptable power supplies.

Several projects funded through the MovEBR will occur in the proposed BRT corridor and support BRT investment. These projects include:

- Lane capacity improvements along Airline Highway
- Plank Road corridor enhancements including access management, signalization, and turning movement improvements
- Florida Blvd corridor enhancements including access management, signalization, and mobility improvements
- Parish-wide ADA compliance projects
- Parish-wide signalization/synchronization projects

The LaDOTD has established a road transfer program to right-size the State Highway System. The program involves transferring roads to local governments that do not fit the state's role in the highway network. Prior to the transfer of a roadway, LaDOTD will fund repairs and improvements and the local governments will then be responsible for maintaining the roads. The repairs and improvements represent a capital investment in a corridor without funding from the City. Both Plank Road and Nicholson Drive are included in the road transfer program and are eligible for these upgrades, including funding BRT-related roadway, sidewalk, and intersection improvements.

## ***Related Transportation Investments***

CATS is in the process of modernizing transit for the Baton Rouge region. A number of efforts are under way to respond to the changing needs of the ridership and attract new riders to the system. CATS is currently conducting a Capital Improvements and Investments Plan with over \$30 million in identified improvements.



As part of their commitment to the environment, CATS recently procured their first all-electric buses, scheduled to be put into service in the Fall of 2019 as part of a fleet modernization program. The planned Plank-Nicholson BRT line will also utilize all-electric buses, providing a clean, quiet, energy efficient and modern ride for passengers. Additional improvements included in the plan are upgrades to stops, transit hubs and other facilities in the system.

## Project Location

### Regional Context

The Plank-Nicholson BRT will expand local and regional mobility options, improve job access, support transit-oriented development (TOD) and enhance livability along the corridor.

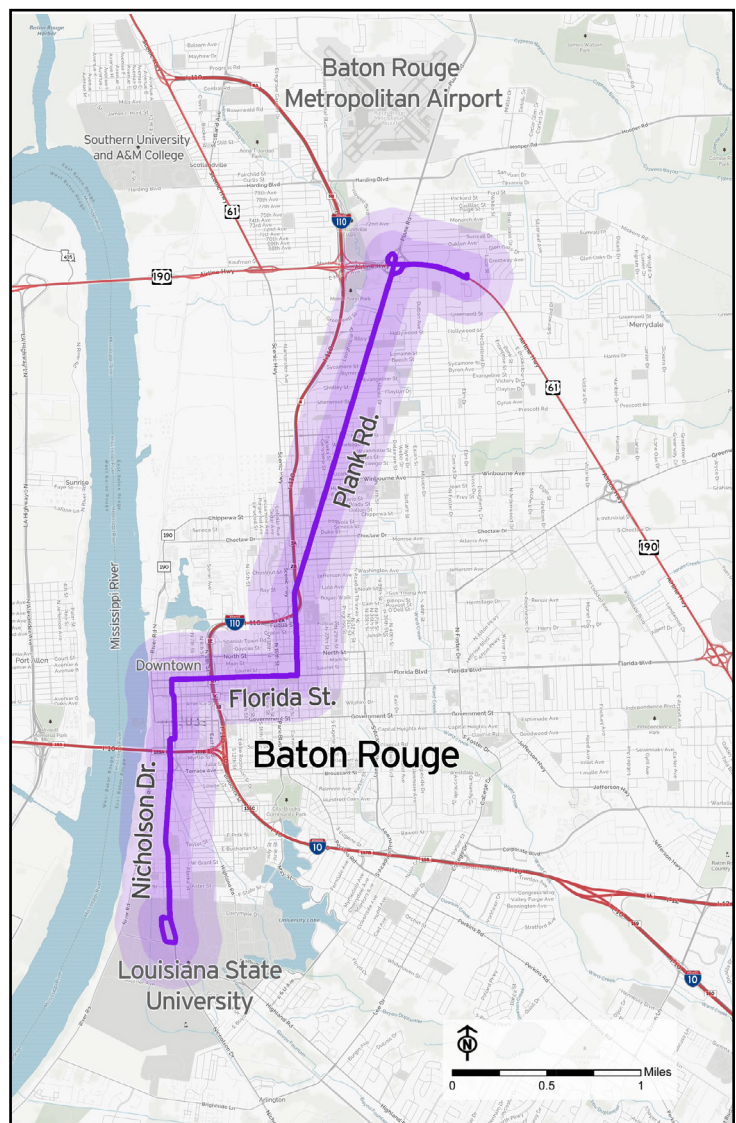
The Plank-Nicholson route is approximately nine miles in length (one way) between North Baton Rouge (Airline Highway) and the Louisiana State University (LSU) campus. The BRT will connect regional medical facilities, governmental centers, colleges and universities, commercial centers, the downtown Central Business District, residents along Plank Road, Florida Street, and Nicholson Drive urban arterials.

The reimagined BRT project extends the reach of the transit investment through downtown and North Baton Rouge, building upon the work completed to date along Nicholson Drive.

The project is led by the City-Parish in partnership with CATS, the regional transit provider, and Build Baton Rouge. CATS will operate the new BRT service upon the start of revenue operations. This is the first phase of a regional BRT network that will serve the residential communities in the adjacent parishes of Livingston, Ascension, and West Baton Rouge.

- State: Louisiana
- Urbanized Area: Baton Rouge, LA Urbanized Area
- Urbanized Area Regional Population: 609,128 (2017 American Community Survey)
- City: Baton Rouge
- City Population: 229,000 (2010 Census)
- Parish: East Baton Rouge
- Baton Rouge Council Districts 5,7, and 10

**Figure 2: Project Location Map**

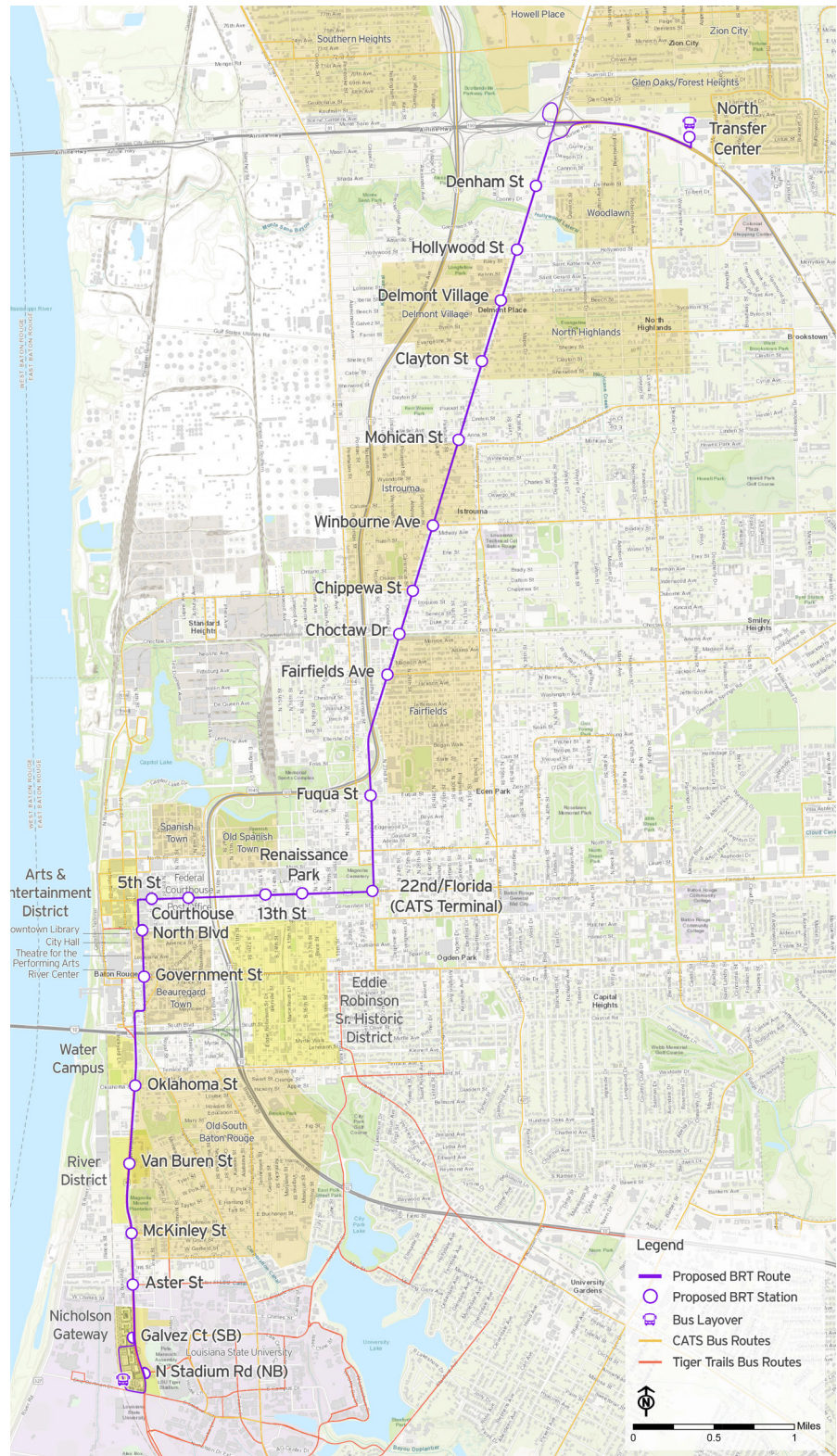


## Route Specifics

The BRT route alignment and conceptual station locations are shown in Figure 3. The BRT will run from the North Transfer Center planned for a location near the existing EKL Transit Hub to Plank Road. The route will cross I-110 and transition to 22nd Street south to Florida Street. The route proceeds west along Florida Street to 4th Street in downtown Baton Rouge, then turns south. Running along 4th Street, the BRT service will transition one block west to St. Louis Street at Europe Street and continue south. St. Louis Street eventually becomes Nicholson Drive, and the route will continue to the LSU campus and terminate with a layover area near Skip Bertman Drive.

The route will connect riders throughout the city through efficient transfers to other local routes. The service will connect with several other routes at the proposed north transfer center, Plank Road and Winbourne Avenue intersection, Plank Road and Fairfields Avenue intersection, and the CATS terminal at Florida and North 22nd Street, another major transfer point. Future connections among the Plank-Nicholson BRT and local routes will be further evaluated in future project phases.

**Figure 3: Plank-Nicholson BRT Route**



The Plank-Nicholson BRT is planned to include 44 station locations, a transfer center and a layover location near the LSU campus. The stations will be located within the existing right-of-way along the route. The transfer center will be located on a parcel that is currently owned by CATS, and the layover location is expected to be secured through a shared-use agreement with LSU.



## Service Plan

The Plank-Nicholson BRT is anticipated to operate at 15-minute headways during the AM peak (5:30 a.m. to 9:00 a.m.) and PM peak (3:00 p.m. to 6:30 p.m.). BRT service is anticipated to operate with 20-minute headways during the midday and 30-minute headways in the early morning, late evening and night. The service will run from 5:00 a.m. to 12:00 a.m. Monday-Friday. Service will operate on Saturday and Sunday at 30 minutes throughout the day, beginning at 6:00 a.m. and ending at 10:00 p.m.

## Grant Funds, Sources, Uses or Project Funding

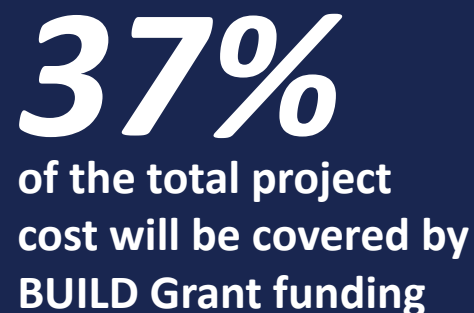
The Plank-Nicholson BRT project has been planned as an **efficient use of funds** to provide a premium transit service to Baton Rouge with maximum ancillary benefit to the community. Several local, state, and non-BUILD federal funding sources have been identified but a BUILD grant is needed to fully realize the project and **maximize community benefit**.

The Plank-Nicholson BRT project costs were derived as part of the Project Definition Study and include costs specific to constructing BRT-critical infrastructure as well as corridor infrastructure needed to support the BRT and provide safe, accessible connections to the line.

The Project's **total future eligible capital costs are estimated at \$40,218,000** as outlined in Table 1. The City and CATS are prepared to commit \$17,528,000 through a combination of local sources and request \$15,000,000 in BUILD discretionary funding. The broad range of support for the Project is clearly demonstrated through the diversity of funding sources that are committed to seeing the project constructed. Due to the various committed funding sources, only 37 percent of the total project cost would need to be covered by BUILD Grant funding.

The City, in partnership with CATS, has already funded and commenced the next phase of the project - environmental clearance and conceptual engineering. CATS is committed to funding the additional BRT service operational costs and ongoing capital maintenance replacements over the useful life of the project. These costs have been included in the BCA and are outlined in the CATS budget as future expenditures.

Capital costs includes total project delivery (construction, design, survey, environmental analysis, material testing, ROW acquisition, utility relocations and other project management costs). Sources and uses of the Project funding are detailed in Table 1.



**37%**  
of the total project  
cost will be covered by  
BUILD Grant funding



**Table 1: Plank-Nicholson BRT Capital Funding**

| Project Capital Costs       |              | Local Sources        |             |             | Federal Sources      |             |              |
|-----------------------------|--------------|----------------------|-------------|-------------|----------------------|-------------|--------------|
| Components                  | Costs        | LaDOTD Road Transfer | MovEBR      | CATS        | 5339                 | STP         | BUILD        |
| Stations                    | \$12,181,000 |                      |             |             |                      |             | \$12,181,000 |
| North Transfer Center       | \$3,400,000  |                      |             | \$680,000   |                      | \$2,720,000 |              |
| Sidewalk Improvements       | \$2,157,000  |                      | \$2,157,000 |             |                      |             |              |
| TSP/Signals                 | \$3,289,000  | \$3,289,000          |             |             |                      |             |              |
| Roadway Improvements        | \$2,775,000  | \$2,775,000          |             |             |                      |             |              |
| Vehicles                    | \$4,300,000  |                      |             | \$1,075,000 | \$3,225,000          |             |              |
| Subtotal (Capital)          | \$28,102,000 |                      |             |             |                      |             |              |
| Contingency (Vehicles – 5%) | \$215,000    |                      |             |             | \$215,000            |             |              |
| Contingency (Capital – 25%) | \$5,950,500  | \$1,640,125          | \$2,050,875 |             |                      | \$850,000   | \$1,409,500  |
| Subtotal                    | \$34,267,500 | \$4,929,125          | \$6,982,875 | \$1,755,000 | \$3,440,000          | \$3,570,000 | \$13,590,500 |
| Professional Services       | \$5,950,500  | \$1,640,125          | \$2,050,875 | \$170,000   |                      | \$680,000   | \$1,409,500  |
| Total Cost                  | \$40,218,000 | \$6,569,250          | \$9,033,750 | \$1,925,000 | \$3,440,000          | \$4,250,000 | \$15,000,000 |
| Project Share               |              | 16.3%                | 22.5%       | 4.8%        | 8.6%                 | 10.6%       | 37.3%        |
| Local/Federal Share Split   |              | 43.6% (\$17,528,000) |             |             | 56.4% (\$22,690,000) |             |              |

The Plank-Nicholson BRT will be funded through a mix of local and federal sources. The state of Louisiana does not have a transit funding program that would fund a project the BRT line. The City of Baton Rouge is requesting \$15 million in federal dollars to fund a portion of the capital cost to build the system. The city of Baton Rouge is also targeting other sources of federal dollars for the project.

These funding sources include:

- FTA 5339 Bus Capital- This federal transit funding program is intended to assist transit agencies in renewing and expanding their bus fleet. Because vehicles typically represent 20 to 30 percent of the total capital cost of a BRT project, 5339 can be an important part of the funding plan. The program is discretionary and highly competitive.
- USDOT Surface Transportation Program (STP)- These federal funds are directly administered by CRPC's Transportation Policy Committee. CATS has used STP funding in the past for capital projects.

Local funding sources include:

- LaDOTD Road Transfer Program- Both Plank Road and Nicholson Drive are eligible for upgrades as part of DOTD's program to transfer state owned roadways to local governments. This program could fund roadway-related portions of the BRT project, including traffic signal upgrades, sidewalks and other pedestrian amenities.
- MoveBR sales tax- a 30-year sales tax for transportation projects was approved in December 2018. This program could fund roadway-related portions of the BRT project, including traffic signal upgrades.
- CATS capital funding- CATS sets aside funding for annual capital projects for transit improvements and vehicles. This funding is often used as a local match for federal funding programs.

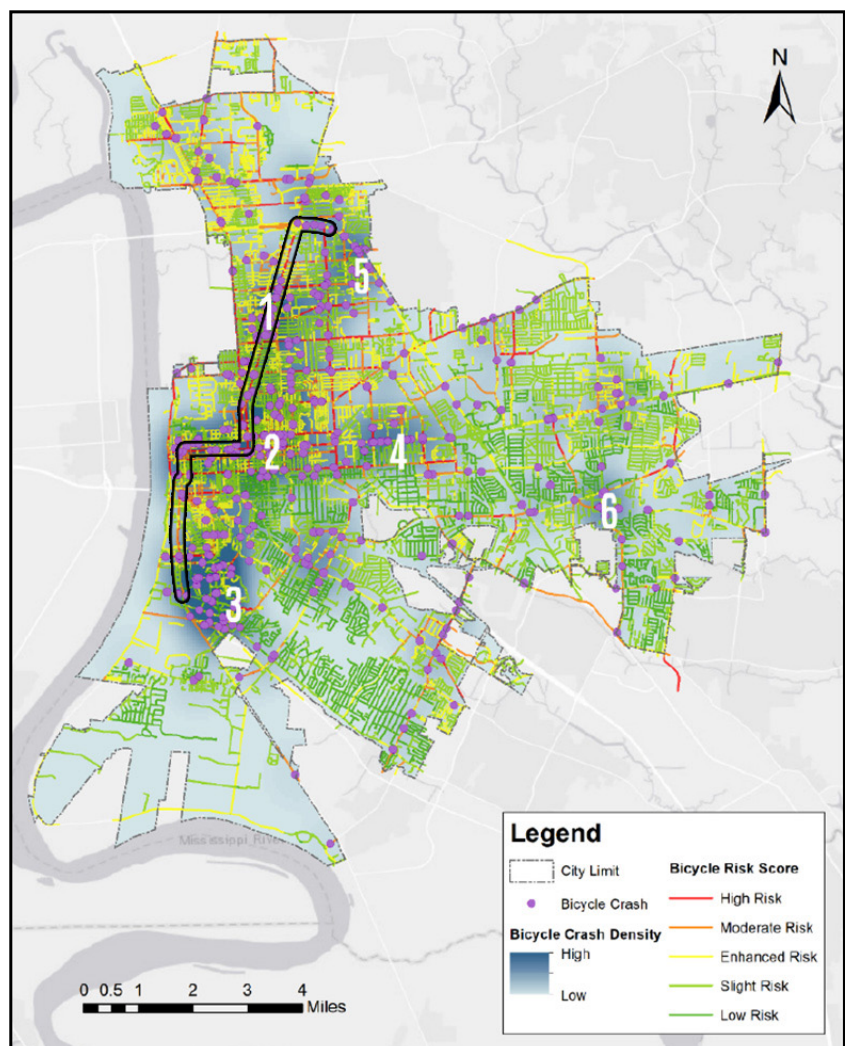
The cost to operate the Plank-Nicholson BRT will come from CAT's annual operating funds. The net increase in operating cost is estimated at \$1,431,000 assuming CATS discontinues Route 41 Plank Road service. As ridership is forecasted to increase with the BRT, passenger revenue from fares will also increase and has the potential to offset some of the net operating increase. Forecasted ridership is expected to generate \$257,000 in passenger revenue annually.

## Primary Selection Criteria

### Safety

The Project will create a safer network for travelers and pedestrians along the route. **Plank Road has been identified as the leading corridor in the region for both bicycle and pedestrian crash density and crash risk.** Many of the traffic signals do not have pedestrian push-button actuators or signals, and much of the corridor lacks sidewalks and Americans with Disability Act (ADA) accommodations. In addition to the planned transit improvements, safety concerns from the lack of pedestrian infrastructure will be addressed to ensure safe, accessible connections to transit and the surrounding neighborhoods.

Figure 4: Crash Density and Risk Factor Map (Bicycle)



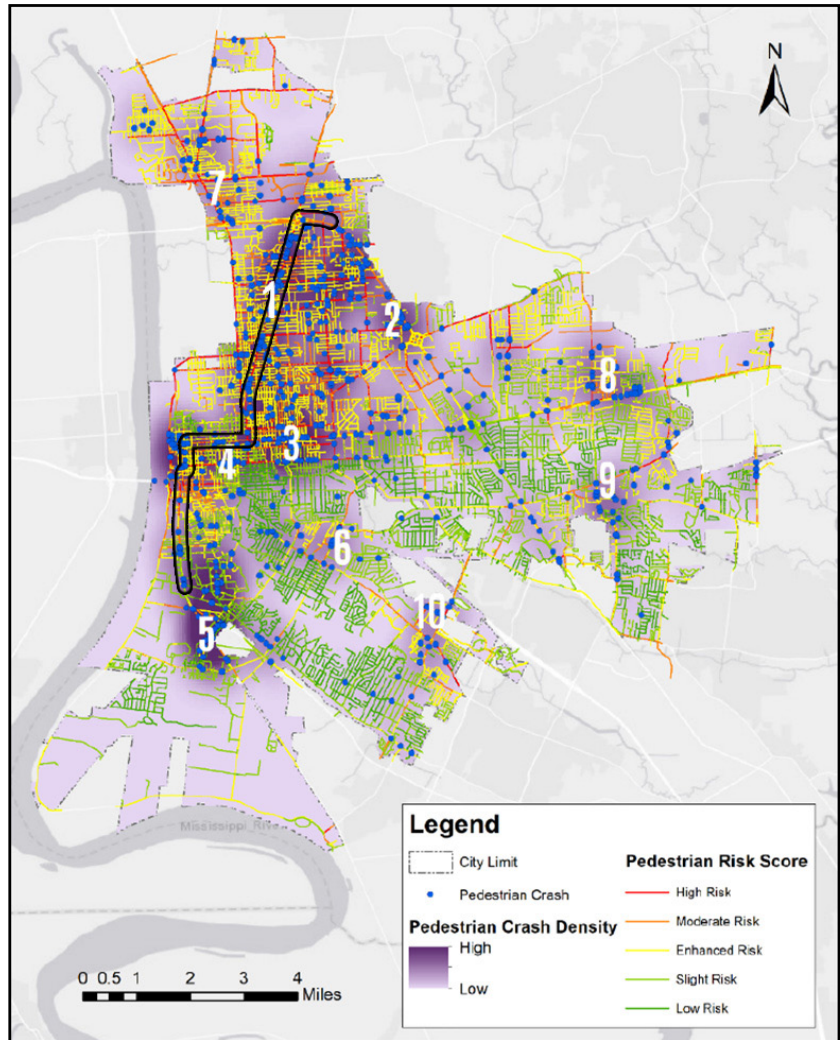
Source: EBR Pedestrian and Bicycle Master Plan Record of Technical Advisory Committee Meeting #3.

A key component of the project is the construction of sidewalks along the Plank Road corridor, focused on areas that either lack sidewalks or have existing pavement in disrepair. The project currently assumes the construction of more than four miles of new sidewalk infrastructure. Additional safety improvements are planned at many of the signalized intersections in the corridor. These intersections will receive pedestrian crossing signal infrastructure to facilitate safe pedestrian and bicycle crossings. In addition to the pedestrian signals, new crosswalks striping will be added along with ADA ramp improvements at all four corners of the intersection.

Data analysis conducted as part of the Baton Rouge Ped-Bike Safety Action Plan (SAP) project, sponsored by the LaDOTD, in partnership with a Technical Advisory Committee (TAC) consisting of stakeholders across the City of Baton Rouge, has identified Plank Road as a corridor which exhibits a significant need for improvement in the traveling safety of pedestrians and bicyclists.

A benefit-cost analysis (BCA) for crashes was performed for the study area to calculate the potential savings that the proposed BRT system and corridor improvements would provide over no-action. The improvements are forecasted to reduce the total number of collisions by 526, which produces a monetized savings of \$28.4 million (NPV) over a 20-year span after construction is completed. More information regarding the methodology that went into calculating the numbers can be found in the supporting BCA Methodology Memorandum.

**Figure 5: Crash Density and Risk Factor Map (Pedestrian)**



Source: EBR Pedestrian and Bicycle Master Plan Record of Technical Advisory Committee Meeting #3.

**526** reduced collisions expected over a 20-year span from construction of BRT project and corridor improvements



## State of Good Repair

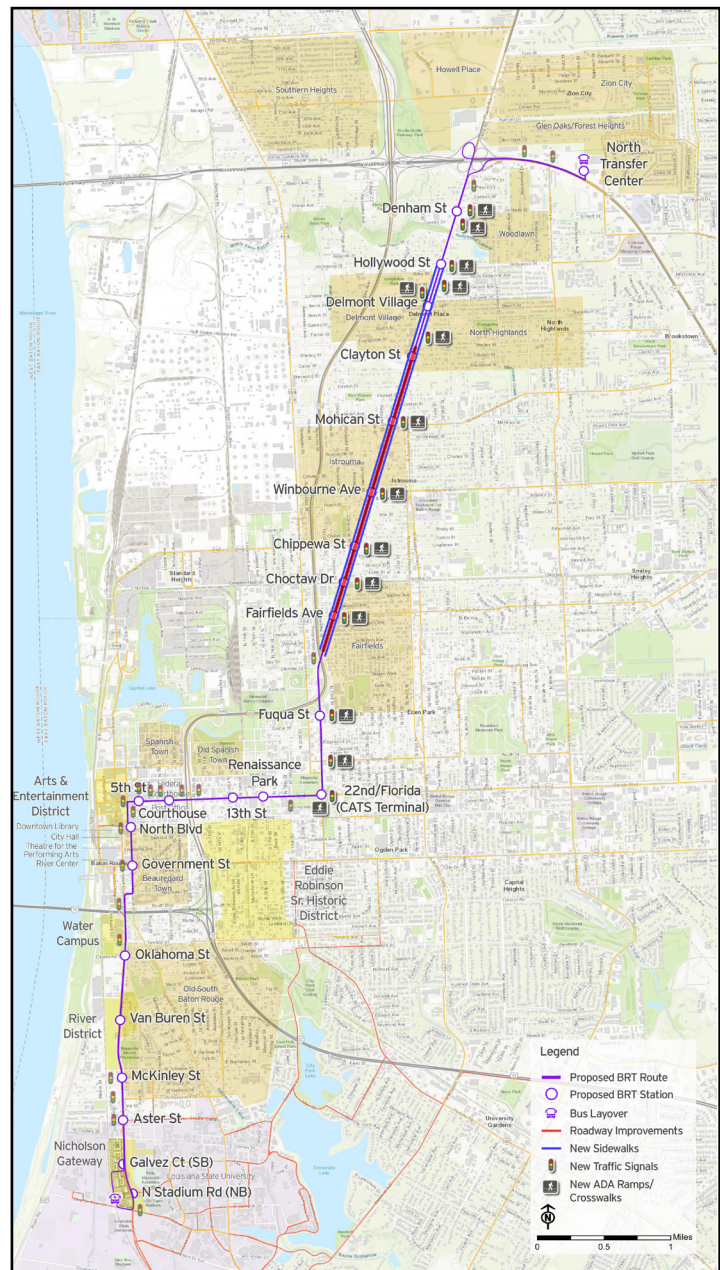
The Plank-Nicholson BRT project will contribute to a state of good repair by upgrading the corridor in ways that will enhance the corridor environmentally, technologically and economically.

Most of the roadway improvements along the corridor will occur along Plank Road from approximately Clayton Street to I-10. These improvements include roadway resurfacing, new curb construction, restriping and utility adjustments necessary to narrow segments of the four-lane roadway section to four 11-foot lanes (two lanes in each direction) to accommodate the BRT service and station infrastructure. Many of the intersections along Plank Road and 22nd Street will have full signal replacements to accommodate transit signal priority in addition to the pedestrian crossing signal infrastructure and crosswalks.

Project implementation will include various techniques to ensure a **rapid corridor that prioritizes transit and streamlines operations**. The corridor will include transit signal priority and street treatments including narrowed travel lanes to reduce vehicles speeds and calm traffic thus improving safety in the corridor. Queue jumps may be located at intersections where appropriate and provide preferences to buses at intersections by constructing an additional travel lane at the intersection approach to a signalized intersection.

Plank Road and Nicholson Drive are both identified in the road transfer program, a partnership between the LaDOTD and local governments to transfer ownership of state roadway assets to local governments to right-size the state's highway system. Prior to transfer of the roadway, the LaDOTD has agreed to improve the asset to bring it up to the local government's standards. Much of the improvements called for in the Plank-Nicholson BRT project qualify as part of these upgrades, therefore improving the condition of the corridor and multiplying the benefit of the project.

**Figure 6: Planned Corridor Infrastructure Improvements**



As mentioned in the safety section, the project aims to construct more than four miles of sidewalks along the corridor. Much of the route is lacking sidewalks which hamper pedestrian and bicycle connectivity along the corridor and into adjacent neighborhoods. Segments of the corridor have sidewalks in disrepair, and the project aims to repair and replace these areas to promote safe, accessible connectivity.

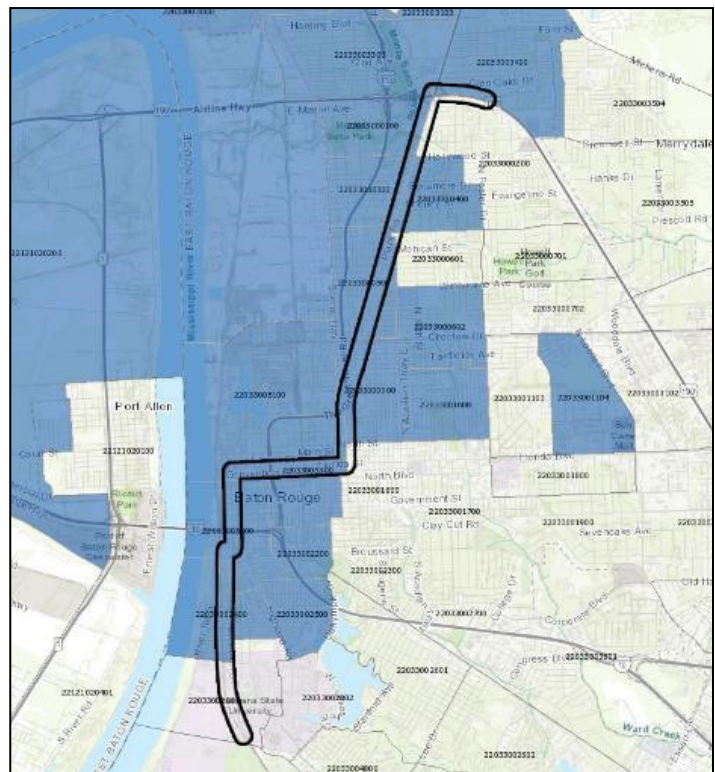
### ***Economic Competitiveness***

The Plank-Nicholson BRT route, the majority of which is located within a Qualified Opportunity Zone (QOZ), will greatly reduce commuting costs for underserved residents. This high-capacity transit corridor will connect residential areas to major employment hubs. The two primary employment hubs include Downtown and LSU. In total, the BRT corridor is estimated to contain 39,545 jobs. The corridor is also beginning to show signs of economic improvement with private investors purchasing properties within QOZs and the city preparing sites for development. Economic analysis can be broken down into three sections that make up the overall BRT corridor: Plank Road, Downtown and Nicholson Drive.

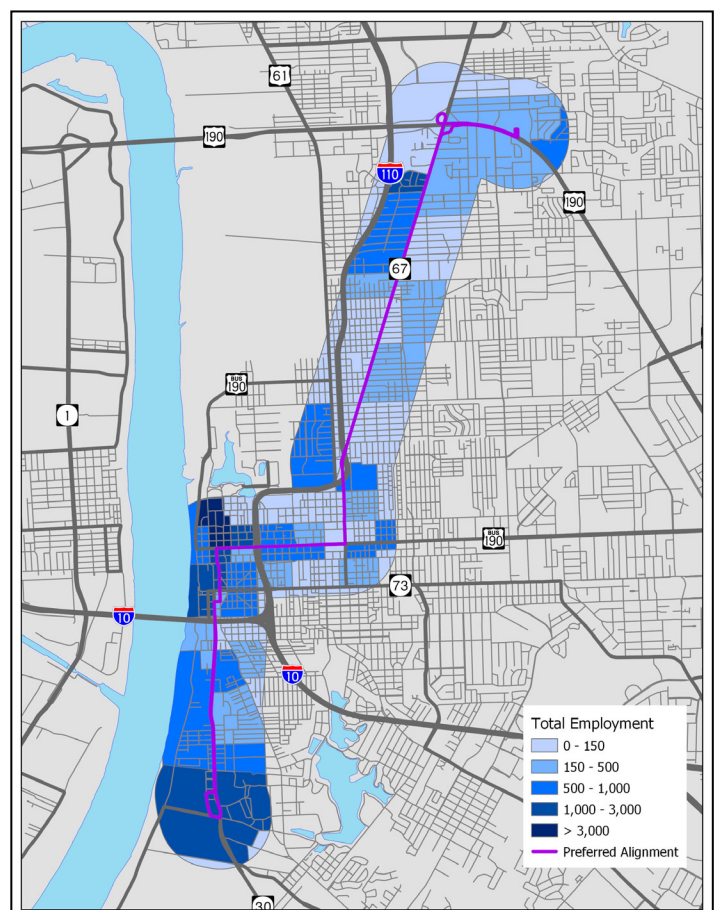
### **Plank Road**

The Plank Road segment of the corridor is characterized by commercial land uses that are surrounded by single-family residential neighborhoods. The northern end of the corridor contains more established businesses, while the southern and middle portions of the corridor contain several vacant lots and dilapidated buildings in need of redevelopment. Build Baton Rouge, the area's redevelopment authority, is leading efforts in coordination with the City-Parish to address the current conditions along Plank Road and undertake a comprehensive, transit-oriented approach to revitalize the Plank Road corridor and improve mobility.

**Figure 7: Qualified Opportunity Zone Map**



**Figure 8: Employment Density in Project Area**





In addition to the BRT project, Build Baton Rouge is addressing blighted properties and leading a master plan effort for the corridor. The authority has been able to acquire and land bank 90 parcels of blighted, adjudicated properties along Plank Road, and intends to clear the property titles so the land can be redeveloped for housing or commercial uses.

### **Downtown**

Downtown is a major employment hub with 25,890 workers and a growing residential base with over 4,800 occupied housing units. Since 2010, \$1.41 billion has been invested in downtown and nearly 800 new residential units have been added with another 270 in the pipeline. An additional 43 downtown projects are under construction or in the planning phases.

The Florida Street corridor segment, running east-west through downtown and beyond, is characterized by commercial and industrial uses with scattered residential. This area includes a 350,000 square foot retail/office development that reused a former department store. Vacant and underutilized land is present along the Florida Street corridor, presenting opportunities for infill transit-oriented development along the BRT route. For example, a proposed BRT station at 13th Street could link to a proposed Baton Rouge Passenger Rail Station along 14th Street.

### **Nicholson Drive**

In 2018, LSU completed the Nicholson Gateway project on the west side of Nicholson Drive. Nicholson Gateway is a 28-acre development between West Chimes Street and Skip Bertman Drive that features over 1,500 new student beds, 50,500 square feet of retail space and new university recreation space. Also, nearly 40 acres of vacant land are present along the west side of Nicholson Drive to the north of McKinley Street presenting an opportunity for a large mixed-use transit-oriented development.

A major attraction for visitors to Baton Rouge is Magnolia Mound Plantation, a joint venture between the Recreation and Park Commission and Friends of Magnolia Mound. The oldest plantation complex open to the public, the site provides educational and recreational activities focused on French Creole culture typical of southern Louisiana in the 18th and 19th centuries. A BRT station is proposed at McKinley Street, on the south border of the park. Many Magnolia Mound employees and volunteers are dependent upon transit, and the director believes that the project will not only benefit them, but also increase the park's pool of potential workers, both paid and unpaid. Many visitors stay in downtown Baton Rouge. Providing a premium transit service to Magnolia Mound would create easy and convenient access and enhance the tourist's experience.

A proposed BRT station is planned adjacent to the Water Campus on the west side of Nicholson Drive. The Water Campus is a 35-acre research park along the Mississippi River focused on coastal restoration and sustainability. When built out, the Water Campus will have over 1.6 million square feet of commercial space and over 4,000 employees. These developments represent a tremendous opportunity for future ridership of the BRT line and economic growth for the community.

There are considerable economic impacts that occur due to congestion. The mode shift that occurs with the inclusion of the BRT system will have a positive monetary benefit for the region. The project is projected to produce a congestion cost savings of \$9.2 million (NPV) over the 20-year project lifespan. The methodology behind the calculations can be found in the BCA Memorandum, which is included as a supporting document to the grant application.



## *Environmental Sustainability*

A preliminary environmental screening of the corridor has been completed. Efforts are currently underway to perform environmental documentation compliant with National Environmental Policy Act (NEPA) regulations as adopted by the USDOT or FTA with the goal of clearing the corridor by end of 2019. The environmental considerations presented are intended to assist with early consultation with FTA and other federal agencies involved in NEPA analysis and review.

A fast, convenient and cost-effective BRT service and construction of new sidewalk infrastructure will create a mode shift among people who primarily rely on their personal automobile for transportation. Furthermore, the BRT fleet is planned to utilize all-electric propulsion technology to enhance air quality and passenger experience. As a result, environmental benefits including reduced dependence on oil, improved energy efficiency, and a reduction of greenhouse gas emissions would keep improving as the number of people who make the modal switch increases. The impacts air and water quality that occur from the BRT system being active are expected to be marginal compared to the benefits that the project has for safety and travel time reliability.

The mode shift that occurs with the introduction of the BRT line and expected growth in ridership will reduce single occupancy vehicles in the corridor. Those that switch to BRT as a commuting option will realize fuel consumption and vehicle maintenance savings. The BCA estimates the **Plank-Nicholson BRT line will result in \$940,617 (NPV) in automobile owner savings over 20 years and \$358,574 in fuel savings over 20 years**. These figures account for savings to area residents and commuters and amount to more efficient travel.

## *Quality of Life*

As stated, the Plank-Nicholson BRT project is largely within a Qualified Opportunity Zone (QOZ) and will greatly reduce commuting costs for underserved residents. The project will also provide access to employment opportunities that were previously unavailable to residents along the proposed route. A majority of the block group populations within a half-mile of the corridor experience poverty rates of greater than 30 percent (26.1 percent for the city of Baton Rouge). Several corridor block groups contain populations that experience poverty rates greater than 50 percent (Source: US Census Data). Described previously in the Economic Competitiveness section, the corridor is ripe for commercial development, and the proposed BRT system will be the connection for the transit-dependent population and choice riders alike that live along the route to access newly-created job opportunities.

In addition to the BRT service, improvements to the pedestrian and bicycle infrastructure in the corridor will improve the quality of life of the residents. New sidewalks and safe crossings will encourage healthy, active lifestyles, promote exercise, and encourage alternative modes of transportation to reach destinations throughout the corridor.

Current ridership on Route 41 Plank Road is 800 riders per day. Estimated ridership for the Plank-Nicholson BRT is approximately 1,114 riders per day by the year 2023 when the system is expected to launch. This represents an **increase in ridership of 39 percent** (source: FTA STOPS Model).

## Secondary Selection Criteria

### *Innovation*

If funding is secured, this would be Louisiana's first ever BRT project. This represents innovative thinking and a recognition by state leaders that alternative transportation modes are needed for the people of Louisiana. The system will include various innovative technologies, delivery options and financing mechanisms.

#### **Innovative Technologies**

To further enhance the BRT operations and reliability in the corridor, the project will include "smart" traffic signal upgrades with innovative features that accommodate the premium transit service while reducing congestion. Transit signal priority in the corridor will help the route achieve faster travel times and reliability as TSP will assist vehicles in staying on schedule. Synchronizing the signals in the corridor with new software will squeeze every drop of capacity out of the existing roadways. Additional signal improvements will include replacing of outdated signal equipment (traffic signal controllers/detection), increased fiber connectivity to traffic signals, and the installation of uninterruptible power supplies (UPS) to provide power during times of power loss. Having the ability to actively manage traffic signals is particularly important in the case of natural disasters, car wrecks, or other incidents in which normal traffic flows must be rerouted along other routes. Improvements here are desperately needed in the corridor and will be addressed through this project.

At the transit stations, passengers will enjoy real-time arrival (RTA) signs that provide real-time bus arrival times and schedule information, improving their transit experience and building trust and reliability with the service. RTA information improves perceived reliability and makes transit service more attractive and accessible. RTA information signs are proposed at every BRT station.

For the BRT vehicles, CATS is currently evaluating the latest innovations in vehicle design. Beyond electric propulsion, the agency will consider the use of connected vehicle and collision avoidance technologies. The vehicles will feature software that connect to the corridor's traffic signals to seamlessly deploy signal prioritization when warranted, and GPS trackers will provide the location of the vehicle to interface with real-time arrival signs.

The project team is also willing to explore delivery techniques as outlined in FHWA's Every Day Counts (EDC) Innovations. An EDC-5 innovation that will be explored is the implementation of Safe Transportation for Everyday Pedestrian (STEP) countermeasures. Specific countermeasures that could be included into the final design of the system include crosswalk visibility enhancements, raised crosswalks and road diets along the corridor, where applicable.

#### **Innovative Project Delivery**

The City of Baton Rouge has a proven track record of delivering projects on time and on budget. The City is poised to deliver over \$1 billion in infrastructure projects over the next 30 years as part of the MoveBR program and has the capacity and experience to coordinate projects such as this. The City of Baton Rouge is interested and willing to partner with USDOT in exploring and applying, as appropriate, innovative contracting opportunities and public partner partnerships to maximize construction efficiencies, expedite project delivery, and increase community benefit and return on investment.

The Plank-Nicholson BRT project is purposely planned to be built within existing right-of-way to avoid potential time delays with acquiring and clearing property and to expedite project delivery. Concurrent environmental permitting and review will also be sought to accelerate project delivery and community benefit.

Virtual Public Involvement (VPI) technologies, an EDC-5 innovation, will be used as part of the Project to make project information and input opportunities available to users and stakeholders at times and in places convenient to them. Baton Rouge has shown a willingness to use VPI techniques for the benefit of its citizens as is displayed in their most recent comprehensive plan where 3,400 citizens participated in online surveys, workshops and open houses.

### **Innovative Financing**

The broad range of support for the Project is clearly demonstrated through the diversity of funding sources that are committed to seeing the project constructed. Due to the various committed funding sources, only 37 percent of the total project cost would need to be covered by BUILD Grant funding. Dedicated funding from the ½-cent MovEBR sales tax passed in December 2018 is being committed as part of a local match to construct this vital transportation project. Private sector sponsorship and advertising revenues may also be used to fund station maintenance and operations.

As mentioned in the project funding section, the City of Baton Rouge has partnered with the LaDOTD on an innovative road transfer funding program. This partnership allows the state to reduce their assets and right-size their transportation system while the local government receives capital improvement upgrades to roadways prior to assuming their ownership and future maintenance. Both Plank Road and Nicholson Drive are eligible for these upgrades and will fund roadway-related portions of the BRT project, including roadway improvements, sidewalks and intersection improvements.

Another EDC-5 innovation, and one of the benefits that is expected from the implementation of a BRT system is Capitalizing on the Value Created by Transportation. Working with and incentivizing private sector development along the proposed transit line can increase funding for other projects or operations and maintenance. Baton Rouge is currently purchasing blighted or vacant lots along the proposed BRT route for future development.

### **Partnership**

The City of Baton Rouge will act as sponsor for the project and will also procure and manage the construction of the BRT project. The City is supported by CATS as the area's transit agency and future operator of the line, and Build Baton Rouge, the area's redevelopment authority with a current focus on redeveloping underutilized properties along the corridor and owner of the ongoing Plank Road Corridor Master Plan.



Elected officials, key stakeholders, and the public have been involved in the project from the beginning, providing feedback, shaping the project, and building consensus, project champions and community support. Table 2 outlines key engagement activities to date for the project.

**Table 2: Key Project Engagement Activities**

| Meeting Date     | Topic   |
|------------------|---|
| December 4, 2018 | BRT Advisory Committee                          |
| December 4, 2018 | Elected Official Briefing                       |
| December 4, 2018 | Downtown Stakeholders Briefing                  |
| December 4, 2018 | Plank Road Stakeholders Briefing                |
| December 5, 2018 | LSU Facilities Briefing                         |
| December 5, 2018 | Old South/Nicholson Drive Stakeholders Briefing |
| January 28, 2019 | Public Meeting – Old South Neighborhood         |
| January 29, 2019 | Public Meeting – Downtown Neighborhoods         |
| January 29, 2019 | Public Meeting – Plank Road Neighborhoods       |

The level of community support this project enjoys can be seen in the numerous letters of support for the project (see Grants.Gov attachment) as well as the broad range of local and state officials and organizations who back the project as shown in Figure 9.

**Figure 9: Project Partners and Supporters**

| PROJECT PARTNERS         |      |
|--------------------------|--|
| CONGRESSIONAL DELEGATION | <div>    </div> <div> <a href="#"><u>US Representative Garret Graves</u></a> <a href="#"><u>US Senator Bill Cassidy</u></a> <a href="#"><u>US Representative Cedric Richmond</u></a> </div>  |
| STATE OFFICIALS          | <div>     </div> <div> <a href="#"><u>State Senator Yvonne Dorsey-Colomb</u></a> <a href="#"><u>State Representative Steve Carter</u></a> <a href="#"><u>State Representative Patricia Smith</u></a> <a href="#"><u>State Representative Barbara Carpenter</u></a> </div> <div>    </div> <div> <a href="#"><u>State Senator Regina Barrow</u></a> <a href="#"><u>State Representative Edward James</u></a> <a href="#"><u>Dr. Shawn Wilson LaDOTD Secretary</u></a> </div>  |
| LOCAL ELECTED OFFICIALS  | <div>     </div> <div> <a href="#"><u>Mayor-President Sharon Weston Broome</u></a> <a href="#"><u>Councilman LaMont Cole</u></a> <a href="#"><u>Councilwoman Donna Collins-Lewis</u></a> <a href="#"><u>Councilwoman Barbara Freiberg</u></a> </div> <div>     </div> <div> <a href="#"><u>Mayor Darnell Waites (City of Baker)</u></a> <a href="#"><u>Councilwoman Erika Green</u></a> <a href="#"><u>Councilman Matt Watson</u></a> <a href="#"><u>Councilwoman Tara Wicker</u></a> </div> |

**SUPPORTING AGENCIES AND ORGANIZATIONS**

[AARP Louisiana](#), [Baton Rouge Green](#), [Bike Baton Rouge](#), [Baton Rouge Area Foundation](#), [Baton Rouge Metropolitan Airport](#), [Baton Rouge Area Chamber](#), [BREC](#), [Baton Rouge North Economic Development District](#), [Capital Area Alliance for the Homeless](#), [Center for Planning Excellence](#), [City-Parish Planning Commission](#), [Cristo Rey Franciscan High School](#), [Capital Region Planning Commission](#), [Downtown Development District](#), [Emergent Method](#), [Interfaith Federation of Greater Baton Rouge](#), [Louisiana Art & Science Museum](#), [Louisiana State University](#), [Mid City Redevelopment Alliance](#), [Our Lady of the Lake Regional Medical Center](#), [Society of St. Vincent de Paul](#), [Urban Restoration Enhancement Corporation](#), [Water Institute of the Gulf](#), [WHLC Architecture](#)

## ***Project Readiness***

### **Technical Feasibility**

The Plank-Nicholson BRT project is the culmination of several studies exploring options for introducing a premium transit service to the City of Baton Rouge. Over the last five years the community, stakeholders, and elected officials have worked to evaluate the mode, alignment, and funding strategy to add high capacity transit.

#### **The evolution of a premium transit service for Baton Rouge:**

**2014** – Local Planning and Visioning to determine transit mode and corridor  
Result – Modern Streetcar (TramlinkBR) for Nicholson Drive

**2015/2016** – Streetcar Advanced Conceptual Engineering and Environmental  
Result – Advanced design and Environmental Assessment with Finding of No Significant Impact (FONSI)

**2017** – Election of Mayor-President Sharon Weston Broome  
Result – TramlinkBR project under evaluation for next steps

**Feb 2018** – Project mode transitions to Bus Rapid Transit to reduce project cost and extend the line through the City  
Result – Initiation of Project Definition Study to confirm alignment and project details, building on the work complete from the TramlinkBR project

**April 2019** – Project Definition Study completed  
Result – Defined BRT project scope, schedule and cost estimate

**June 2019** – NEPA environmental documentation commences for the redefined BRT project, along with advanced conceptual engineering  
Expected Result – FONSI, conceptual engineering drawings and updated cost estimate for the Plank-Nicholson BRT project

The Plank-Nicholson BRT project has been defined by previous concept design and engineering activities. The recently completed Project Definition Study evaluated alignment alternatives to determine the preferred route. Criteria that informed the evaluation included population density, total employment, ridership potential, walkability, traffic, running time, and operating cost. Once a preferred alternative was selected, the study advanced to establish an operating plan and cost, station locations and typical layout, corridor intersection and infrastructure improvements, conceptual capital cost estimate and potential funding sources with a schedule for implementation.



## Project Components:

- Mixed-traffic BRT operation
- 22 pairs of stations, 1 layover facility (southern terminus), 1 transfer center (northern terminus)
- Roadway improvements including concrete bus pads, striping, and curb replacement at stations
- Intersection improvements including signal upgrades with transit signal priority, crosswalks, and ADA improvements
- Sidewalk construction/replacement along Plank Road

The project is technically feasible, and because improvements will fall within existing right-of-way, risks, costs and schedule delay will be minimized. The project cost estimate was based on similar bus rapid transit projects constructed around the country, verified with local unit costs from recent roadway improvement projects for the City. The contingency level applied for bus vehicles is set at five percent due to the high degree of confidence for vehicle costs as CATS has recently purchased similar electric vehicles. For all other capital expenditures, the contingency level is set at 25 percent consistent with FTA's recommendations for the current level of planning and engineering completion for the project.

The Project Definition Study evaluated the project and identified more extensive corridor improvements than proposed for this application. Additional roadway and sidewalk infrastructure resulted in a project with an estimated cost of approximately \$51.5 million, with a strategy to submit the project for consideration of FTA's Small Starts program. Since the study's completion, the project team has adjusted the limits of the roadway and sidewalk improvements as reflected in this application, with an estimated cost of \$40.2 million. This reflects a project that is **right-sized for this community** and takes advantage of local funding that demonstrates a commitment to this strategic project.

## Project Schedule

The project partners are confident the project schedule is sufficient and achievable to begin revenue operations by the end of 2022. The City of Baton Rouge will meet all local, state, and federal requirements in advance of the September 30, 2021 deadline.

**Figure 10: Plank-Nicholson BRT Project Schedule**

|                               | 2019 |    |    | 2020 |    |    |    | 2021 |    |    |    | 2022 |    |    |    | 2023 |    |    |    |
|-------------------------------|------|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|
| Project Phase and Activity    | Q2   | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 |
| Detailed Planning             |      |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Environmental (Anticipate CE) |      |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Preliminary Engineering       |      |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Final Design                  |      |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Approvals/Permitting          |      |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Construction                  |      |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Vehicle Procurement           |      |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Testing                       |      |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| Revenue Operations            |      |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |
| BUILD Funds Expended          |      |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |

**Key Milestones:**

- NEPA Finding of No Significant Impact (FONSI) – Q4 2019
- BUILD Grant Award – End of 2019
- BUILD Grant Obligated – Q4 2020
- Vehicle Delivery – Q3 2022
- Construction Complete – Q4 2022
- Revenue Operations Begin – Q1 2023
- BUILD Funds Expended – Q3 2023

**Required Approvals****Environmental Permits and Reviews**

The project team has already initiated the environmental process for the project using concurrent review and work in coordination with the FTA Region VI, Louisiana Department of Historic Preservation, and LaDOTD. It is expected that the project will not have significant environmental impacts since the project is located within existing ROW, thus only requiring a Documented Categorical Exclusion (DCE) rather than the more detailed Environmental Assessment (EA).

**State and Local Approvals**

As referenced in the letter of support from the Capital Region Planning Commission (CRPC), the area's metropolitan planning organization (MPO), the Florida route of the BRT was included in the Metropolitan Transportation plan (MTP) 2037 adopted in 2013, and the Nicholson portion of the Plank-Nicholson BRT project was included in the 2042 MTP adopted in 2018. The CRPC intends to adopt the full Plank-Nicholson BRT project into the Transportation Improvement Plan (TIP) in September 2019.

Once BUILD funding is awarded to the project, the City will formally request for the project to be added to the LaDOTD State Transportation Improvement Program (STIP). The City has experience in ensuring projects are properly added to the TIP and STIP in time for award and construction.

**Project Risks and Mitigation Strategies**

The City of Baton Rouge is experienced with administering federal grants and is familiar with the processes and reporting requirements from award to project completion. The City was awarded a \$1.7M TIGER grant in 2014 to complete engineering and environmental studies for the TramlinkBR modern streetcar project, the precursor to the Plank-Nicholson BRT project. Based on the work completed to date, the project partners have identified the following assessment of potential risks and associated mitigation strategies:

- Securing Funding Commitments – Because Plank Road and Nicholson Drive have already been included in LaDOTD's road transfer program, funding has been identified for improvements to those corridors. Other non-federal funding includes the MovEBR program, which successfully passed last December, and sales tax is currently accruing to fund improvements. Project improvements to be funded through MovEBR are included in the commitment list for the program.
- Controlling Capital Costs – Although construction costs continue to rise due to volatility of raw material unit prices and busy construction markets, the project partners believe the level of contingencies provided in the cost estimate as sufficient to absorb any increases in costs and inflation to deliver the project on budget.

- Delivering the Project on Schedule – The City has outlined an aggressive schedule to complete the project and beginning revenue operations in early 2023. However, the schedule is attainable based on similarly-scoped BRT projects and the City (and Mayor-President) have made this project a priority, as evidenced by ongoing environmental and advanced conceptual engineering activities.
- Delays due to Real Estate Acquisition – Real-estate and right-of-way acquisition can often complicate and delay construction activities. To limit these delays, the project team is committed to limiting improvements to within the existing right-of-way, primarily related to the construction of stations and sidewalk infrastructure.

## Benefit Cost Analysis

The BCA was prepared in accordance with the 2018 FHWA BCA Guidance for Discretionary Grant Programs using total quantifiable project costs and benefits that are adjusted for inflation and then discounted to reflect the time value of money. The BCA assessed the benefits of constructing the BRT system compared to if no system was built. The project provides a benefit-cost ratio (BCR) of 1.39 and an internal rate of return of 4.78 percent.

The proposed total capital cost and operations and maintenance cost of \$36.5 million will produce a positive net user benefit of about \$50.8 million over 20 years. Tables 3 and 4 show the various benefit and cost totals for the project. Greater detail about the BCA methodology can be found in the supporting BCA memorandum attached with this application.

**Table 3: Estimated Benefits**

| Benefit Category                 | Value (NPV)  |
|----------------------------------|--------------|
| Auto Travel Time Savings         | \$12,158,621 |
| Operations Savings               | \$940,617    |
| Auto Fuel Savings                | \$358,574    |
| Auto External Savings            | \$270,737    |
| Transit User Travel Time Savings | \$9,222,329  |
| Environmental Savings            | (\$461,150)  |
| Safety Savings                   | \$28,372,501 |
| Total                            | \$50,847,738 |

**Table 4: Estimated Costs**

| Cost Category              | Cost (NPV)    |
|----------------------------|---------------|
| Capital Cost               | \$31,014,460  |
| Operations and Maintenance | \$9,408,138   |
| Residual Value             | (\$3,902,751) |
| Total                      | \$36,519,848  |





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Point of Contact: Melissa Glascock, Department of Transportation & Drainage

