

C. Multi-modal Transportation System Element

Plaquemines Parish's transportation network is comprised of a diverse network of highways, local feeders, rail, airports, ports, and ferries and serves multi-purposes, including long-distance commuter trips, shorter local trips, truck traffic, and also hurricane evacuation needs.

Providing increased mobility, accessibility, and safety for all travelers is the overarching goal of the multi-modal transportation network in the Parish. The Multi-modal Transportation System Element of the Community Agenda explores ways in which the Parish's transportation network can be enhanced into order to meet the needs of all users, while also encouraging economic development, growing employment opportunities, and enhancing the local tax base. The Naval Air Station/Joint Reserve Base (NAS JRB), one of the largest employers in the region, recognizes the benefit of improving the transportation system in the Parish, not only to serve its employees but also as a matter of national security. Partnering with NAS JRB, as well as other major employers and state and regional governments will be critical as Plaquemines develops and improves its transportation network.

The Comprehensive Plan intends to synthesize the ideas and visions of all citizens and stakeholders of Plaquemines Parish, along with the proposals and projects contemplated in the Parish's previous planning efforts. To this end, the transportation element of this Master Plan explores the Parish's transportation needs in greater detail and further develops and updates the improvements identified in the *Plaquemines Parish 2008 Land Use and Transportation Vision Plan*. The detailed documentation for the existing conditions and planned transportation improvements can be found in the Community Assessment Technical Appendix, prepared in August 2010. The Community Agenda herein includes a framework for improvements to the existing transportation system based on the current operating conditions and anticipated future travel demand.

Descriptions of projects recommended for further development, as well as relevant policies to consider, are the key components of this Plan. The policies are developed in order to foster an environment capable of supporting the project recommendations from this study.

Recommendations have been organized by the following elements of the transportation system:

- Roadways
- Bicycle and Pedestrian Facilities
- Public Transit
- Ferry System
- Railroad
- Ports
- Airport
- Naval Station

The improvements recommended in this Plan intend to address specific travel needs and also to improve the overall transportation system in the Parish.

Summary of Transportation Needs

This element provides the major findings from the Community Assessment and highlights the transportation needs and issues that serve as the basis for many of the recommendations in this Comprehensive Plan. Based on the findings from the needs assessment, the Parish would most benefit from further study of:

- *Congestion reduction in the Belle Chasse area, particularly along LA 23 and LA 406.* Frequent bottlenecks occur at major intersections on LA 23 during the peak-hours and during bridge openings. In this regard, the planned Peters Road Extension will provide much needed congestion relief to LA 23, in addition to providing an alternate hurricane evacuation route. Additionally, operational improvements at the intersection of LA 23 at LA 3017, LA 406, Barriere Road, and Main Street should be considered to enhance safety and reduce delays at these major intersections.
- *Other major transportation investments designed to improve mobility and facilitate economic growth in the Parish.* Needed investments include the replacement of the Belle Chasse Bridge and Tunnel, the widening projects of LA 23 and LA 406, and the Barriere Road Extension. These projects would also improve access to the naval base and address the traffic impacts associated with its anticipated expansion. Additionally, it is recommended that the Parish maintain and expand its repair and rehabilitation program to provide a reliable roadway network throughout the Parish.
- *Limited access and connectivity in the lower Plaquemines Parish.* As the Venice Port Complex and surrounding industries grow and expand, there is a need to provide safe and convenient access to and from these developments. Improved access across the river and extended rail lines are also needed to facilitate growth in the southern portion of the Parish. It will be critical to coordinate and support intermodal connections among water, rail, and highway transportation to realize this area's potential.
- *Railroad relocation out of Belle Chasse.* A recent study examined the benefits of relocating the NOGC rail line out of Belle Chasse, which would facilitate the widening of LA 23.
- *Upgraded ferry system and investigation of a new ferry crossing.* Among the recommendations for improvements to the ferry system is the high speed ferry service, which would benefit commuters. Additionally, a new consolidated ferry crossing in Jesuit Bend is contemplated. Additional study, including a detailed cost-benefit analysis, is recommended to fully investigate the need for these ferry services.
- *Public fixed route transit service.* Coordination with Jefferson Parish Transit is needed to examine the need for reinstatement of transit service between the two Parishes.
- *Centrally located general aviation facility with minimal environmental impacts and airspace restrictions.* A feasibility study was completed in 2009 that recommended the Woodland site for a new general aviation airport. An Environmental Assessment will

reconsider all the potential sites in much greater detail before the aviation facility is recommended for implementation.

- *Policy measures to incorporate pedestrian and bicycle components into future roadway projects.* Enhancing the pedestrian and bicycle network would ensure safe travel for all users of the transportation system. There is a need for a comprehensive inventory of sidewalks and bicycle paths in the Parish to identify gaps and opportunities for multimodal transportation.

1. Roadway Recommendations

The transportation network in the Parish is based on a system of four state highways, which sustain the majority of travel within the Parish: LA 23 (Belle Chase Highway) serves the West Bank; LA 39 is the main thoroughfare for the East Bank; LA 406 (Woodland Highway) enters the Parish along its northern edge near Orleans Parish; and Highway 3017 (Engineers Road) intersects LA 23 between the Plaquemines/Jefferson Parish line.

Evaluation of future travel corridors is primarily based on anticipated growth and development. Both existing and future travel were used as a basis for determining short-term and long-term transportation needs. The Parish's future land use and development plans anticipate tremendous growth in its economy by 2030. New port and aviation facilities are also anticipated in the Parish. These new facilities will have economic implications and will also dramatically impact the existing transportation network. The future economic plans, coupled with a projected population increase of 30 percent¹ in the next 20 years, indicate the need for improvements to the current transportation system, which is often at or exceeding capacity during current travel conditions.

Findings from the existing conditions evaluation conducted as part of the Community Assessment indicated the need for congestion reduction in the Belle Chasse area and for additional access over the Gulf Intracoastal Waterway. Furthermore, it is also important to note the need for reliever routes parallel to LA 23, which would converge at key junctions to enhance connectivity and the grid network. Improvements to LA 23 are particularly relevant as new development and growth continues throughout the West Bank.

To meet the growing demand for an improved transportation system, the Parish, in partnership with the New Orleans Regional Planning Commission (NORPC), has developed a number of transportation projects, which are in varying stages of planning and implementation. These roadway recommendations take into consideration mobility and accessibility, as well as the need to provide for functional emergency evacuation routes.

Along with the roadway recommendations presented in this element, other multi-modal recommendations are also discussed in the subsequent sections. These improvements are

¹ State of Louisiana, Office of Administration. Louisiana Population Projections prepared by LSU.

consistent with the stated goals of the transportation element of the Master Plan: providing increased accessibility, mobility, safety as well as promoting economic development. As such, the Future Land Use map and development plan implementation measures were used to guide the type of improvements recommended in specific geographic areas. Input from stakeholder interviews and previous plan recommendations were instrumental in the project identification process.

As presented in **Figure C.1**, several types of major roadway projects are recommended in this Plan for implementation: construction of new roads, addition of turning or through lanes, intersection enhancements, and operational improvements. Many of these projects are programmed in the RPC's Metropolitan Transportation Plan (2011 -2040). **Figure C.2** illustrates these roadway improvements in the Belle Chasse area. Details of these projects can be found in the Community Assessment Technical Appendix.

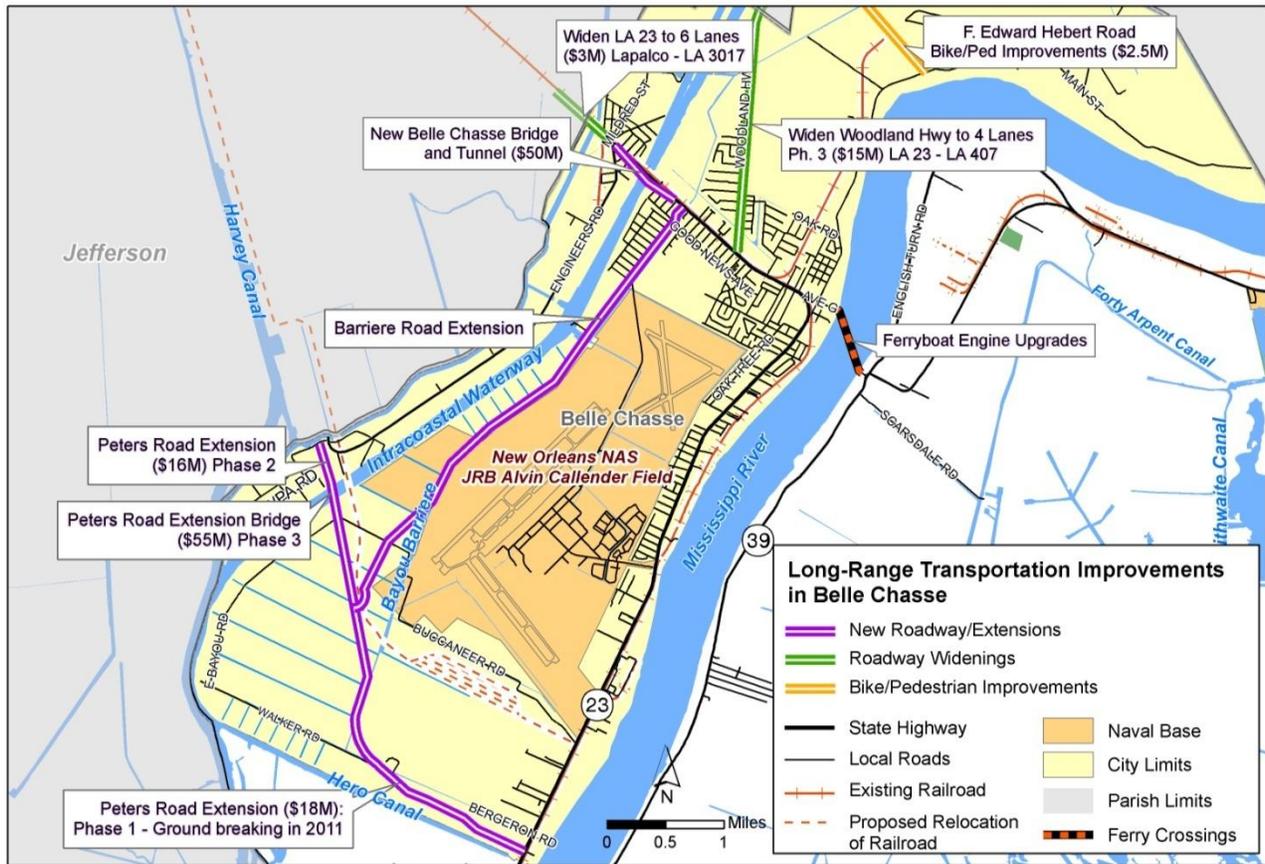
It is crucial that these projects move forward continue to be funded for the mobility and economic benefit of Plaquemines Parish and the state. To ensure and protect the viability of the transportation network and ongoing improvements, it is recommended that the Parish maintain and expand its repair and rehabilitation program.

Figure C.1: Roadway Recommendations

Project	Description	Status	Estimated Cost
Peters Road Extension	New road extension from Jefferson Parish south to LA 23 in Plaquemines Parish including a new bridge over the Intracoastal Waterway	Construction of Ph. 1 – 2011; Ph. 2 – 2012; Ph. 3 – Long range MTP (Fiscal Years 2015 -2024)	Ph. 1 – \$17.9 million; Ph. 2 – \$16 million; Ph. 3 – \$55 million.
Belle Chasse Highway (LA 23) Widening	Widening to 6-lanes from Engineers Road to Lapalco Boulevard including intersection improvements	Final design phase; construction in 2013.	\$3.6 million
Belle Chasse Bridge and Tunnel Replacement	New 4-lane bridge over the Intracoastal Waterway	Programmed in the long range MTP (Fiscal Years 2015-2024)	\$50 million
Woodland Highway (LA 406) Widening	Widening to 4-lanes from LA 23 to LA 407 and intersection improvements at LA 23	Ph. 1 – Complete; Ph. 2 – Under construction; Ph. 3 – Long range MTP (Fiscal Years 2015 - 2024)	Ph. 3 – \$15 million
LA 23 Improvements	Widening to 4-lanes from Happy Jack to Port Sulphur; Drainage Improvements of LA 23 near Myrtle Grove	Construction in 2012	Widening – \$17 million Drainage Improvements – \$3 million
Barriere Road Extension	New road extension of Barriere Road west of the naval base rear gate to the proposed Peters Road Extension; will require signalization and other operational enhancements at Barriere Road and Peters Road intersection		
Widen and Raise Tidewater Road	Widening and raising of Tidewater Road to additional 5 feet	Ph. 1 – Complete; Ph. 2 – Final design	

Sources: New Orleans Regional Planning Commission – Metropolitan Transportation Plan (2011 -2040) and 2010 Plaquemines Parish Capital Improvement Project List

Figure C.2: Major Transportation Improvements in Belle Chasse



2. Bicycle and Pedestrian Recommendations

In accordance with recommendations from the Parish’s Land Use and Transportation Plan, and in order to promote a network of future “Complete Streets,” bicycle and pedestrian improvements should be implemented in conjunction with auto oriented improvements wherever feasible. Complete Streets allow safe movement and crossing opportunities for all users: automobiles, pedestrians, bicyclists, and transit riders.

The Parish is currently working in partnership with the Corps of Engineers to construct a bicycle path atop the Mississippi River Levees from Belle Chasse to Venice. The bicycle path is to be a shared-use facility designed to enhance recreational activities and tourism along the river. This project would be incorporated as part of the Corps of Engineers’ efforts to repair levees in Plaquemines Parish, and thus, is an innovative approach to serving both flood protection and recreational needs. However, in addition to the levee paths, a stronger network of pedestrian and bicycle paths is needed throughout the Parish.

Additional needs for bicycle and pedestrian accommodations were determined through stakeholder interviews and a review of previous plans. The findings revealed a general lack of

functional bicycle and pedestrian facilities in the Parish. It is recommended that the Parish conduct a comprehensive inventory of sidewalks and bicycle paths to identify opportunities for multimodal transportation. **Figure C.3** exhibits the bicycle improvements identified in previous plans, which are intended to enhance the existing infrastructure and to encourage Complete Streets in the Parish.

Figure C.3: Bicycle Recommendations

	Description	Distance (mile)	Estimated Cost
Avenue G	Shared lanes from LA 23 to Belle Chasse Ferry	0.30	\$6,000
LA 23	Exclusive lanes from Jefferson Parish to X Street	0.45	\$9,000
LA 23	Shared lanes from X Street to O Street	0.60	\$12,000
LA 23	Exclusive lanes from O Street to LA 406	0.65	\$13,000
LA 23	Exclusive lanes from LA 406 to Main Street	0.90	\$18,000
LA 23	Exclusive lanes from Main Street to Russell	2.60	\$52,000
FE Hebert	Shared lanes from Main Street to LA 406	1.40	\$28,000
Ferry Access Road	Share lanes from Belle Chasse Ferry to LA 39	0.05	\$1,000
LA 39	Shoulder Widening from English Turn Road to St. Bernard Parish	5.20	\$182,000
Main Street	Shared lanes from LA 23 to FE Hebert	2.50	\$50,000
Main Street	Shared lanes from FE Hebert to Orleans Parish	3.15	\$63,000
Russell	Exclusive lanes from Rear Admiral Fowler Drive to LA 23	1.15	\$23,000
LA 406	Exclusive lanes from LA 23 to Orleans Parish	2.10	\$42,000

Source: RPC’s Rails-to-Trails Conservancy’s 2010 Campaign and Plaquemines Parish 2008 Land Use and Transportation Vision Plan

As the Parish plans pedestrian and bicycle facilities, it is important to include and build upon previously identified bicycle routes in order to ensure that bicycling becomes a safe, viable, and accessible transportation option in the Parish. In identifying potential bicycle improvements, emphasis should be placed on creating a continuous Parish-wide network that serves both

recreational riders and also those wishing to access specific destinations in a safe and timely manner. Special attention should be given to developing bicycle facilities that connect residential areas to schools and parks, as well as employment and activity centers. Dedicated bicycle facilities, such as multi-use paths and lanes, are recommended especially in the vicinity of high schools and middle schools to provide a safe and viable alternative to long bus rides, parental pick-up/drop-off, or reliance on teenage drivers for school-related mobility needs. Consideration regarding placement of bicycle facilities should take into account a variety of factors, including outside lane width, traffic volume, grade, pavement conditions, and truck percentage on shared or adjacent roadways.

Areas in need pedestrian improvements were identified by creating half-mile walking distance buffers around community facilities (including schools, parks, libraries, civic buildings, and hospitals) and along certain road types, based on Federal Highway Administration (FHWA) guidelines presented in **Figure C.4**. These guidelines, in conjunction with the Parish's Land Use and Transportation Plan sidewalk prioritization strategy, were used to develop **Figure C.5**, which illustrates areas with the highest suitability for sidewalks. The areas where these buffers overlap should guide the prioritization of limited resources to maximize benefit.

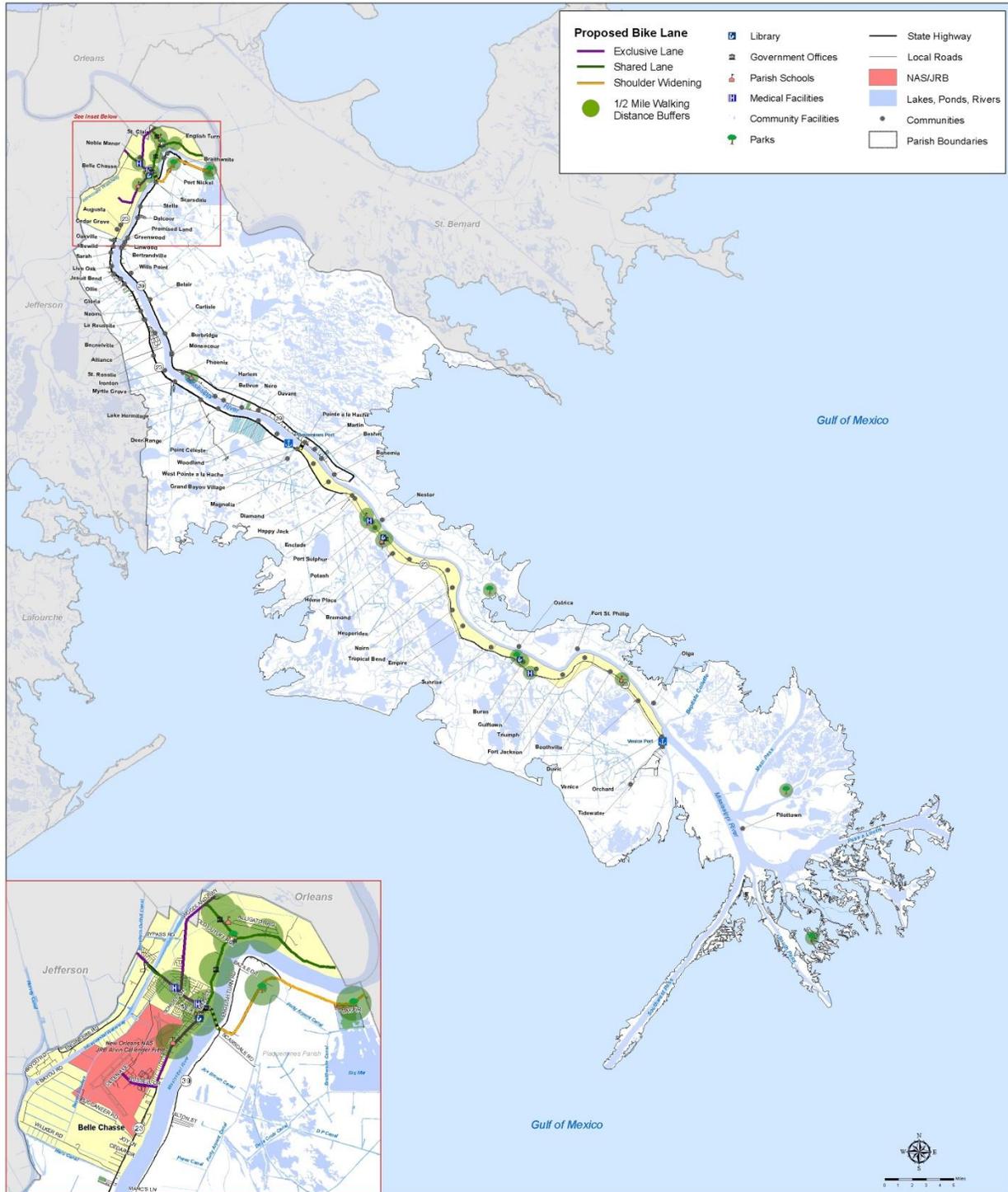
Although FHWA guidelines suggest sidewalks along local roads, many communities prefer to focus their resources on collector and arterial roads first, allowing pedestrians to make use of the street on lower volume residential roads. Therefore, based on the rationale that prioritizing corridors with the most significant pedestrian safety hazards will more immediately meet users needs, it is recommended that the Parish implement sidewalks in heavy commercial areas and the highest functional classes of roadways first. New roadway capacity projects (widened or new roads, including those located in subdivisions) should require sidewalks or otherwise preserve right-of-way for future improvements. In making pedestrian travel accessible and attractive, installation of sidewalk ramps, marked crosswalks, and pedestrian signals in appropriate places is essential to ensure safety.

Figure C.4: FHWA Sidewalk Guidelines

Roadway Classification and Land Use	Example facilities in Plaquemines Parish	Sidewalk Requirements	Future Phasing
Highway (rural)	Portions of LA outside existing communities	Min. of 60 inch shoulders required.	Secure/preserve ROW for future sidewalks.
Highway (rural/suburban - less than 1 d.u./acre)	LA 23 in small communities such as Buras, Port Sulphur, Boothville, Empire, Venice	One side preferred. Min. of 60 inch shoulders required.	Secure/preserve ROW for future sidewalks.
Suburban Highway (1 to 4 d.u./acre)	LA 23 in Belle Chasse to Jesuit Bend	Both sides preferred. One side required.	Second side required if density becomes greater than 4 d.u./acre.
Major Arterial (residential)	Woodland Highway; new Peters Road Bypass	Both sides required.	
Collector and Minor Arterial (residential)	Main Street in Buras and in other areas on East Bank; Barriere Road	Both sides required.	
Local Street (Residential - less than 1 d.u./acre)	Rural Community Centers	One side preferred. Minimum of 60 inch shoulders required.	Secure/preserve ROW for future sidewalks.
Local Street (Residential - 1 to 4 d.u./acre)	Good News Avenue, Epsilon Street and Avenue A in Belle Chasse	Both sides preferred. One side required.	Second side required if density becomes greater than 4 d.u./acre
Local Street (Residential - more 4 d.u./acre)	None now; proposed future mixed use nodes referenced in Future Land Plan	Both sides required.	
All Streets (commercial areas)	Cross streets of LA 23 in Belle Chasse (L Street, K Street, J Street, etc.)	Both sides required.	
All Streets (industrial areas)	Peters Road Bypass; other future industrial / proposed port areas around Venice, Braithwaite and Point Celeste	Both sides preferred. One side required.	

Source: FHWA. Designing Sidewalks and Trails for Access, Part II of II: Best Practices Design Guide, 2001

Figure C.5: Areas with Highest Suitability for Sidewalks



3. Public Transit Recommendations

Public transit plays an integral role in a multi-modal transportation system. Prior to Hurricanes Katrina and Rita, Jefferson Transit (JeT) provided fixed route service for the residents of the urbanized areas of Plaquemines Parish. The service was likely terminated due to financial constraints and sharp drops in ridership due to the loss of population during the hurricane recovery period.

Though neither population nor employment concentrations in Plaquemines Parish are high enough at present to support high-frequency fixed-route local buses, commuter programs are likely to be feasible, especially in Belle Chasse where densities are higher. With the current population of 15,000, Belle Chasse has experienced significant growth (30 percent) since Hurricane Katrina. As the population continues to grow, there is a greater need to provide service to the New Orleans area and to transport citizens to hospitals, community facilities, and other non-work destinations. Given the existing needs and anticipated growth in the Parish's population, it is recommended that Plaquemines coordinate with JeT to reinstate its service.

Additionally, commuter service for major employers in the Parish should also be considered, as NAS-JRB is one of the largest employers in the region (7th in the state) and Chevron Oronite in Oakville has over 400 employees. A vanpool or peak-hour shuttle program could be arranged to assist commuters to these job centers in the Parish. Vanpools must be arranged between groups of employees, whereas express buses or shuttles would serve a more generalized labor force. Both types of transit could utilize park-and-ride lots as common pick-up/drop-off point.

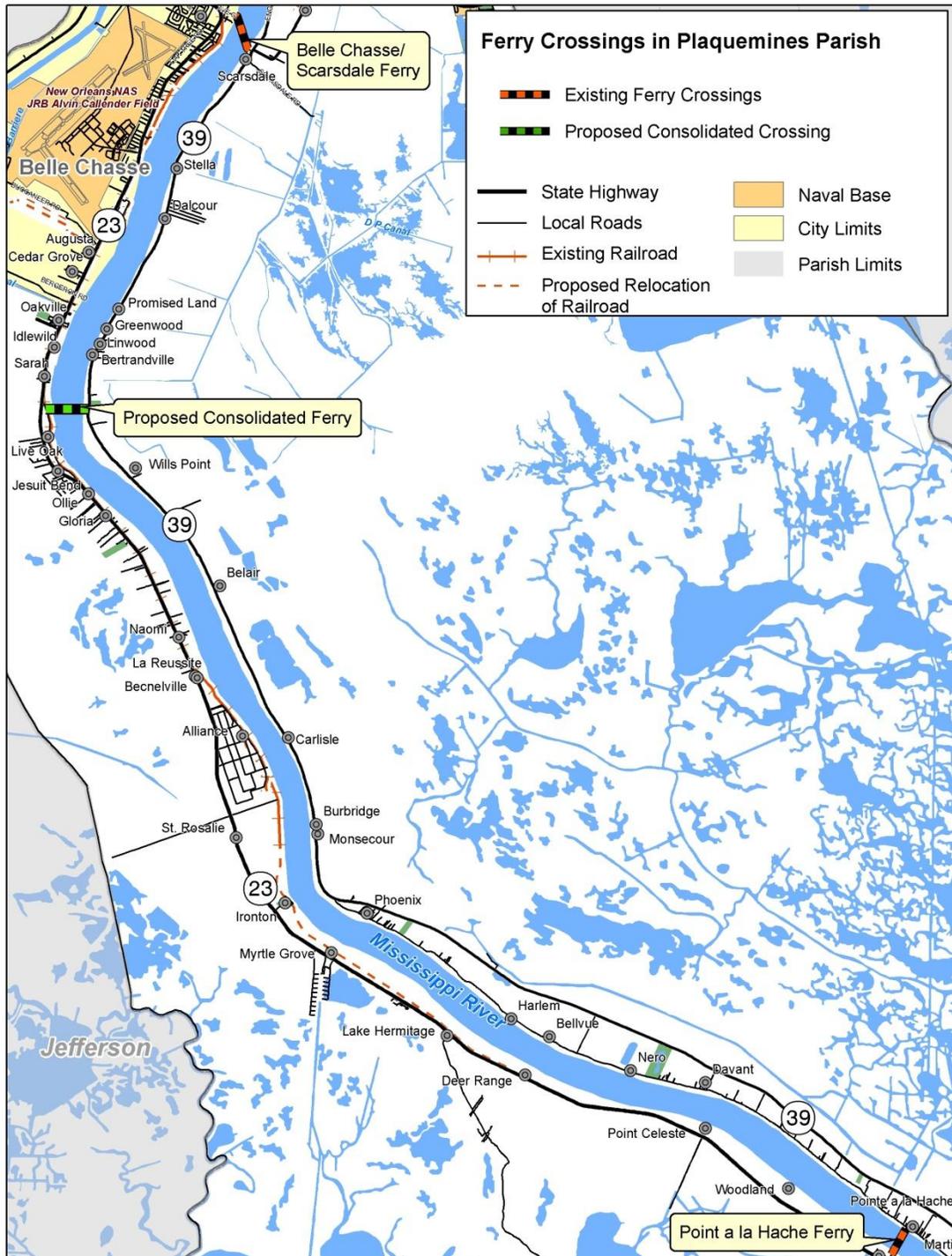
Plaquemines Parish currently provides demand response public transportation for low-income and elderly residents through the Community Action Agency (CAA); however, these services can be expanded and improved through coordination with local and regional agencies. The RPC recently developed the *Coordinated Public Transit-Human Service Transportation Plan* for the region, which assesses the transportation needs of Parish's special needs populations.

As with all planning efforts, coordination is critical as the Parish continues to plan and development public transit improvements. Local and regional coordination gives the Parish the opportunity to maximize limited funds to serve target populations and to expand the current public transit program. It is recommended that the Parish continue to work in close partnership with the RPC's efforts to provide coordinated transportation services for all residents in the region.

4. Ferry Recommendations

Placeholder for Ferries White Paper – to be completed

Figure C.6: Ferry Crossings in Plaquemines Parish



Refer to the *Plaquemines Parish Ferry Improvement Options Review* in the Appendix for detailed analysis and recommended improvements associated with the new ferry system.

5. Rail Recommendations

Rail lines currently traverse both banks of the river and plans exist for rails extensions serving International Coal in Oakville and future port facilities. Norfolk Southern (NS) Railroad parallels the East Bank and follows LA 39. Rio Grande Pacific Corporation owns the New Orleans and Gulf Coast (NOGC) Railroad parallel to LA 23 on the West Bank.

Evaluation and studies of rail service demonstrate that the existing rail network is insufficient to meet the intermodal demands anticipated in the Parish. In anticipation of growing demand, Rio Grande has a relocation plan to bypass Belle Chasse to the west via a new crossing over the Intracoastal Waterway. Additionally, current plans include the extension of rail service to the International Coal near Oakville with a yard located next to NAS JRB. Rio Grande is also considering the extension of the rail line further south to serve the proposed port near Pointe Celeste. Relocation of the NOGC has many benefits to the transportation system in Belle Chasse, as it would allow for the right-of-way needed for the widening of LA 23 and effectively eliminate many of the unsafe grade crossings. Rio Grande is currently working with the State and the Parish to secure funding to relocate the Belle Chasse portion of the NOGC railroad.

6. Port Recommendations

The recently completed *Comprehensive Port Development Master Plan* recommends three potential port development sites at Amax, Citrus II and Venice. The Amax Property located near Braithwaite in the East Bank was identified as the best site for short term development due to its immediate access to road and rail infrastructure. Citrus Land II Site near Pointe Celeste on the west side of the Mississippi was determined to be the best long term development site.

It is important to note that aforementioned rail improvements are a prerequisite to further consideration of container port development at the proposed Citrus II site. Citrus II is located approximately seven miles from the current terminus of the NOGC line and less than three miles from the International Coal site. After the rail extension to the International Coal has taken place, the extension to Citrus II would be the next logical step to further enhance the intermodal connectivity of the Parish.

In addition to rail extensions, the existing rail infrastructure (e.g., track, ballast, ties, etc) may require improvements in order to accommodate increased volumes from the port. Many of the at-grade rail crossings in the Parish are not properly equipped with gates or warning devices and currently use wooden crossings, which deteriorate under heavy truck traffic. Although more traveled crossings have undergone recent repairs and upgrades, many crossings on both sides of the river will need to be evaluated and possibly improved as part of port development. In anticipation of increased rail traffic, Rio Grande and NS recognize the need for rail crossing improvements to promote safe and efficient rail movement. It is recommended that the Parish work jointly with the rail companies to monitor and upgrade the rail crossings to ensure safety. Refer to the *Port Development Plan* for details on planned crossing improvements.

The proposed port developments are not expected to have a significant impact on truck traffic because the vast majority of the hauling volume will be by rail and barge. The Amax site is expected to require 18,519 annual tractor trailer truck trips – an average of 51 truck trips per day. Citrus II will generate 51,852 annual truck trips – an average of 142 truck trips per day. The *Port Development Plan* anticipates that the two highways that serve the proposed development sites, LA 23 and LA 39, currently have sufficient capacity to accommodate the projected increase in truck traffic. Average level of service (LOS) and historic traffic data show that LOS on LA 39 will not be negatively impacted by increased traffic from the Amax site to the Interstate system in New Orleans. The study recognizes that LA 23 in Belle Chasse experiences severe congestion during the peak periods, and thus, additional truck traffic generated by proposed development may worsen the conditions. To this end, the study assumed that the necessary highway improvements to meet the additional traffic are already planned for the LA 23 corridor: Peters Road Extension; LA 23 Widening and Improvements; and Belle Chasse Bridge and Tunnel Replacement.

7. Airport Recommendations

Plaquemines Parish is home to 24 airport and heliport facilities, which support local businesses and industries. The *General Aviation Airport Feasibility Study*, completed in 2009, investigated the demand for general aviation in the Parish and evaluated potential sites for an airport. This study recommended the Woodland site located near West Pointe a la Hache as the preferred airport site for further development. Preliminary findings from the study indicate this site is able to accommodate a 4,200-foot runway and can also accommodate future airside and landside expansion. Furthermore, this site was determined to have minimal airspace restrictions, adequate access and visibility from LA 23, and minimal environmental impacts. As the development of the new airport moves forward, it is important for the Parish to consider the potential need for roadway improvements and other multi-modal connections to this facility.

8. Naval Air Station

The Naval Air Station/Joint Reserve Base (NAS JRB) has a significant presence in the Parish. Therefore, the NAS JRB's current expansion plans will have significant implications for the Parish's local economy, as well as the transportation system. Currently, the naval base generates approximately 11,000 daily vehicle trips, which are expected to increase to 15,300 trips as a result of the new Navy Exchange (NEX) and Commissary. A traffic impact study was conducted in March 2010 to evaluate the traffic impacts of the proposed NEX/Commissary. The study identifies the widening and extension of Barriere Road as one of the necessary improvements to alleviate the traffic impacts to the surrounding roadway network.

Access to the base is currently provided by the main gate on LA 23 and the back gate on Barriere Road. There are current plans to designate the back gate as the main entry point, which would increase the number of vehicles on Barriere Road. A follow-up study is currently underway to assess the traffic impacts associated with switching the gates.

A new military complex known as Federal City in Algiers, approximately seven miles north of Belle Chasse, is anticipated to generate a significant number of trips to the naval base. Phase I of Federal City, which includes a headquarters building for the Marine Corps Reserve and a retail town center, is currently under construction with a completion date slated for July 2011. Approximately 1,900 military personnel will be stationed at Federal City and will require frequent trips to the NAS JRB to visit the new Commissary, medical facilities, social activities, day care, and school. In anticipation of these additional trips, improvements to Barriere Road are highly recommended to address the anticipated trip growth to and from the base. The build-out of Federal City is planned for 2023 and is expected provide 10,000 civil and military jobs, with an additional 1,400 residences for military and the general public. The associated traffic impacts to the transportation network in Belle Chasse warrant further study.

9. Recommended Policies

The multi-modal transportation improvements recommended in this Plan reflect the priorities of the Parish. In order to maintain and enhance its multimodal transportation system, it is recommended that the Parish continue to work in partnership with other agencies, stakeholders, and private corporations to implement these projects. A detailed list of projects to be implemented between 2011 and the horizon year of 2030 is included in the Action Plan.

In addition to the project list, which supports the goals of the transportation element of the Community Agenda, a number of policies have been developed to be used as guidelines for the Parish when considering transportation improvements. The policies are beneficial to the community in understanding the relationship between transportation and other comprehensive planning elements.

To have a balanced transportation system that accommodates and provides choices for all users, it is necessary to have a well-connected and accessible multi-modal network. The following policies can assist in working towards this goal:

- *Encourage connectivity in the roadway system to decrease travel distances and increase route options.* Increasing connectivity allows more direct travel between destinations. Consider reliever parallel routes to LA 23 with tie in at key locations to promote connectivity and enhance the grid network in the Parish.
- *Follow a policy of "Complete Streets" whereby provisions are made for automobiles, bicyclists, transit users, and pedestrians on every major transportation project.* If it is not feasible to construct multi-modal facilities due to lack of current need or financial resources, preserve right-of-way so that they can be constructed in the future.
- *Update the zoning code to require that certain commercial and mixed-use land development projects include bicycle parking facilities and other bicycle-related amenities.*
- Develop and promote bicycling and walking education campaigns. To ensure that walking and bicycling is a safe and viable transportation option for residents, the Parish must promote enforcement and awareness programs, establish policies that advance

safety and awareness for cyclists, walkers and drivers, and ensure that all residents understand the rules of sharing the right-of-way.

- *Employ Travel Demand Management (TDM) strategies to efficiency by lessening the number of vehicles using the transportation network, particularly roadways that are already strained beyond their capacity.* TDM tactics include programs to increase usage of travel modes other than single occupant vehicles, employer-based programs such as flex-time or telecommuting, carpools, vanpools, and economic incentives.
- *Encourage the use of Intelligent Transportation Systems (ITS) technology to improve transportation system operations.* ITS includes infrastructure applications to manage arterials, incidents, tolling, information, safety, general roadway operations, and emergency vehicle movement. Though Plaquemines Parish is primarily rural, current commuting patterns and future growth rates will necessitate the use of ITS strategies to make more efficient use of transportation infrastructure, preferably prior to investing in expensive upgrades and new projects. The following strategies could be utilized for this purpose:
 - Interconnect and coordinate all traffic signals in proximity to each other. For instance, implementing a coordinated and adaptive system along LA 23 may increase the effective capacity of this corridor.
 - Provide traffic signal preemption for emergency vehicles.
 - Provide information to travelers about congestion, route closings, and transit options.
 - Install warning signs for railroad crossings and in areas where roadway geometry is an identified safety issue.