Baton Rouge Loop
Implementation Plan

Baton Rouge Loop

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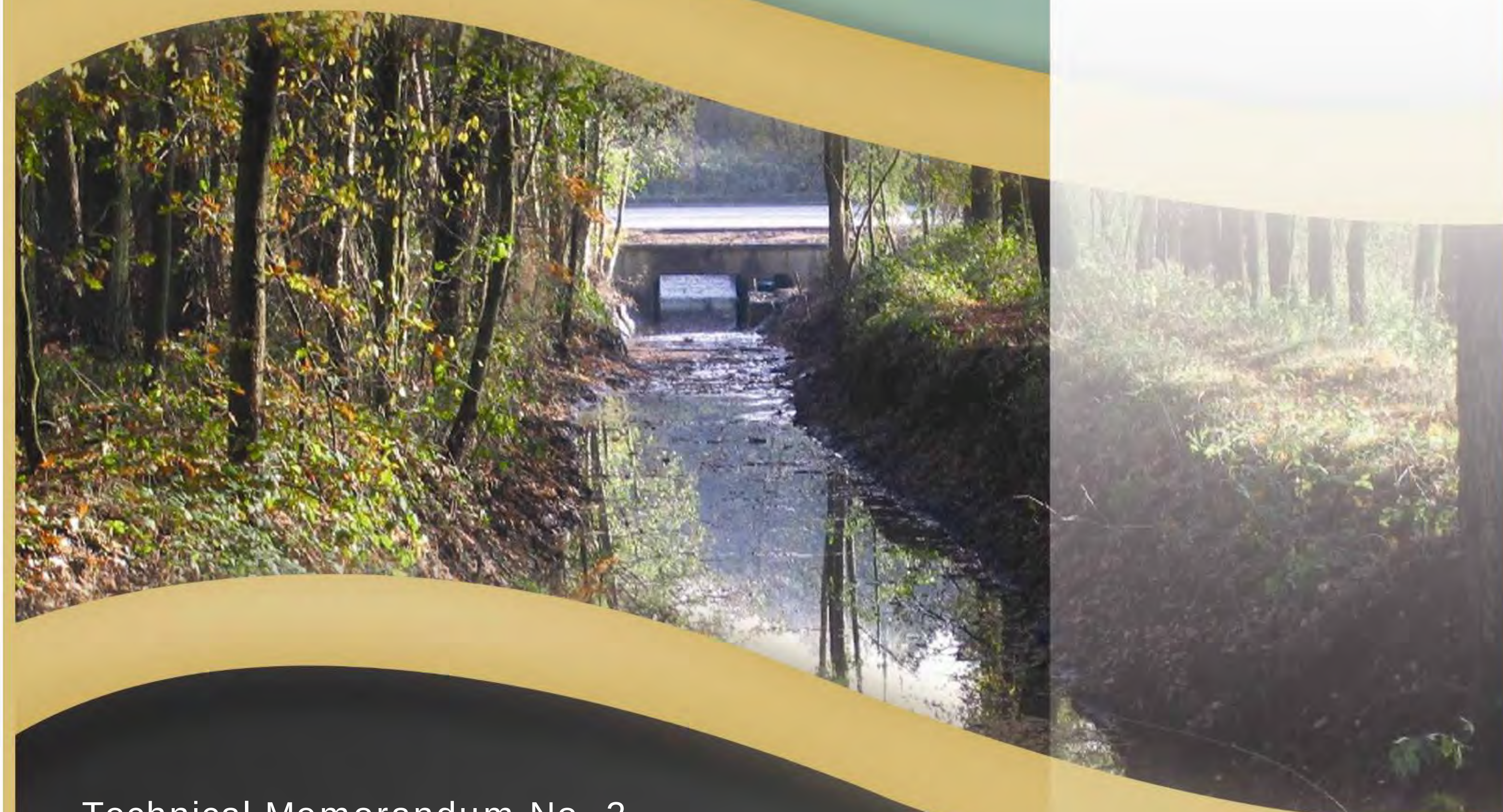

Technical Memorandum No. 2
Environmental Overview

July 2008

East Baton Rouge | West Baton Rouge | Livingston Parish | Ascension Parish | Iberville Parish

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FOREWORD

The Baton Rouge Loop will be a free flow toll road around the Baton Rouge metropolitan area. The Implementation Plan phase of project development is the initial part of the process in planning, design, construction, and operations of the new roadway. The Implementation Plan phase is to analyze engineering, environmental, and financial feasibility of the proposed loop as well as solicit public, agency, and political involvement in initial planning for the project. The end result of the Implementation Plan phase is to identify and lay out the process for activities going forward that will lead to opening and operations of the loop.

A series of six technical memorandums have been developed to document the analysis and other activities during the Implementation Plan phase. These technical memorandums present and document work in the areas of engineering, environmental, traffic & revenue, financial feasibility, community involvement, and implementation planning. This technical memorandum is one of the series of six.

The team of planners, engineers, and other specialists developing the Implementation Plan are indicated below:

HNTB

ABMB ENGINEERS, INC.

URS

KPMG

MARMILLION/GRAY/SABISTON

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1. INTRODUCTION

1.1. Project Location

The Baton Rouge Loop project proposes to provide a new tolled highway loop facility around the City of Baton Rouge in southeastern Louisiana. The project boundary area includes portions of the parishes surrounding the City of Baton Rouge, including: East Baton Rouge, West Baton Rouge, Livingston, Ascension, Iberville, Assumption and St. James Parishes.

The Baton Rouge Loop project boundary area is shown on **Figure 1-1**.

The preliminary conceptual corridors developed are illustrated in **Figure 1-2**.

1.2. Preliminary Purpose and Need for the Project

The National Environmental Policy Act of 1969 (NEPA) was enacted in the United States to encourage sustainable development and informed decision-making in a manner acceptable to the United States' citizens and government agencies. NEPA requires a purpose and need statement for studies evaluating the potential environmental impacts associated with a proposed action. The purpose and need statement for a project provides a basis for the development and evaluation of alternatives. Every federal, federally assisted, or federally-licensed project must be evaluated by the federal sponsor agency as a part of NEPA. The following text describes the preliminary purpose and need for the Baton Rouge Loop project. This preliminary purpose and need statement will be finalized as part of the NEPA process.

The purpose of the project is to address major problems affecting east-west traffic flow within and through the Baton Rouge region. These problems include: (1) inadequate roadway capacity to handle increasing truck freight traffic as well as regional traffic growth and the impacts of post-Katrina population shifts that are likely to remain permanent; (2) substandard roadway features that commonly constrain traffic flow; and (3) lack of regional roadway connectivity and alternative travel routes, particularly related to crossing the Mississippi River. Specifically, the project is intended to accomplish the following objectives:

Reduce existing and future congestion and delay and improve level of service conditions for local traffic on interstate highways and principal arterials in the Baton Rouge vicinity. Increasing roadway capacity and providing an additional option for crossing the Mississippi River for eastbound and westbound traffic will reduce existing congestion and delay on local sections of interstate highways and major connecting arterials. Improved regional roadway network operations will generate positive effects on the local economy, energy consumption, and vehicle exhaust emissions by reducing commuter travel times and expediting the delivery of goods and services.

Reduce existing and future congestion and delay and improve level of service conditions for through traffic. This objective will enhance interstate commerce by expediting truck freight movement in keeping with the recommendations of the National I-10 Freight Corridor Study. There will also be positive impacts on vehicle operating expenses, energy consumption, and air quality for the general traveling public passing through the Baton Rouge region.

Improve motorist safety. Enhancing traffic flow and reducing congestion on local roadways will reduce driver frustration and other situations that lead to collisions, resulting in improved safety.

Improve regional roadway network connectivity, access, and mobility. Providing alternative travel routes for local traffic and facilitating access to connect to the regional highway network will expedite traffic flow and enhance the ability of the existing network to accommodate some level of expected future growth in population and travel demand in this region.

Improve intermodal connectivity with existing and planned mass transit, rail, and other transportation facilities. This objective will enhance the integration of the transportation system across travel modes for the movement of people and goods, in keeping with the mandated planning factors specified in SAFETEA-LU. This may involve enhanced access to the Baton Rouge Metropolitan Airport and port facilities in and near the City.

Improve regional transportation system capability to handle emergency evacuations resulting from natural disasters or industrial incidents as well as incident rerouting/detours following collision-related lane closures on major roadways. This objective will partially compensate for some of the constraints posed by physical or geometric deficiencies of key roadway components in the existing roadway network. In particular, collisons on certain sections of I-10 and other roadways where existing shoulders are minimal result in temporary lane closures and backups. Providing detour options may ease the level of congestion and delay in these situations.

Respond to legislative mandate. The Baton Rouge Loop project is designated as a priority project in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

1.3. Preliminary Environmental Concerns Identification

Public and agency coordination activities for the Baton Rouge Loop project began in the summer of 2007. Environmental issues and areas of concern were discussed with various federal, state and local agencies and the public. Potential impacts of the project on the natural and human environments as well as physical environmental concerns were identified through this process.

Key concerns that were identified by the agencies included potential impacts of the project on natural and human communities. Specific issues that were identified included:

- Wetland Communities;
- Managed Lands;
- Cultural Resources;
- Threatened and Endangered Species;
- Community Facilities;
- Existing and Planned Development; and
- Secondary and Induced Development.

Specific natural areas of concern include Bayou Paul, Bayou Choctaw, Largo, Spanish Lake, and Bluff Swamp, which include areas utilized for wetland mitigation banks. The Amite River was also identified as a natural area of concern. Portions of the Amite River are designated as a Louisiana Natural and Scenic River. The Amite River also provides unique habitat for federally-protected species.

Figure 1-1: Project Boundary Area

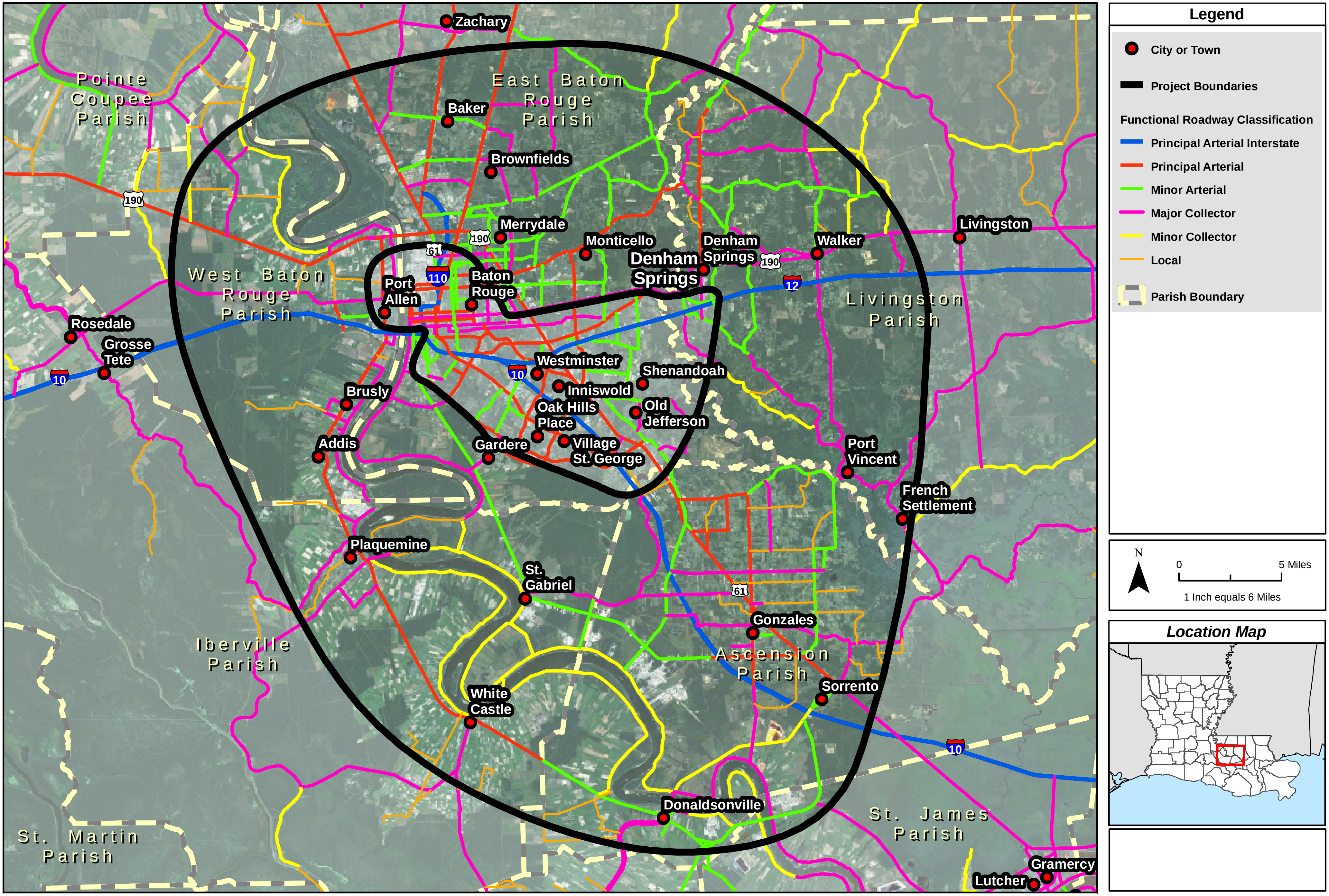
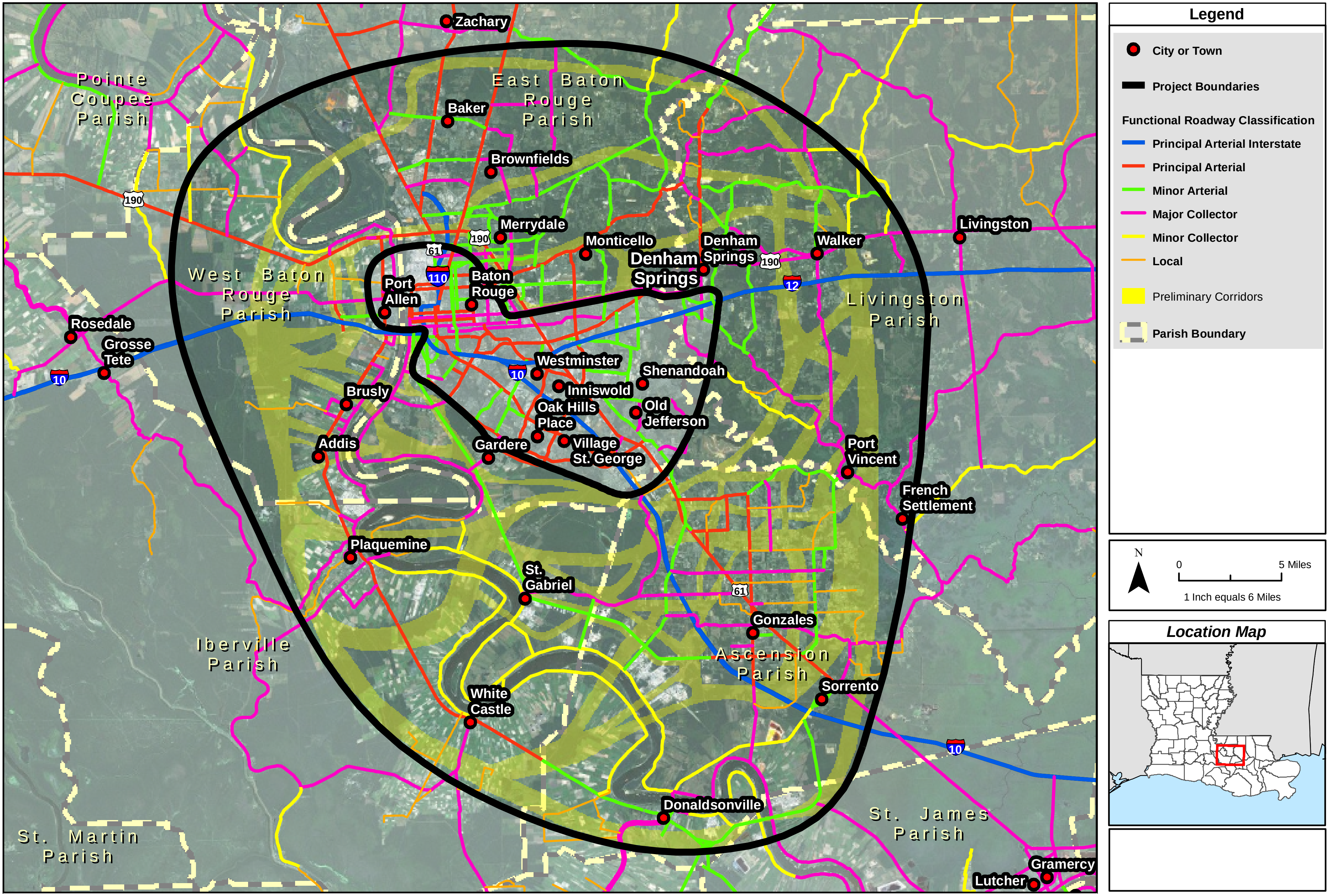


Figure 1-2: Preliminary Corridors



2. ENVIRONMENTAL OVERVIEW

2.1. Environmental Data Collection and Inventory

Environmental data were obtained and compiled in a Geographic Information System (GIS) program. An exhaustive search was performed to obtain electronic data for all of the resources and concerns found within the project boundary area. These data were incorporated into GIS and can be displayed on maps showing the corridors under consideration.

Table 2-1 lists the environmental data collected for this project and the sources of these data. Only some of the data sets collected were used in this analysis. This environmental overview focused on key environmental concerns affecting the feasibility of the corridors. The remaining data sets will be used in later analyses as alignments are developed and refined. Highlighted data sets were included in the preliminary mapping conducted for this environmental overview.

Table 2-1
Environmental Inventory and Data Sources

Environmental Data	*Data Originator*	*Data Source*	*Year*
Human Environment			
Care Facilities	Louisiana Department of Health and Hospitals (LDHH)	LDHH	2006
Various Population and Housing Statistics by Census 2000 Blocks	US Bureau of the Census TIGER/Line	Environmental Systems Research Institute (ESRI) Geography Network	2000
Cities, Towns, Villages	Environmental Systems Research Institute/Geographic Data Technology (ESRI/GDT) Source Data	LOSCO - Louisiana Oil Spill Coordinator's Office	2000
City or Town Boundary	USGS - GNIS	Center for Advanced Spatial Technologies, University of Arkansas and LOSCO	1998
Cemeteries	Environmental Systems Research Institute (ESRI)	ESRI Business Data	2007
Cultural Resources (Archaeological)	State Historic Preservation Office (SHPO)	SHPO	2007
Churches	ESRI	ESRI Business Data	2007
Daycare Facilities	Louisiana Department of Social Services (LDSS)	LDSS	2007
Historic Districts	N/A	National Park Service (NPS), SHPO	2007
Hospitals	Louisiana Department of Health and Human Services (LDHH)	LDHH	2007

Table 2-1
Environmental Inventory and Data Sources

Environmental Data	Data Originator	Data Source	Year
National Register of Historic Places (NRHP)	N/A	National Parks Service (NPS), SHPO	2007
National Parks	N/A	BTS	2006
Public Land Survey System (PLSS)	N/A	LGS, USGS	2007
Schools (LDOE, LDHH)	Louisiana Department of Education (LDOE)		2007
Schools		ESRI Business Data	2007
Standing Structures	SHPO	SHPO	2007
State Lands and Buildings	Department of Agriculture (DOA) - State Lands Office	DOA - State Lands Office (GIS DVD 2007)	2007
State Parks		LDOTD	2007
Natural Environment			
Floodzones	Federal Emergency Management Agency (FEMA)	LOSCO - Louisiana Oil Spill Coordinator's Office	1998
Hydric Soils	N/A	National Resource Conservation Service (NRCS)	2007
Hydrography (Rivers and Streams) LA	US Bureau of the Census TIGER/Line	Environmental Systems Research Institute (ESRI) Geography Network	2000
Major Waterbodies	Environmental Systems Research Institute/Geographic Data Technology (ESRI/GDT) Source Data	LOSCO	1999
Marsh/Vegetation Type	Louisiana Department of Wildlife and Fish (LDWF)	LDWF	2006
Wetland Mitigation Banks	U.S. Fish and Wildlife Service (USFWS)	USFWS - NWRC	2006
National Wetlands Inventory (NWI)	N/A	USFWS	2007
Prime Farmlands	National Resource Conservation Service (NRCS)	LA NRCS	2007
Soils LA STATSGO	NRCS - STATSGO	LOSCO - Louisiana Oil Spill Coordinator's Office	1998
Soils SSURGO	NRCS	NRCS	2006
Scenic Streams	N/A	LDWF	2006
Sole Source Aquifers	N/A	EPA	2006
Surface Geology	USGS	LOSCO - Louisiana Oil Spill Coordinator's Office	1998
Threatened and Endangered Species	N/A	LDWF	2002
Wellhead Recharge/Aquifers	LDEQ	LDEQ	1999

Table 2-1
Environmental Inventory and Data Sources

Environmental Data	Data Originator	Data Source	Year
Wetland Mitigation Banks	NRCS, U.S.Forestry Service, Fish and Wildlife Service	USFWS	2006
WMA (Wildlife Management Area)	LDWF	LDWF	2006
Wildlife Refuges	USFWS	USFWS	2006
Wetland Reserves	NRCS	NRCS	2005
Physical Environment			
Hazardous Materials	N/A	EPA	2007
Airports	United States Geological Survey (USGS) - Geographic Names Information System (GNIS)	LDOTD	2007
Barges	Louisiana Oil Spill Coordinator's Office (LOSCO)	LOSCO	2007
Ferries	N/A	LDOTD	2007
Hazardous Material Routes	N/A	Bureau of Transportation Statistics (BTS)	2006
Drinking Water Surface Intakes	LDHH	GIS DVD	2006
Oil and Gas Wells	Louisiana Department of Natural Resources (LDNR)	LOSCO	2007
Pipelines	USGS	USGS National Wetlands Research Center	1998
Ports - Shallow Draft	N/A	LDOTD	2007
Ports - Deep Draft	N/A	LDOTD	2007
Powerlines	US Bureau of the Census TIGER/Line	LOSCO - Louisiana Oil Spill Coordinator's Office	1998
Landfills	LDEQ	URS Corporation 2007	2007
Levees	USACE	USACE	2006
Marinas/Boat Launches	LOSCO	LOSCO	2004
Navigational Charts	LAGIS Digital Map	National Oceanic and Atmospheric Administration (NOAA)	2006
Navigable Waterways	N/A	USACE Navigable Waterways, BTS	2006
National Priorities List (NPL)	N/A	EPA	2007
Railroads	US Bureau of the Census TIGER/Line	LDOTD	2007
Underground Storage Tanks (USTs)	N/A	Louisiana Department of Environmental Quality (LDEQ)	2007
Water wells	LDOTD	LDOTD	2007

2.2. Preliminary Environmental Concerns Overview

While all environmental concerns have a level of importance, there are some resources that should not be impacted if an avoidance alternative is practicable. These resources include community centers and dense residential areas, public lands, cultural resources, and large wetland communities. Some resources, such as public recreation facilities, must be avoided if possible. Other resources should be avoided simply because impacts would require lengthy delays to project development or duration, and the complexity of obtaining the proper permits as well as satisfying all regulations would be impractical, e.g. hazardous materials sites or habitat for endangered species.

The following environmental concerns are discussed in the following sections:

Human Environment:
- Dense Residential Areas, Community Facilities, and Planned Development
- Public Lands, Parks and Recreation Facilities
- National Register of Historic Places Districts and Properties

Physical Environment:
- Potential Hazardous Materials Sites

Natural Environment:
- Wetlands
- Potential Rare, Threatened and Endangered Species Habitat
- Floodplains
- Waterbodies

2.2.1. Residential Areas, Community Facilities, and Planned Development

The context in which a community exists is essential to community identity and maintaining cohesion. Community facilities within an area are visited both by necessity and by choice and provide essential public services. Community facilities including hospitals, cemeteries, churches, and schools are identified on **Figure 2-1**. **Figure 2-1** also illustrates housing density in the project boundary area by displaying housing units per square mile by Census 2000 blocks.

The majority of the Census blocks within the project boundary area have 300 or fewer housing units per square mile. Areas with housing unit densities greater than 300 units per square mile were considered densely populated in comparison to the majority of the project boundary area. The population per square acre for the project boundary area was also determined based on Census 2000 data. Over 99 percent of the project boundary area has a population density of 0 to 7 people per square acre. The few areas with higher population densities are considered densely populated.

Developments and other improvements planned within the project boundary area were identified using several sources of information. These included Parish and local city officials and staff, planning departments and commission proceedings, school boards, and park officials. Input was also obtained from private developers, land owners, and business interests and local and regional media outlets.

As illustrated in **Figure 2-1**, residential development in Ascension Parish within the southeastern project boundary area is concentrated in the communities of Prairieville, Gonzales, Sorrento and Donaldsonville. These communities also include a number of community facilities. In addition to existing facilities, there are several new schools planned in Ascension Parish, as well as some new residential development.

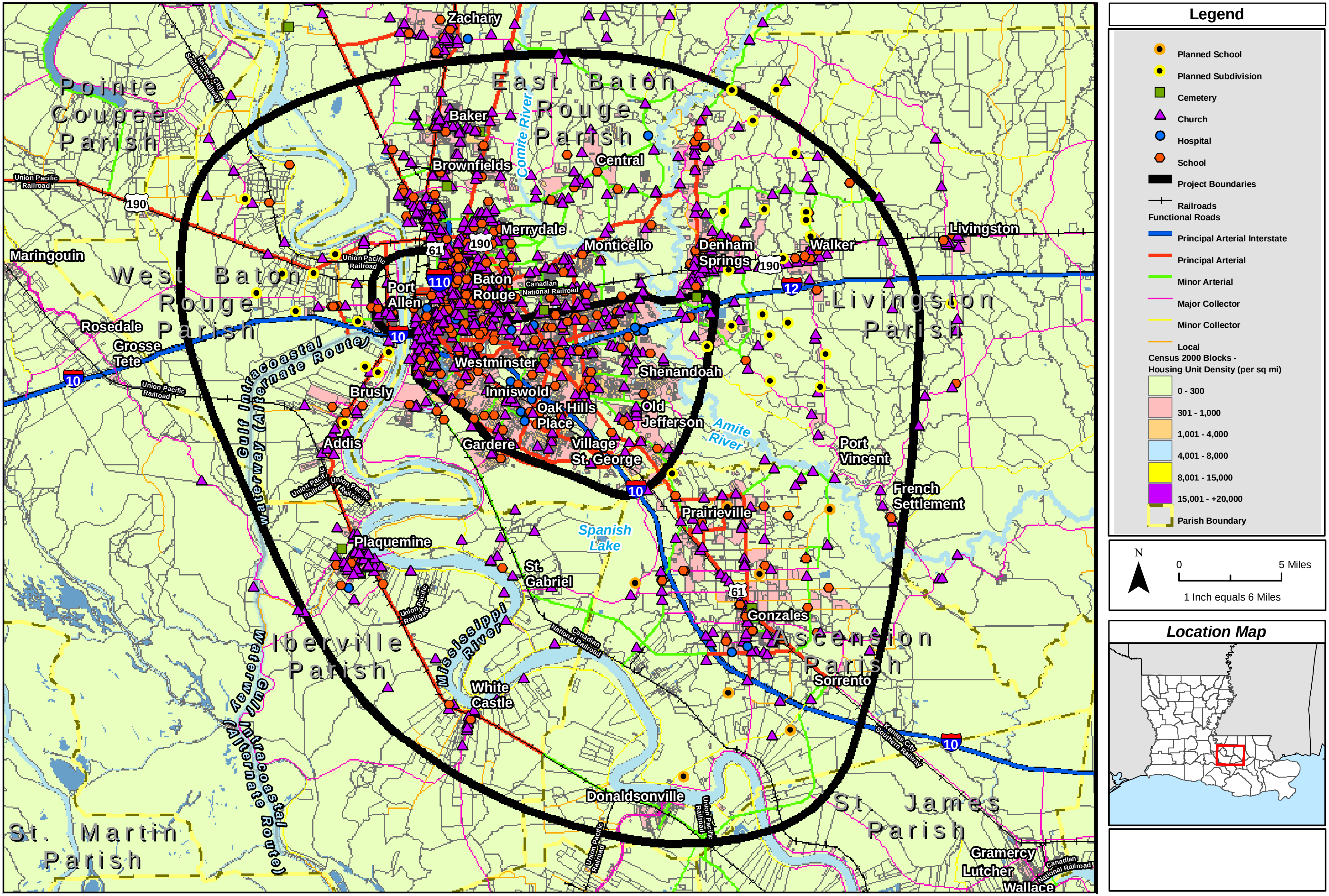
The portion of Livingston Parish located in the northeastern project boundary area includes the communities of French Settlement, Port Vincent, Walker, and Denham Springs. The Denham Springs area is densely populated and includes a large number of community facilities. Residential developments and community facilities exist along Highway 190 between the two population centers of Denham Springs and Walker. The communities of Port Vincent and French Settlement are located in a linear pattern along the major collector roadway connecting these two communities. Livingston Parish is experiencing considerable growth and there are a number of planned residential developments within the project boundary area.

In the north-central project boundary area, dense development is located in and near the City of Baton Rouge in the southern portion of East Baton Rouge Parish. Development between the City of Baton Rouge and the smaller communities of Merrydale, Brownsfield, and the City of Baker in East Baton Rouge Parish is concentrated along generally north-south arterial roadways. The communities of Monticello and the City of Central are located in East Baton Rouge Parish along arterial roadways radiating from the Baton Rouge city center to the northeast. Community facilities are clustered in the City of Baton Rouge, particularly along Highway 190 and Highway 61. There is also a large cluster of community facilities in Baker. Community facilities throughout the rest of East Baton Rouge Parish within the project boundary area are generally concentrated in a linear pattern along arterial roadways.

The portion of West Baton Rouge Parish located in the north-western portion of the project boundary area includes the communities of Port Allen, Brusly, and Addis. Community facilities are concentrated in these areas and are generally located along the Mississippi River and major roadways. As illustrated in **Figure 2-1**, a number of planned residential developments are located in West Baton Rouge Parish between existing communities along the Mississippi River and north of I-10.

The southwestern portion of the project boundary area is located in Iberville Parish. Plaquemine is the largest community in Iberville Parish with dense residential development and a large cluster of community facilities located on the west bank of the Mississippi River. White Castle is a smaller community located southeast of Plaquemine on the Mississippi River. Community facilities in White Castle are concentrated in a linear pattern along Highway 69, a major collector roadway. The community of St. Gabriel is located on the east bank of the Mississippi River in Iberville Parish. Community facilities in St. Gabriel are concentrated along the river.

Figure 2-1: Community Facilities, Residential Density and Planned Development



2.2.2. Public Lands, Parks, and Recreation Facilities

Federal, federally assisted, or federally-licensed projects must consider impacts to public parks, recreation lands and wildlife and waterfowl areas as required under Section 4(f) of the United States Department of Transportation (USDOT) Act of 1966 and Section 6(f)(3) of the Land and Water Conservation Fund (LWCF) Act of 1965. Existing parklands, wildlife and waterfowl refuges, other recreation facilities and public lands located within the project boundary have been inventoried and are shown on **Figure 2-2**.

Some larger parks within the project boundary area in East Baton Rouge Parish include: Howard Park, Brown Heights Park, Harding Park, Clark Memorial Park, Anna Jordan Park, James Watson Park, Monte Sano Park, Hooper Park, Comite River Park Lanier Drive Park, Wray Park, Samuel Dagostino Park, North Sherwood Forest Park, Greenwell Springs Park, Warren and Grace Farr Park, Ben Burge Park, and Elvin Drive Park. The Waddill Wildlife Refuge is also located in East Baton Rouge Parish within the project boundary area.

Smaller parks are located throughout communities within the project boundary area.

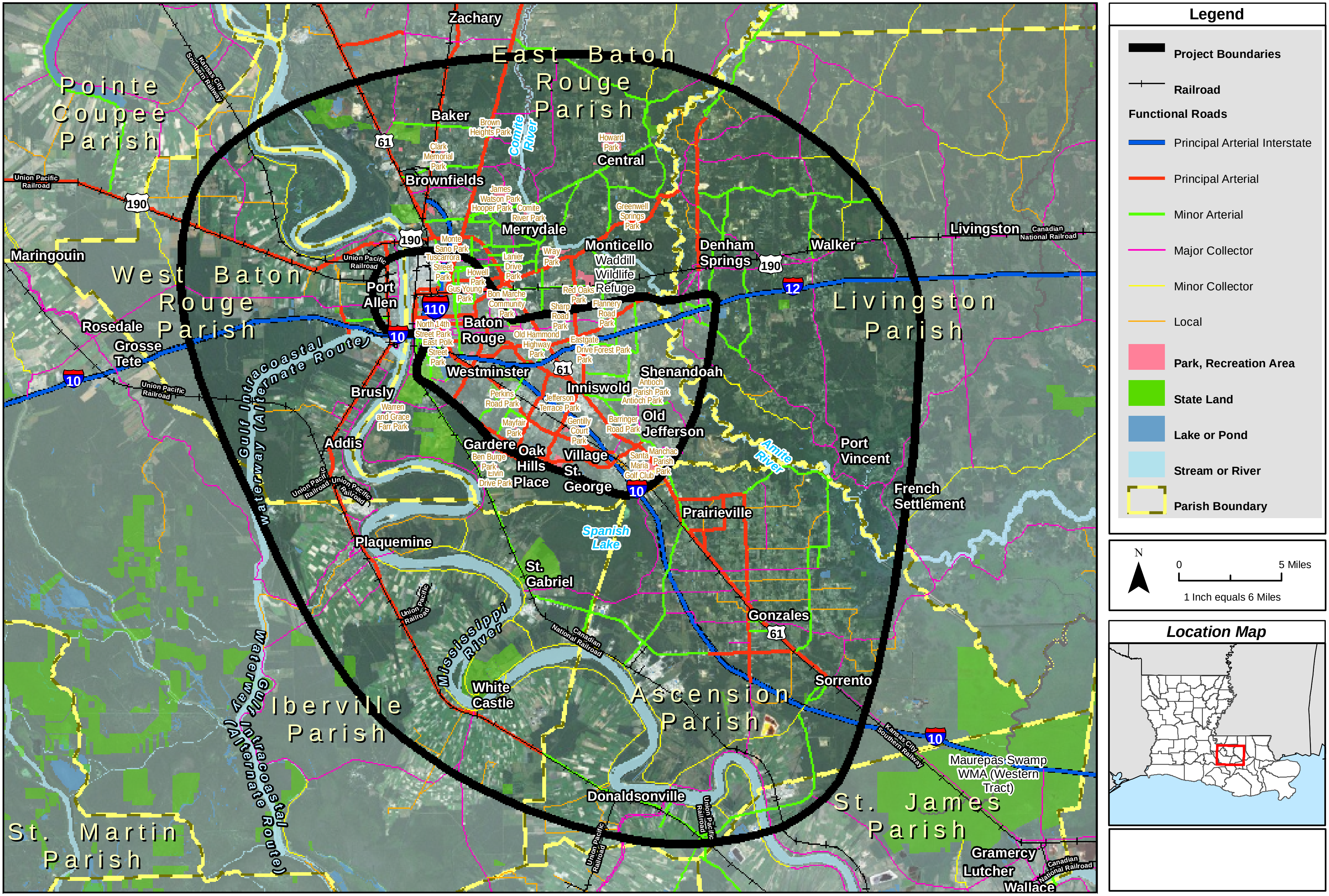
The USDOT Act of 1966, Section 4(f) as amended (49 USC 303), prohibits the acquisition and conversion of significant public parks, recreation areas, wildlife and waterfowl refuges and historic sites for any federally funded, assisted, or licensed transportation project, unless a determination is made that:

- There is no feasible or prudent alternative to use of the land; and
- The proposed action includes all possible planning to minimize harm to the land resulting from its use for the transportation project

The meaning of "use" in this context is the acquiring of land or property for construction of a permanent transportation facility, or if land is not acquired, the substantial impairment of the intended use (constructive use).

The second major federal regulation regarding parklands is Section 6(f)(3) of the LWCF Act of 1965. Section 6(f)(3) stipulates that any land or facility planned, developed, or improved with LWCF funds cannot be converted to uses other than parks, recreation, or open space unless land of at least equal fair market value and reasonably equivalent usefulness is provided. Anytime a transportation project would cause such a conversion, regardless of funding sources, such replacement land must be provided.

Figure 2-2: Public Lands and Recreation Facilities



2.2.3. National Register of Historic Places

Section 106 of the National Historic Preservation Act of 1966, as amended, requires the lead federal agency with jurisdiction over a federal, federally assisted, or federally-licensed undertaking to consider impacts to historic properties before undertaking a project. A historic property is defined as any prehistoric or historic district, archeological site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). The implementing regulation of Section 106, issued by the Advisory Council on Historic Preservation (ACHP), is 36 CFR Part 800. The regulation establishes a process of identifying, evaluating and assessing the effects of an undertaking on historic properties, and consultation for methods to avoid, reduce, or mitigate any adverse effects to NRHP listed or eligible properties. As noted in the previous section, historic sites are also protected by the USDOT Act of 1966, Section 4(f) as amended (49 USC 303).

The project boundary area is located in the "Louisiana Plantation Country Region." The Greater Baton Rouge area is recognized as "Plantation Country" due to the number of preserved antebellum structures located along the Mississippi River. In addition to antebellum resources, cultural resources from other periods exist within the project boundary area. As illustrated in **Figure 2-3**, there are several NHRP historic districts and properties located throughout the project boundary area.

The Donaldsonville Historic District in Ascension Parish is roughly bounded by Bayou Lafourche, The Mississippi River levee, Jackson Ave., Monroe St., Church St. and Marchand Drive. There are also several National Register properties in Donaldsonville including: Fort Butler, Evan Hall Slave Cabins, Landry Tomb, the Lemann Store, Palo Alto Plantation, Palo Alto Dependency and St. Emma plantation house. Other NRHP properties in Ascension Parish within the southeastern portion of the project boundary area include St. Joseph's School and several plantation homes and Creole cottages.

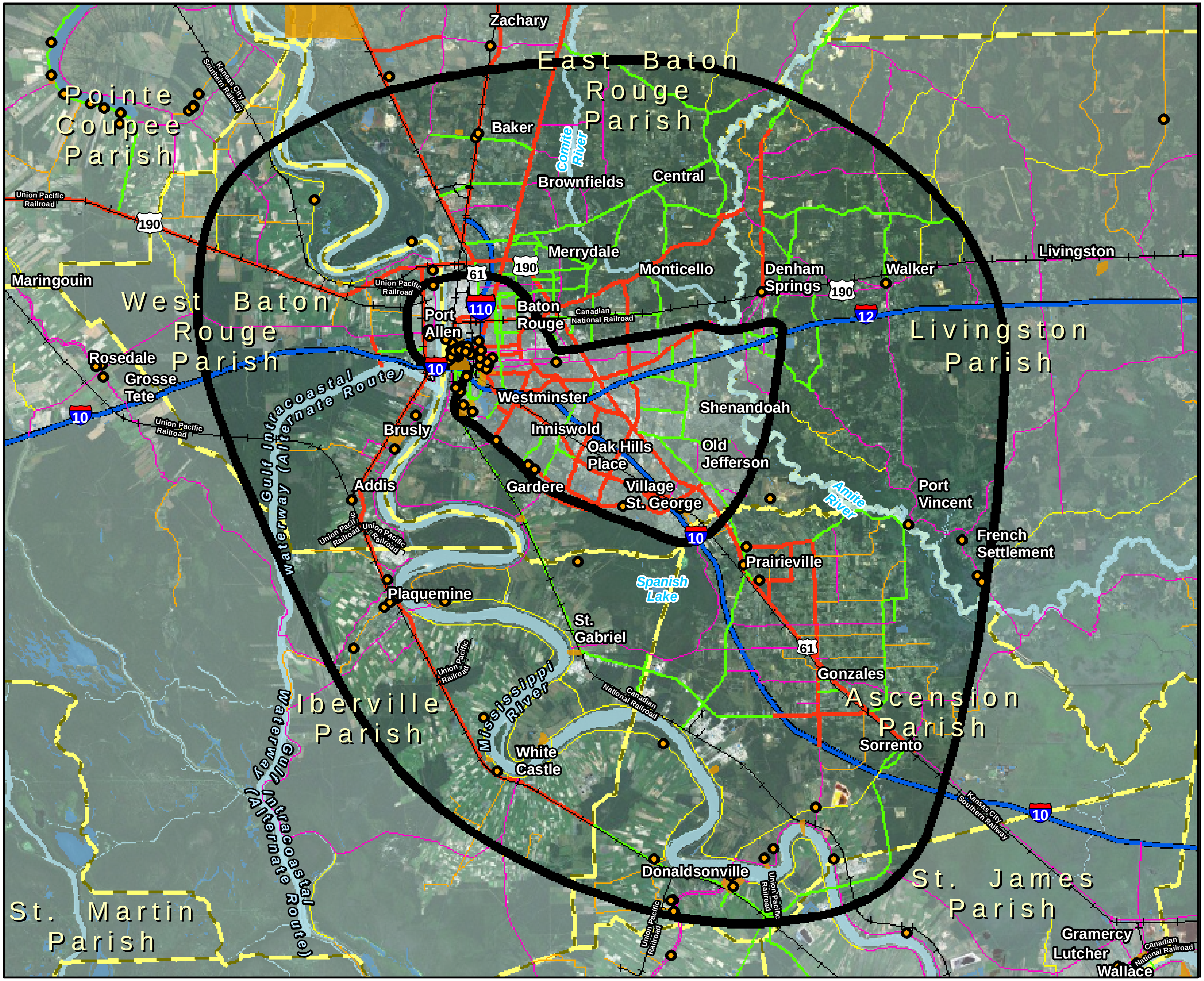
There are several NHRP properties in French Settlement in Livingston Parish, including: Deslattes House, Guitreau House, Adam Lobdell House, and Decareaux House. Other NHRP properties within the project boundary area in Livingston Parish include: the Castleberry Boarding House in Port Vincent, Walker High School in Walker; and Denham Springs City Hall.

East Baton Rouge Parish has many NRHP sites and districts, but only a few are located within the project boundary area. These properties include: the Audubon House; the Southern University Historic District, the Southern University Archives Building, Baker Presbyterian Church, Cushman House and Leland College in Baker.

The Allendale Plantation Historic District is located within the project boundary area in Port Allen in West Baton Rouge Parish. Monte Vista Plantation Home, Sandbar Plantation House, and Smithfield Plantation House are also MRHP properties located in Port Allen. There are three NHRP properties in Brusly: Cinclare Sugar Mill Historic District, Herbert House, and the Old Brusly High School Gymnasium. The Bank of Addis is also a NRHP property.

The portion of Iberville Parish within the southwestern project boundary area contains many cultural resources from the antebellum period, including several NRHP-listed plantation homes. In addition to antebellum resources, the Bayou Plaquemine and the U.S. Government Lock is listed on the NRHP because of its historical significance in the areas of commerce, engineering, industry, science, and transportation. The Carville Historic District includes buildings from two separate periods, and is located on the east bank of the Mississippi River. It is listed on the NRHP for both its importance to architecture and health and medicine. Several properties in Iberville Parish are listed on the National Register of Historic Places as outstanding examples of Beaux Arts, Classical Revival, Gothic Revival and Craftsman architecture.

Figure 2-3: National Register of Historic Places, Sites, and Districts



Legend

- National Register Location
- National Historic District
- Project Boundaries
- Railroad

Functional Roads

- Principal Arterial Interstate
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local
- Lake or Pond
- Stream or River
- Parish Boundary

N

0 5 Miles

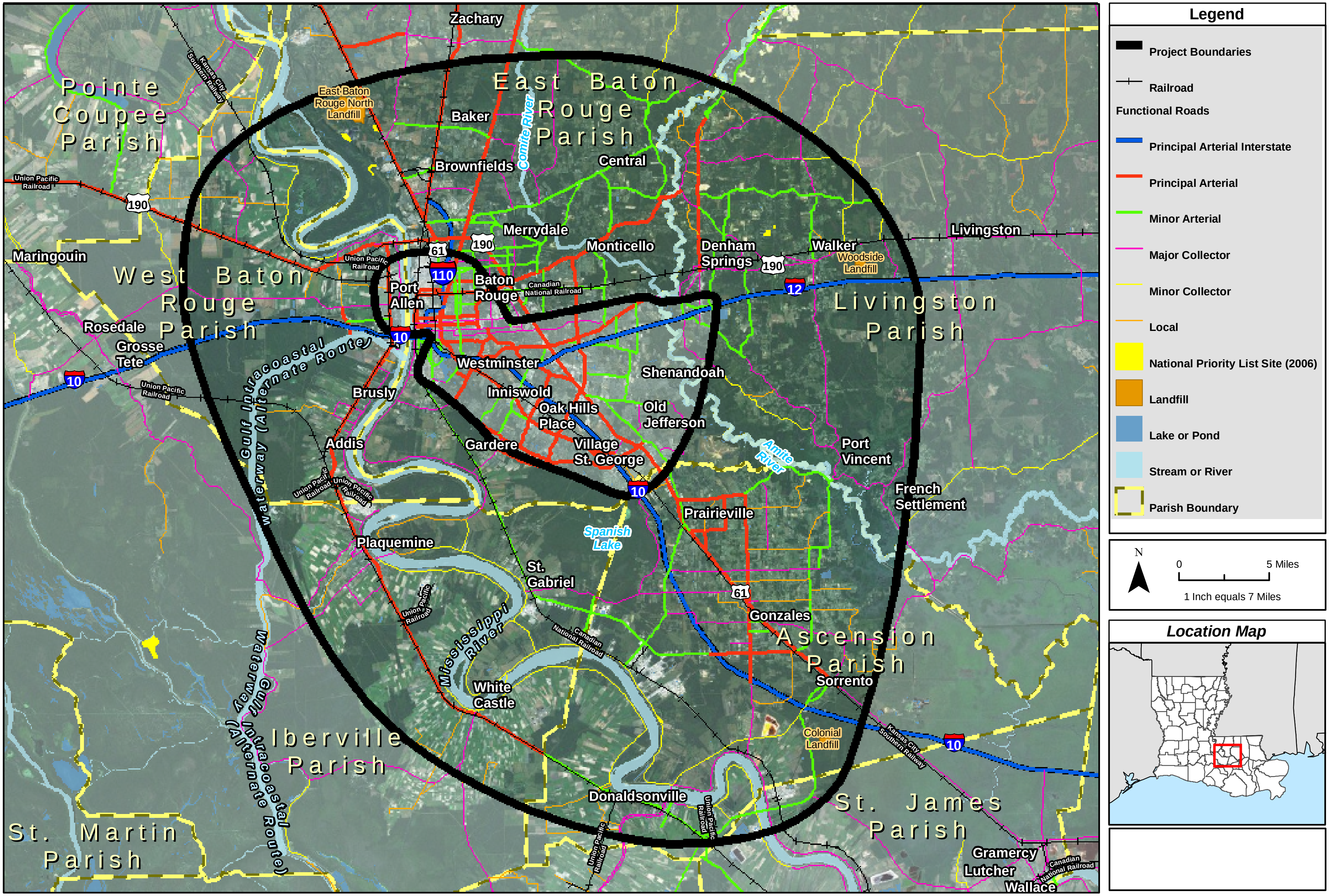
1 Inch equals 7 Miles

Location Map

2.2.4. Potential Hazardous Materials Sites

Hazardous materials sites evaluated were limited to U.S. Environmental Protection Agency National Priority List properties, also known as Superfund sites, and landfills. These properties are considered recognized environmental conditions, because the presence of hazardous substances in the soil, groundwater, and/or the surface water of the property is known or likely. These properties are shown on **Figure 2-4**.

Figure 2-4: Potential Hazardous Materials Sites



2.2.5. Wetlands

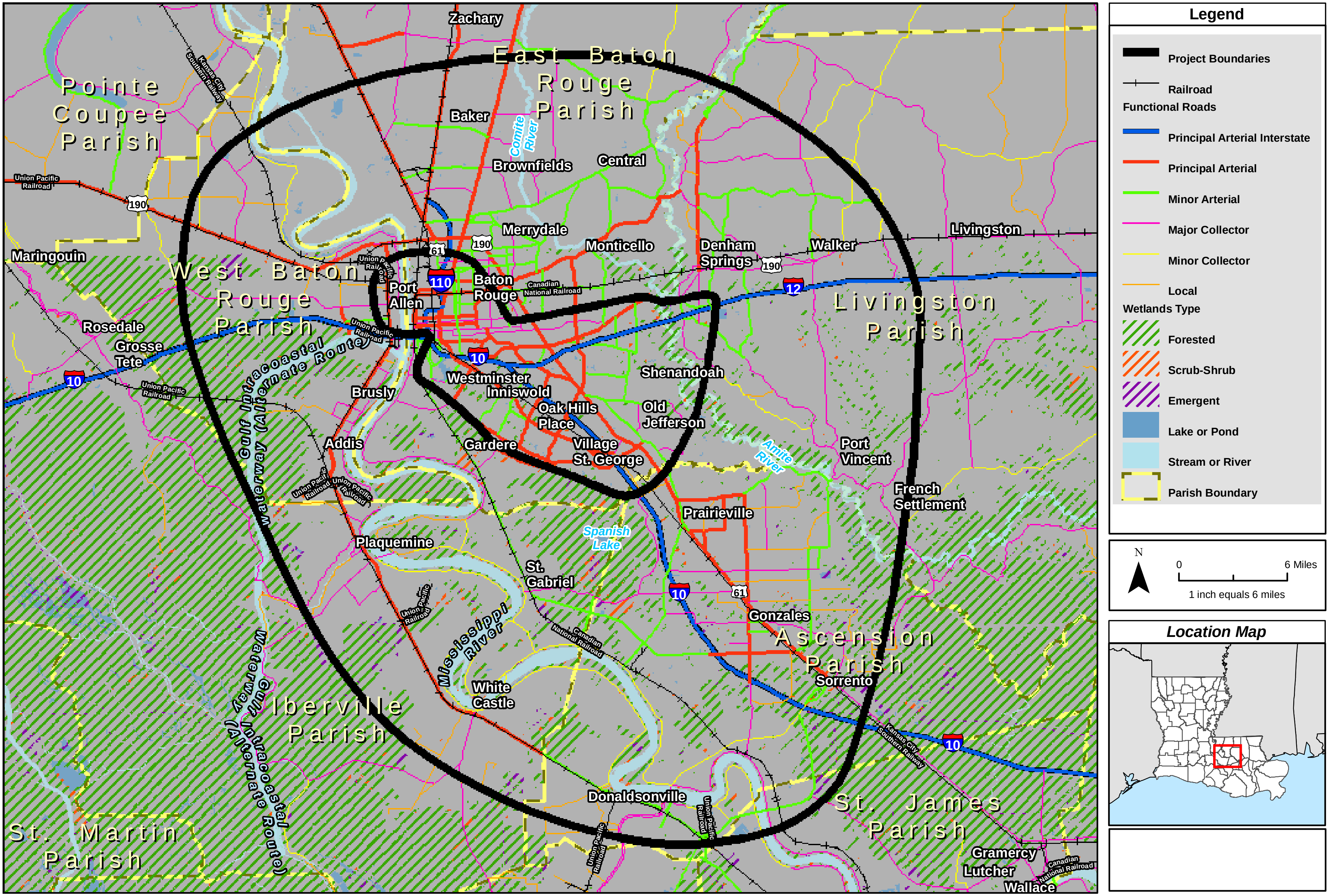
Impacts to wetlands are regulated under the Clean Water Act (CWA) provided they are connected or adjacent to “navigable waters” of the United States (U.S.). Section 404 of the CWA requires a permit to be issued by the United States Army Corps of Engineers (USACE) (or a delegated state) prior to the placement of any dredged or fill material into any waters of the U.S., including wetlands. Wetland areas within the project boundary area are shown on **Figure 2-5**. **Figure 2-5** was developed using the National Wetlands Inventory (NWI).

The wetland communities shown on **Figure 2-5** are depicted by wetland types. The majority of wetlands within the project boundary area are palustrine forested wetlands. Palustrine forested wetlands include hardwood and softwood trees, shrubs and grasses. Common tree species in palustrine forested wetlands include oak, maple, sweet gum, ash, tupelo and cypress species.

Smaller areas in the project boundary area include palustrine scrub-shrub and palustrine emergent wetland types. The vegetative components of palustrine scrub-shrub wetlands are not as diverse as the palustrine forested wetland type. The trees comprising the upper canopy of palustrine scrub-shrub wetlands are not as tall as those comprising the upper canopy of palustrine forested wetlands. The vegetative component of the palustrine emergent wetland type is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens.

A large wetland area surrounds Spanish Lake, and is composed primarily of palustrine forested wetlands with some larger scrub-shrub and emergent type areas. South of I-10 and east of the Mississippi River there is a large wetland community associated with the northeastern Atchafalaya Basin. In Ascension Parish, there is a large wetland area in the vicinity of Sorrento that is primarily composed of the palustrine forested type with pockets of palustrine scrub-shrub and palustrine emergent types. Wetland communities exist along the Amite and southern Comite Rivers, and are primarily the palustrine forested type with some scrub-shrub areas.

Figure 2-5: Wetlands



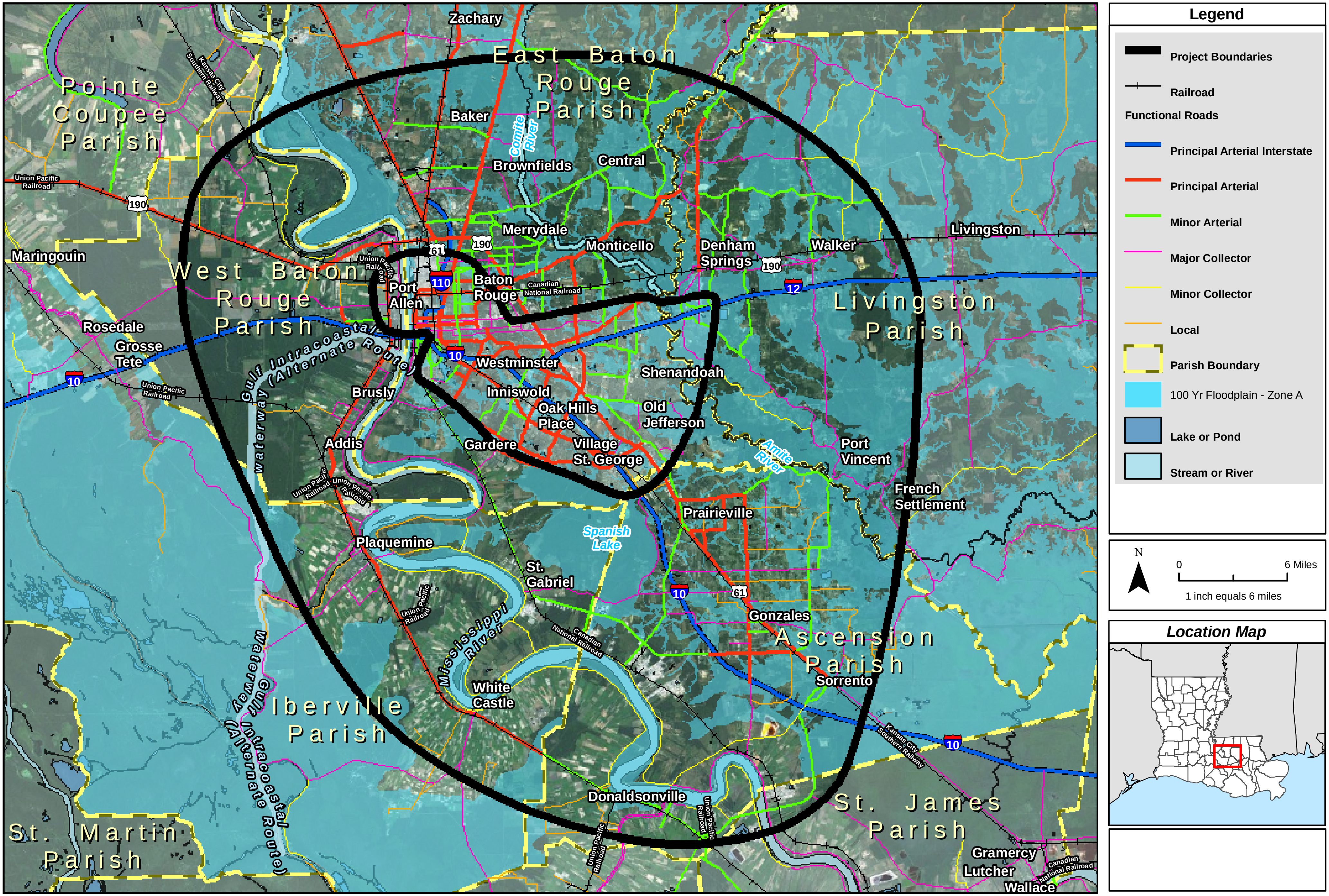
2.2.6. Floodplains

Executive Order 11988 requires all federal agencies to take appropriate action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities. The order states that if an agency head determines that siting within a floodplain is the only practicable alternative, the site design shall "minimize potential harm to or within the floodplain."

Federal Emergency Management Agency (FEMA) defines floodplains as the "lowland and relatively flat areas adjoining inland and coastal water, including flood prone areas of offshore islands, including at a minimum, those that are subject to a one percent (1%) or greater chance of flooding in any given year" (i.e., the area inundated by a 100-year flood). The 100-year flood (one percent [1%] annual chance) has been adopted by FEMA as the base flood for floodplain management purposes. FEMA employs the 500-year flood (0.2 percent annual chance) to indicate additional areas of flood risk. As shown in **Figure 2-6**, much of the project boundary area is located within the 100-year floodplain.

Note that digital floodplain data is not available for West Baton Rouge Parish. It is likely that the large 100-year floodplain area in northeast Iberville Parish extends into West Baton Rouge Parish.

Figure 2-6: Floodplains



2.2.7. Designated Waterways

Wild and Scenic Rivers

The Wild and Scenic Rivers Act (WSRA) of 1968, as amended, was enacted by Congress to preserve and protect rivers and river segments that are free-flowing and possess "remarkable physical attributes." The WSRA is administered by the National Park Service (NPS) of the U.S. Department of Interior. Information obtained from the NPS indicates no rivers within the project boundary area are listed on the National Wild and Scenic Rivers System.

Louisiana Natural and Scenic Rivers

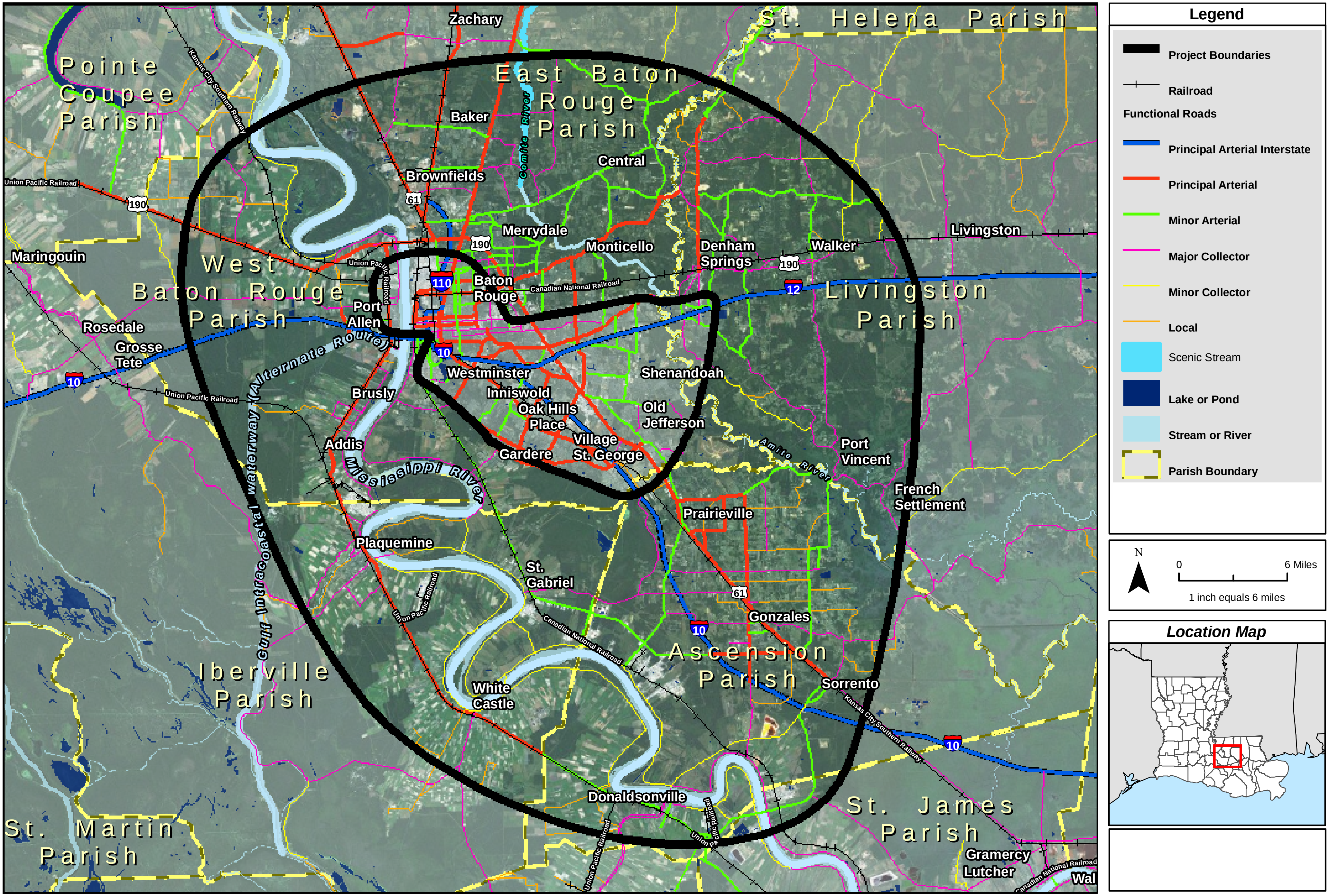
The Louisiana Legislature created the Louisiana Natural and Scenic Rivers System in 1970. The system was developed for the purpose of "preserving, protecting, developing, reclaiming, and enhancing the wilderness qualities, scenic beauties, and ecological regimes of certain free-flowing Louisiana streams." The Louisiana Department of Wildlife and Fisheries (LDWF) manages and oversees planning for the system. Any activity that may have a direct ecological impact on a Natural and Scenic River requires a permit from LDWF. The Louisiana Department of Environmental Quality, Louisiana Department of Agriculture and Forestry, the Louisiana Department of Culture, Recreation and Tourism, and the Office of State Planning also review permit applications.

Two rivers in the project boundary area are designated natural and scenic rivers. The Comite River in East Feliciana and East Baton Rouge Parishes is designated from the Wilson-Clinton Highway in East Feliciana Parish to the entrance of White Bayou in East Baton Rouge Parish. The Amite River is a designated natural and scenic river in East Feliciana Parish from the Louisiana-Mississippi state line to Highway 37, north of the project boundary area.

Navigable Waterways

The U.S. Army Corps of Engineers (USACE) under the *Rivers and Harbors Act of 1899* (RHA) has historically regulated navigable waters of the U.S. Section 9 and Section 10 of the RHA establish the USACE's authority to regulate construction, filling, dumping, channelization and other activities in the waters. The Mississippi River and the Gulf Intracoastal Waterway Alternative Route are navigable waters within the project boundary area. See Figure 2 - 7; Designated Waterways.

Figure 2-7: Designated Waterways



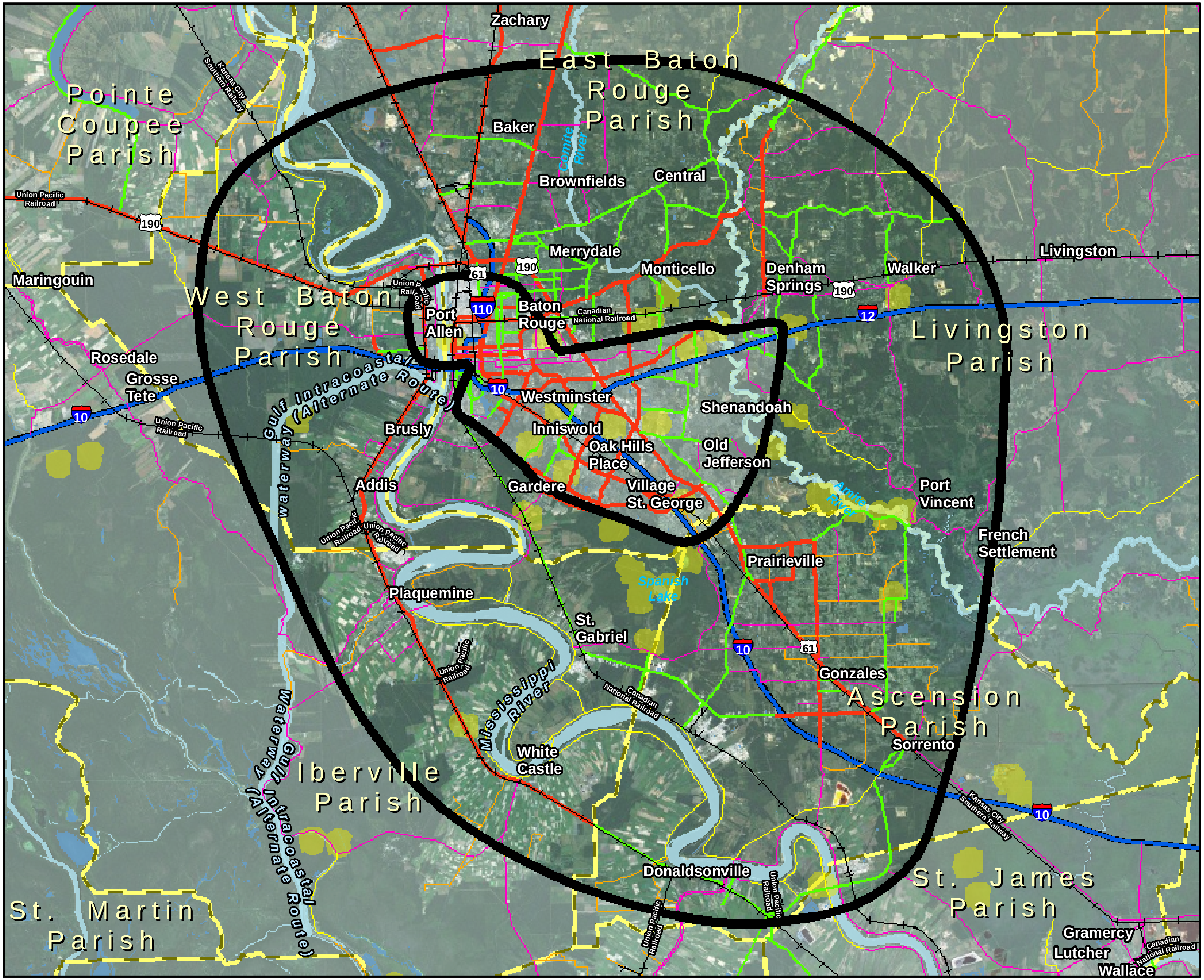
2.2.8. Potential Rare, Threatened and Endangered Species Critical Habitat

Section 7 of the *Endangered Species Act* (ESA) requires all federal agencies to consider and avoid, if possible, adverse impacts to federally listed threatened or endangered species or their critical habitats which may result from their direct, regulatory, or funding actions. The United States Fish and Wildlife Service (USFWS) is responsible for compiling and maintaining the federal list of threatened and endangered species. Section 9 of the ESA also prohibits the "taking" of any federally listed species by any person without prior authorization. The term "taking" is broadly defined at the federal level and explicitly extends to any habitat modifications that may significantly impair the ability of that species to feed, reproduce, or otherwise survive.

The Louisiana Department of Wildlife and Fisheries (LDWF) oversees state listed threatened and endangered species. The requirements in place to protect state threatened and endangered species are to minimize impacts to the species and their habitat. The Louisiana Natural Heritage Program was developed in 1984 as a branch of the LDWF. The goal of the Natural Heritage Program is to develop a database of rare, threatened and endangered species (RTE) and unique habitats in the state. The program has accumulated occurrences of RTE species, unique natural communities, and ecologically significant sites statewide. Data regarding potential RTE species critical habitat from LDWF are displayed on **Figure 2-8.**

As shown in **Figure 2-8**, many areas throughout the project boundary area may provide critical habitat for RTE species. Concentrations of quality habitat may exist along the Amite River and in the Spanish Lake area.

Figure 2-8: Potential Rare, Threatened and Endangered Species Habitat



Legend

- Project Boundaries
- Railroad
- Functional Roads
  - Principal Arterial Interstate
  - Principal Arterial
  - Minor Arterial
  - Major Collector
  - Minor Collector
  - Local
- Threatened and Endangered Species
- Lake or Pond
- Stream or River
- Parish Boundary

N
0 — 6 Miles
1 inch equals 6 miles

Location Map

3. CORRIDORS ELIMINATED FROM FURTHER CONSIDERATION

3.1. Corridor Evaluation

Corridors were evaluated based on several engineering and environmental criteria. **Figures 3-1 and 3-2** on the following pages illustrate the corridors removed from consideration and why the corridors were eliminated. The Technical Memorandum No. 1 contains further discussion of the corridor evaluation process. Engineering and environmental criteria considered in the corridor evaluation matrix include:

- Fails to Adequately Relieve Existing Congestion
- Fails to Generate Sufficient Toll Revenue
- Construction is Cost Prohibitive
- Adverse Community Effect/Conflicts with Planned Development
- Disproportionate Impacts to Public Properties (Parks, Schools, etc.)
- Disproportionate Impacts to Wetlands and Floodplains
- Disproportionate Impacts to other Environmentally Sensitive Areas
- Unacceptable Impacts to Mississippi River Navigation

CORRIDOR EVALUATION MATRIX

SEGMENT NO.	EVALUATION FACTORS									
	Fails To Adequately Relieve Existing Congestion	Fails To Generate Sufficient Toll Revenue	Construction Is Cost Prohibitive	Right-Of-Way Cost Prohibitive	Adverse Community Effect/Conflicts With Planned Development	Disproportionate Impacts To Public Properties (Parks, Schools, Etc.)	Disproportionate Impacts To Wetlands and Floodplains	Disproportionate Impacts To Other Environmentally Sensitive Areas	Unacceptable Impacts To Mississippi River Navigation	Comments
1				X	X	X				Disruptive to planned Central town center and development core
2	X			X	X					Paired with Segment no. 5; high disruption to existing development
3			X							Access & development impacts/costs using Florida/Airline corridor
4				X	X					Access & development impacts/costs using florida/airline corridor
5	X			X	X					Rigid I-10 interchange location creates disruptive community impacts
6				X	X					Less desirable Florida ave. interchange; bisects Walker neighborhoods
7				X	X					Access & development impacts/costs using LA 415 corridor
8				X	X					Undesirable I-10 Interchange complications & spacing
9				X	X					Paired with Segment no. 11
10				X	X					Intracostal Waterway complications due to close proximity
11			X	X	X					Impact, complexity and cost to I-10 system and Nicholson corridor
12									X	Based on input from U.S. Coast Guard, Corps & navigation interests
13					X	X		X		Unacceptable impacts to existing National Register Historic Property
14						X				Refined corridor to miss existing development and public works facilities
15			X		X					Impacts to new development & Addis community cohesion
16			X		X					Impacts to new development & Addis community cohesion
17			X						X	Based on input from U.S. Coast Guard, Corps & navigation interests
18				X	X		X	X		Significant floodplain, wetlands & proposed development
19				X	X		X			Historic community & community cohesion
20				X	X		X			Paired with Segment nos. 18 & 19, Impacts to existing development
21					X		X	X		Disruption to Spanish Lake wetlands & environmentally sensitive areas
22				X	X					Disruption to Spanish Lake wetlands & environmentally sensitive areas
23					X		X	X		Disruption to Spanish Lake wetlands & environmentally sensitive areas
24					X					Neighborhood Impacts
25	X	X		X	X					Community disruption; paired with Segment nos. 37 & 38
26	X	X		X	X					Low attracted traffic & revenue
27	X	X	X	X						Low attracted traffic & revenue; higher costs due to longer route length
28	X	X	X	X						Low attracted traffic & revenue; higher costs due to longer route length
29	X	X	X	X						Low attracted traffic & revenue; higher costs due to longer route length

FIGURE 3-1 (1 OF 2)
CORRIDOR EVALUATION MATRIX

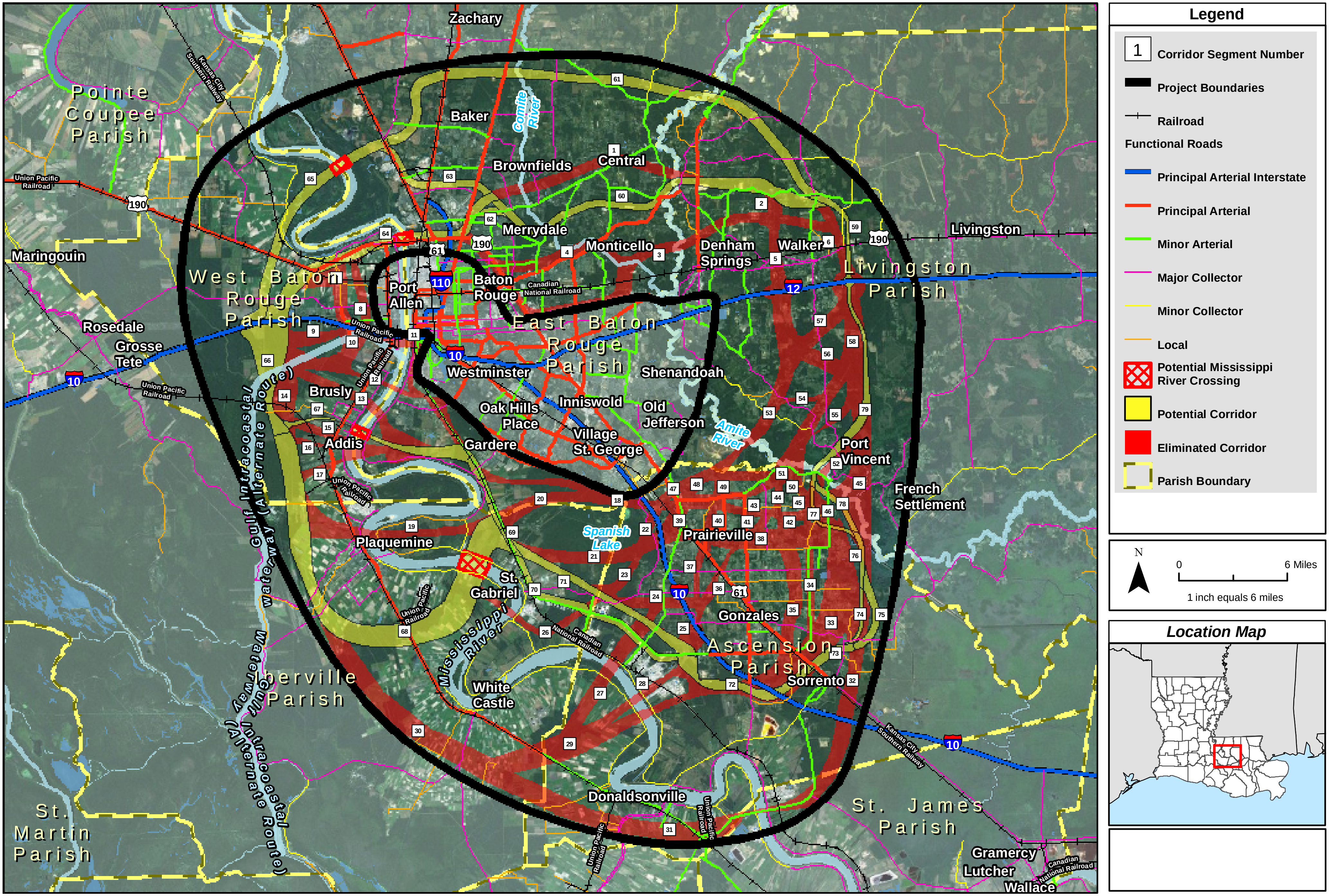
CORRIDOR EVALUATION MATRIX

EVALUATION FACTORS

SEGMENT NO.	Fails To Adequately Relieve Existing Congestion	Fails To Generate Sufficient Toll Revenue	Construction Is Cost Prohibitive	Right-Of-Way Cost Prohibitive	Adverse Community Effect/Conflicts With Planned Development	Disproportionate Impacts To Public Properties (Parks, Schools, Etc.)	Disproportionate Impacts To Wetlands and Floodplains	Disproportionate Impacts To Other Environmentally Sensitive Areas	Unacceptable Impacts To Mississippi River Navigation	Comments
30	X	X	X							Low attracted traffic & revenue; higher costs due to longer route length
31	X	X	X							Low attracted traffic & revenue; higher costs due to longer route length
32	X	X	X							Low attracted traffic & revenue; higher costs due to longer route length
33				X	X	X				Impacts to St. Amant community & public properties
34				X	X	X				Access & development impacts/costs using LA 431 corridor
35				X	X	X				Impacts to St. Amant community & public properties
36				X	X	X				Impacts to Gonzales community & public properties
37				X	X	X				Impacts to Gonzales community & public properties
38				X	X	X				Impacts to Prairieville/Galvez communities & public properties
39				X	X	X				Impacts to Prairieville community & public properties
40				X	X	X				Impacts to Prairieville community & public properties
41				X	X	X				Impacts to Prairieville community & public properties
42				X	X	X				Impacts to Prairieville/Galvez communities & public properties
43				X	X	X				Impacts to Prairieville/Galvez communities & public properties
44				X	X	X				Impacts to Prairieville/Galvez communities & public properties
45			X		X		X	X		Impacts to Prairieville/Galvez communities & public properties
46				X	X	X				Impacts to Galvez community & proposed school
47				X	X					Impacts to Prairieville community & public properties
48				X	X	X				Impacts to Prairieville/Galvez communities & public properties
49			X		X		X	X		Impacts to Prairieville community & public properties
50					X					Paired with Segment no. 51
51					X	X				Impacts to Ascension & Livingston Parish development
52			X		X		X	X		Refined corridor to minimize impacts to Port Vincent north end community
53	X		X		X		X	X		Impacts to Manchac & Amite wetlands/floodplains & communities
54	X			X	X					Paired with Segment no. 53
55					X					Paired with Segment no. 51
56	X				X					Paired with Segment nos. 53 & 5
57			X		X		X	X		Paired with Segment no. 53
58										Confined corridor width to be within large timber property

**FIGURE 3-1 (2 OF 2)
CORRIDOR EVALUATION MATRIX**

Figure 3-2: Corridor Refinement Process



4. ENVIRONMENTAL REVIEW OF CORRIDORS

4.1. Environmental Review of Corridors

The environmental constraints described in **Section 2.0** were used to compare the remaining corridors in terms of potential impacts. The corridors retained for further consideration vary in width, making a comparison of impacts based on quantity slightly more complicated. Despite the difference in corridor width, a general comparison of constraints is valid in determining what corridors are feasible for further study.

For example, if Corridor A impacts a certain number of structures and Corridor B impacts a far less number of structures, then Corridor B is likely a more feasible corridor. However, if Corridor A is twice the width of Corridor B, this could explain the number of structure impacts. In order to explain the discrepancy, a structure density evaluation would be undertaken to highlight the areas with higher concentrations of residential and commercial development. If Corridor A traverses through higher density areas, then it can be assumed that this is the reason, and not its greater width, and that Corridor A impacts a larger number of structures. Therefore, Corridor A would still be eliminated while Corridor B is retained. This type of density comparison can be utilized for a number of the environmental constraints to add another screening layer with which to compare the corridors.

For other constraints such as land use and wetlands, the impacts can be compared by corridor. Variation in width can be viewed as a positive in terms of flexibility of the corridor. A wider corridor may potentially impact a larger amount of a particular resource; however, as the planning process moves forward and actual roadway alignments are developed within corridors, a wider corridor will allow for alignments to be shifted and developed around these constraints thereby avoiding them.

The following sections use the results of GIS queries to compare the remaining corridors for each of the environmental concerns described in **Section 2.0**. The GIS queries were performed using the most recent and best available data. Due to the considerable amount of growth in the project boundary area, these data may not reflect current conditions within the project boundary area.

4.1.1. Residential Areas, Community Facilities, and Planned Development

Potential impacts to residential areas, community facilities and planned development were evaluated through GIS database queries to determine the potential effects that the proposed project may have on adjacent communities. This evaluation was supplemented by an examination of the population and housing densities in the communities adjacent to the corridor segments.

A number of the corridor segments retained for further evaluation could potentially impact community facilities. **Table 4-1** lists the corridor segments that contain community facilities. It is likely that impacts to community facilities can be minimized or avoided through the further refinement of the corridor segments.

Table 4-1
Comparison of Potential Impacts to Community Facilities

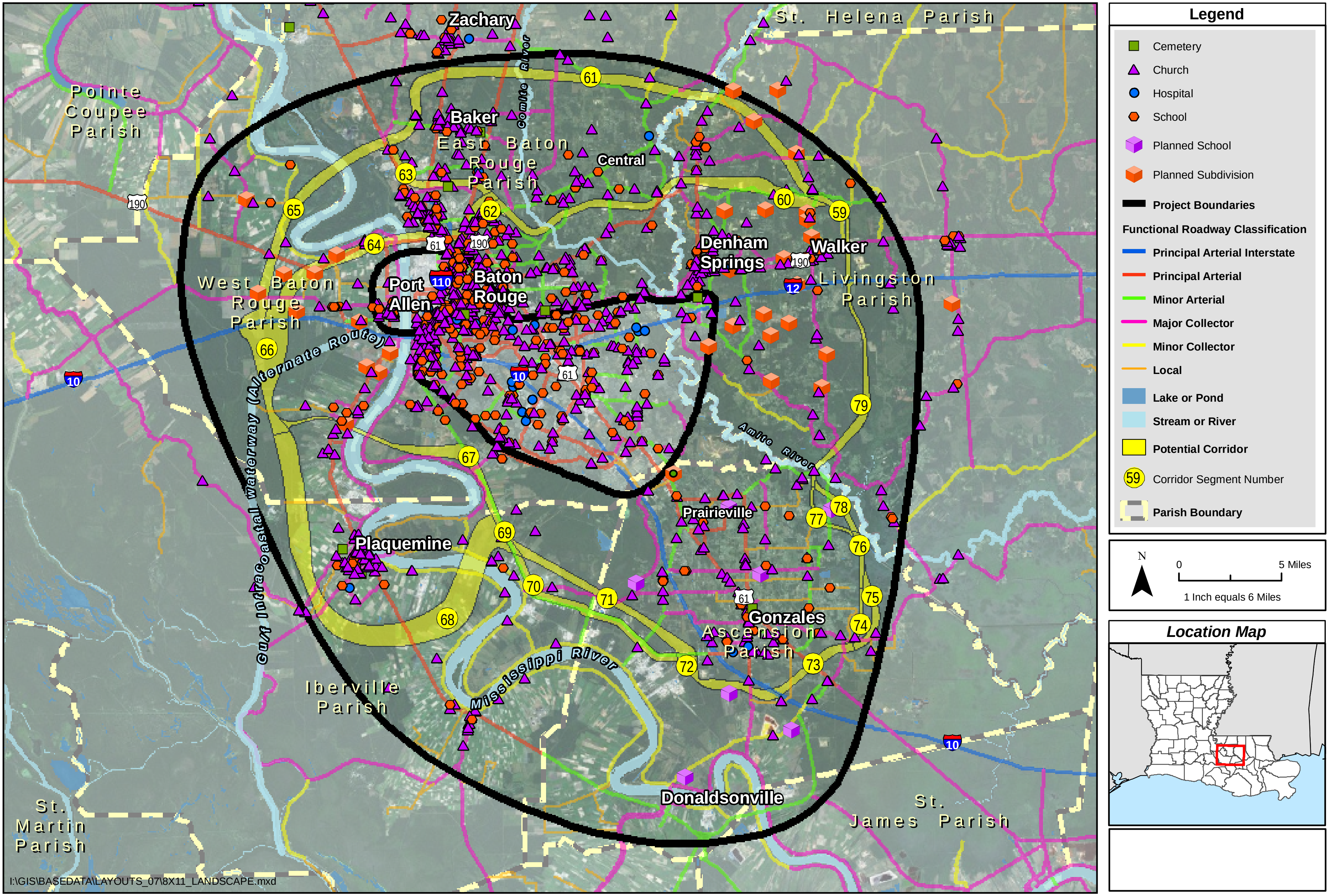
Corridor Segment	Child Care Services	Religious Organizations	Elementary and Secondary Schools
60	1	3	0
61	1	6	0
62	2	6	0
63	2	1	1
64	4	12	3
65	0	1	0
67	0	0	1
68	0	1	0
74	0	1	0
79	0	1	0

The corridor segments highlighted above have the greatest potential impacts to community facilities. As shown on **Figure 4-1**, corridor segments 62 and 64 traverse areas that contain a high density of community facilities. It may be more difficult to develop avoidance alternatives for corridor segments 62 and 64 due to the density of these facilities. Because the other corridor segments are not as densely developed, it is more likely that avoidance alternatives can be developed.

Population and structure density is fairly low throughout the majority of the corridor segments. The structure density for 99.8% of the corridor segments is two structures or less per acre. Similarly, population density is low throughout the majority of the corridor segments: 99.8% of the corridor segments have a population density of seven people or less per acre. Corridor segments 61, 63, and 64 contain areas with higher population and structure densities. The higher density areas in corridor segment 61 are located west of the community of Baker. These areas are relatively small, and it is likely that roadway alignments can be developed that avoid these denser areas. The small pockets of denser development in corridor segments 62 and 63 can likely be avoided in the refinement of alternatives. Corridor segment 64 contains the largest areas of denser development, primarily along US Highway 190 and LA 67. Avoidance alternatives may be more difficult to develop in these areas.

There are several planned developments within the project boundary area. Corridor segments 61, 64, and 67 potentially impact planned developments, as illustrated in **Figure 4-1**.

Figure 4-1: Residential Areas, Community Facilities and Planned Development



4.1.2. Public Lands and Recreation Facilities

Section 2.2.2 above describes Section 4(f) and Section 6(f), which regulates the use of significant public parks, recreation areas, wildlife and waterfowl refuges and historic sites for federally funded actions.

An evaluation of the remaining corridor segments revealed that four public recreation facilities are potentially impacted, as noted in **Table 4-2**.

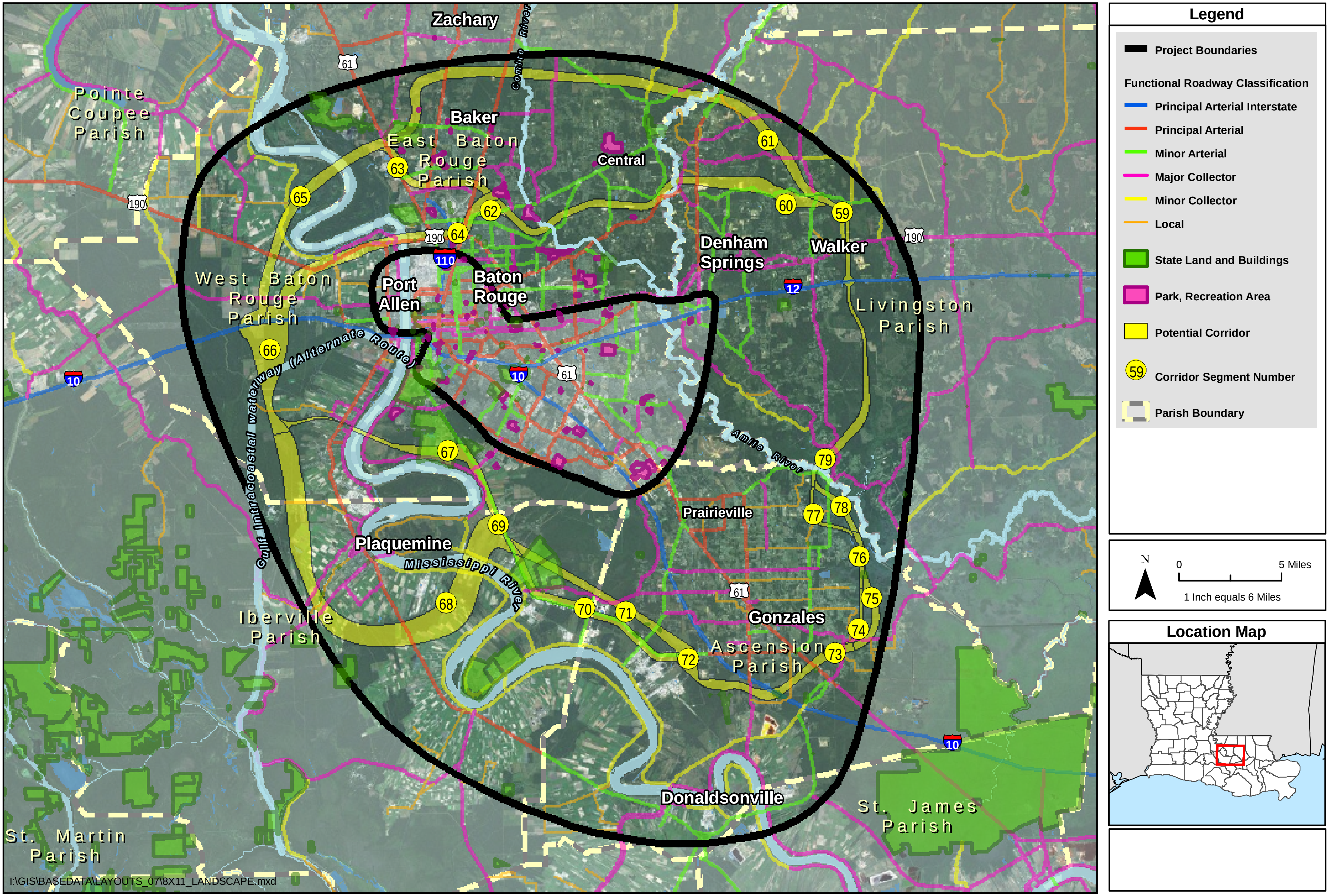
Table 4-2
Public Recreation Facilities Potentially Impacted

Recreation Facility	Corridor Segment	Acres
Hooper Park	62	21.39
James Watson Park	64	4.70
Chamberland Park	61	5.97
Monte Sano Park	64	8.78

Potential impacts to these recreational facilities should be considered in the further refinement of these corridor segments. It is likely that alternatives can be developed that avoid these resources entirely.

As shown on **Figure 4-2**, there are several areas of state-owned lands that may be impacted by the proposed project. The further refinement of the corridor segments should consider avoiding these resources.

Figure 4-2: Public Lands and Recreation Facilities



4.1.3. National Register of Historic Places

As noted in **Section 2.3**, Section 106 of the National Historic Preservation Act of 1966, as amended, and the USDOT Act of 1966, Section 4(f) as amended (49 USC 303) protect historic sites. An evaluation of potential impacts to NHRP historic districts and properties was undertaken to guide the further refinement of the corridor alternatives.

Two corridor segments potentially impact NRHP listed properties. Corridor Segment 61 potentially impacts Leland College. The remaining five buildings of Leland College are located west of the town of Baker in East Baton Rouge Parish. The extant buildings on the Leland College campus are historically significant on the state level in the areas of education and black history because they are the only remaining visual reminders of a black educational institution of statewide importance (Louisiana Division of Historic Preservation).

Corridor segment 67 potentially impacts Longwood Plantation House, a two-story Greek Revival house located on the east bank of the Mississippi River approximately two miles north of the East Baton Rouge/Iberville parish line. Longwood Plantation House is locally significant in the area of architecture because it is a distinctive example among a small group of surviving two-story Greek Revival residences in East Baton Rouge Parish. East Baton Rouge Parish has lost much of its antebellum building stock due to decay and urbanization, and Longwood is one of only four of the parish's remaining two-story Greek Revival residences (Louisiana Division of Historic Preservation).

Additional NRHP eligible structures or sites may be located within the corridor segments. This evaluation focused exclusively on properties that have already been determined to be eligible for listing of the NRHP. As the planning process progresses, detailed cultural resources investigations will be conducted for roadway alignments.

4.1.4. Potential Hazardous Materials Sites

Hazardous materials sites evaluated were limited to U.S. Environmental Protection Agency National Priority List properties and landfills. None of the corridor segments retained for further evaluation impact either of these types of hazardous materials sites.

It is likely that the corridor segments contain other areas contaminated by hazardous materials, particularly in industrial areas. As the project progresses, more detailed investigations will be undertaken to identify sites that may contain hazardous materials or petroleum contamination that could be transmitted by earth-moving activities during construction. Because of the potentially high cost and complicated procedures required to mitigate impacts when constructing a highway over or through potential contaminated sites, avoidance of these areas is usually considered the most prudent and feasible alternative.

4.1.5. Wetlands

Wetlands are unique and vital ecological resources that provide a number of important functions and values. Wetlands provide important habitat for fish and wildlife resources, filter contaminants and improve water quality, and provide storage opportunities for flood waters. The proposed action could result in both short-term and long-term impacts to wetlands within the project boundary area. Potential short-term impacts include increased sedimentation and erosion into wetland habitats from land clearing, and loss of wetlands vegetation from equipment tracking. Possible long-term impacts include loss of wetlands habitat from excavation, clearing, and filling for roadway construction across wetlands.

As noted in **Section 2.5**, Section 404 of the CWA requires a permit to be issued by the United States Army Corps of Engineers (USACE) (or a delegated state) prior to the placement of any dredged or fill material into any waters of the U.S., including wetlands. The USACE in conjunction with the USEPA have established guidelines for evaluating the projects that require permits for the placement of dredged or fill material in wetlands and require applicants to design projects in a way that avoid and/or minimize impacts to wetlands. The guidelines also require applicants to seek the least damaging most practical alternative and to mitigate for any unavoidable impacts to wetlands.

The wetland encroachment acreage was calculated for each corridor segment using GIS software and National Wetlands Inventory (NWI) database information for wetlands within the project boundary area. The acreage and type of wetlands contained within each corridor are shown in **Table 4-3** and are graphically displayed on **Figure 4-3**.

The actual impact to wetlands depends largely on the pre-project planning, design, and the types of highway structures and construction techniques employed for the project. The amounts listed in **Table 4-3** are estimates of the total wetland area contained within each corridor segment. As specific roadway alignments are developed, the total acreage of wetlands potentially affected would be reduced.

Table 4-3
Comparison of Potential Impacts to Wetlands in Acres

Corridor	Freshwater Forested/Shrub Wetland	Freshwater Emergent Wetland	Freshwater Pond	Lake	Riverine	Other	Total	Percent of Corridor Containing Wetlands
59	53	0	0	0	0	0	**53**	**6.48%**
60	0	0	0	0	0	0	**0**	**0.00%**
61	0	0	0	0	0	0	**0**	**0.00%**
62	0	0	0	0	0	0	**0**	**0.00%**
63	0	0	0	0	0	0	**0**	**0.00%**
64	313	0	0	0	0	0	**320**	**6.52%**
65	141	4	10	0	0	0	**154**	**3.81%**
66	3080	38	46	0	39	0	**3203**	**80.72%**
67	806	10	15	0	79	1	**912**	**35.42%**
68	5810	471	15	0	485	0	**6781**	**46.14%**
69	34	0	2	0	0	0	**36**	**8.64%**
70	683	13	11	9	0	0	**715**	**29.79%**
71	989	55	10	0	0	0	**1055**	**39.72%**
72	405	41	1	0	0	0	**446**	**26.26%**
73	637	64	1	0	5	0	**708**	**60.00%**
74	226	11	0	0	3	0	**239**	**66.91%**
75	737	8	3	0	4	0	**751**	**73.26%**
76	425	10	0	8	0	0	**443**	**92.93%**
77	128	0	0	0	0	0	**134**	**30.07%**
78	421	2	0	10	7	0	**440**	**76.53%**
79	480	0	0	0	0	0	**506**	**23.91%**

As shown in **Table 4-3**, corridor segments 66, 67, 68, 70, 71, 73, 74, 75, 76 and 78 have the greatest potential to impact wetlands. The corridor segments with the greatest potential wetland impacts are located in the southern portion of the project boundary area. Most of the corridor segments located in the northern portion of the project boundary area have no potential wetland impacts. Corridor segments 59, 64, and 65, which are located in the northeast portion of the project boundary area, have minor potential wetland impacts when compared to the potential for wetland encroachments in the south.

Corridor segment 66 is a wide corridor segment that contains 3,203 acres of wetlands. Its width partially explains the large amount of potentially impacted wetlands. As the project progresses, the corridor would be further refined and narrowed and the total acreage of potentially impacted wetlands would significantly decrease. However, the majority of the corridor is classified as wetlands, and therefore even a narrower corridor could potentially impact a large amount of wetlands.

Corridor segment 67 contains 912 acres of wetlands. The majority of the corridor is relatively narrow; and therefore, further refinement of the corridor segment is unlikely to considerably reduce the acres of wetlands potentially impacted.

Corridor segment 68 is relatively long and wide, and could potentially impact 6,781 acres of wetlands. Its length and width partially explain the high number of acres potentially impacted. Further refinement of corridor segment 68 could produce a corridor with fewer potential impacts to wetlands; however, avoidance alternatives along the corridor are limited due to its location in an area primarily classified as wetlands.

Corridor segment 70 contains 715 acres of wetlands. This corridor segment is relatively narrow, and therefore the further refinement of the corridor is unlikely to greatly reduce the amount of wetlands potentially impacted.

Corridor segment 71 contains 1,055 acres of wetlands. This corridor segment has some wider areas and some potential for avoidance exists. The corridor segment crosses wetland areas in several places where it is less likely that an avoidance alternative could be developed.

Corridor segment 73 is a relatively short and narrow segment that contains 708 acres of wetlands. The potential for avoidance in the vicinity of corridor segment 73 is low, because the majority of the area is classified as wetlands.

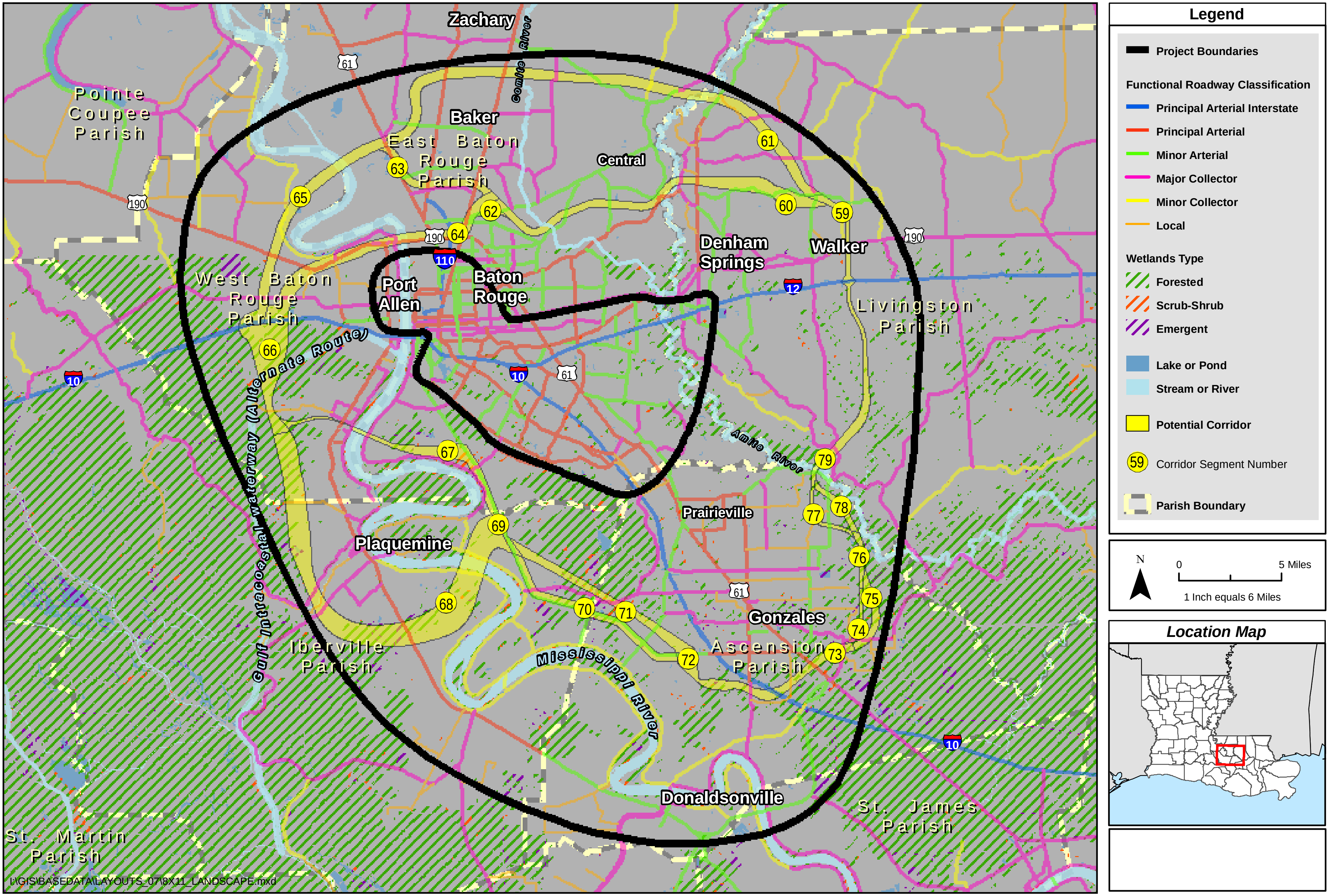
Corridor segment 74 is a relatively short and narrow corridor that contains 239 acres of wetlands. The further refinement of this alternative is unlikely to reduce the amount of wetlands impacted.

Corridor segment 75 contains 751 acres of wetlands. Although further refinement of the corridor would reduce the amount of wetlands potentially impacted, the majority of the area surrounding corridor segment 75 is classified as wetlands.

Corridor segment 76 contains 443 acres of wetlands. Because nearly 93 percent of the corridor is classified as wetlands, the potential for avoidance is low.

Corridor segment 78 contains 440 acres of wetlands. As this corridor segment is relatively narrow, the potential for avoidance is low.

Figure 4-3: Wetlands



4.1.6. Floodplains

As noted in **Section 2.2.6** above, Executive Order 11988 requires all federal agencies to "minimize potential harm to or within the floodplain." Much of the project boundary area is located within the 100-year floodplain, and therefore, complete avoidance of the 100-year floodplain may not be practicable.

Table 4-4 compares the acreage of 100-year floodplains within each of the corridor segments. **Figure 4-4** graphically displays 100-year floodplains and the corridor segments retained for further consideration. Note that digital floodplain data is not available for West Baton Rouge Parish. It is likely that the large 100-year floodplain area in northeast Iberville Parish extends into West Baton Rouge Parish.

Table 4-4
Comparison of Potential Impacts to 100-Year Floodplains in Acres

Corridor Segment	Acres	Percent of Corridor within the 100-year Floodplain
59	563	69.13%
60	3,178	61.00%
61	4,308	52.59%
62	32	12.31%
63	275	18.53%
64	389	7.91%
65	468	11.57%
66	0	0.00%
67	775	30.09%
68	3,576	24.33%
69	101	24.07%
70	368	15.34%
71	1,486	55.95%
72	1,029	60.51%
73	945	80.09%
74	343	95.93%
75	882	85.97%
76	477	100.00%
77	394	88.41%
78	574	100.00%
79	1,717	81.15%

The corridor segments highlighted above contain the most 100-year floodplain acreages. However, these numbers must be considered with regard to the length and width of the corridor segments. As with other environmental considerations addressed in this Technical Memorandum, when roadway alignments are developed, it is likely that avoidance alternatives can be developed. However, the physical nature of the 100-year floodplain limits the ability to develop alternatives that completely avoid the resource. For all or most of the corridors, the total acreage of potential impacts will be reduced by reducing the width of the corridor segments as alignments are developed. However, in many instances where the corridor segments cross the floodplain, the corridor segment will impact the resource for the entire length or width (depending on orientation) of the floodplain crossing. Floodplain impacts are similar to waterbody impacts in that the number of floodplain crossings is a significant statistic to gauge the potential impacts to the resource.

Corridor segment 61 contains the most floodplain acreage (4,308 acres); however, it is also the longest corridor segment and the acreage within the 100-year floodplain composes 52.59 percent of the total corridor segment acreage. The portions of corridor segment 61 within the 100-year floodplain generally span the entire width of the corridor segment. Therefore, narrowing the corridor width will decrease the total acreage of 100-year floodplain potentially impacted, but the number of floodplain crossings cannot be reduced.

Corridor segment 68 contains 3,576 acres within the 100-year floodplain, which is 24.33 percent of the total corridor acreage. This corridor segment is both long and wide, which partially explains the high number of floodplain acres. Unlike corridor segment 61, the orientation of corridor segment 68 would allow both the acreage and the number of floodplain crossings to be minimized during the alternatives refinement process. However, it is unlikely that complete avoidance of floodplain impacts can be achieved.

Corridor segment 60 is a long segment containing 3,178 acres within the 100-year floodplain. Due to the course of the floodplain and the corridor segment, there are few opportunities to minimize the number of floodplain impacts through the reduction of corridor width.

Corridor segment 79 is a long, relatively narrow corridor segment. It traverses the 100-year floodplain through the majority of its length and contains 1,717 acres of floodplains. The orientation of the corridor segment and the course of the floodplain do not provide many opportunities to minimize potential floodplain impacts through the reduction of the corridor width.

The area surrounding Spanish Lake is classified as a 100-year floodplain. Corridor segment 71 traverses the southern portion of the Spanish Lake area and contains 1,486 acres of floodplains. It is unlikely that an avoidance alternative can be developed for this corridor segment.

Corridor segment 72 contains 1,029 acres within the 100-year floodplain. There are limited opportunities to reduce the length of the floodplain traversed by this corridor segment.

Although corridor segments 59, 67, 69, 73, 74, 75, 76, 77, 78 and 79 contain smaller amounts of the 100-year floodplain than the segments discussed above, these segments have proportionally higher potential impacts to the 100-year floodplain due to their short length and narrow widths. These corridor segments are generally completely located within the 100-year floodplain, providing little or no opportunities to reduce the number of floodplain crossings.

Although **Table 4-4** shows that corridor segment 66 does not contain areas within the 100-year floodplain, as noted above, information for West Baton Rouge Parish is unavailable. It is likely that corridor segment 66 contains areas within the 100-year floodplain, particularly to the west. The large floodplain area depicted on **Figure 4-4** in northeast Iberville Parish likely continues to the west and may extend into the boundaries of corridor segment 66.

Similarly, the total 100-year floodplain acreage of corridor segments 64 and 65 are unknown due to the lack of information in West Baton Rouge Parish.

Figure 4-4: Floodplains

4.1.7. Designated Waterways

The proposed Baton Rouge Loop could potentially impact waterways within the project boundary area. Due to the regulatory requirements associated with impacts to certain types of waterways noted in **Section 2.7**, potential impacts to designated waterways in the project boundary area were evaluated.

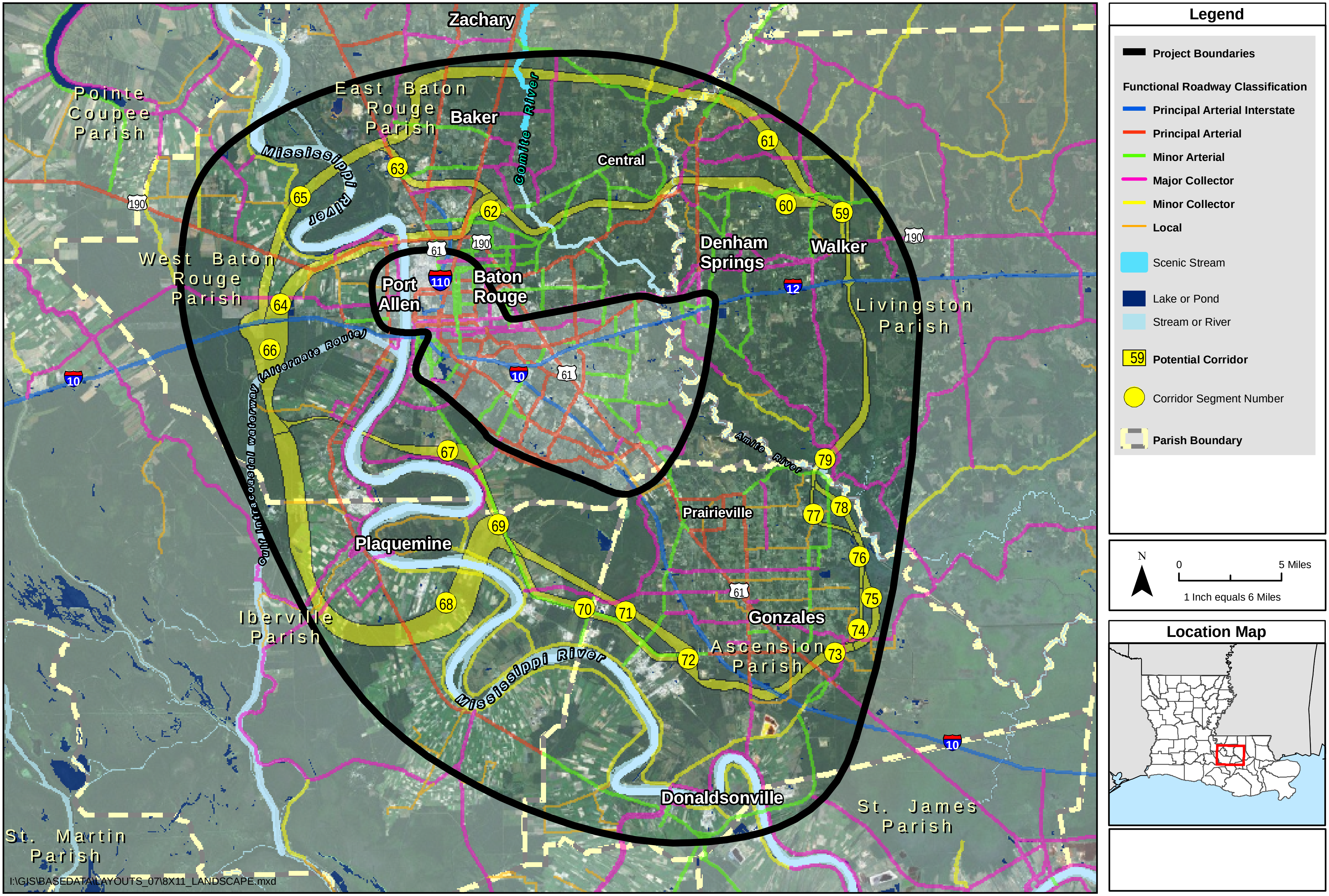
Impacts to navigable waterways are unavoidable. The Baton Rouge Loop would need to cross the Mississippi River in both the northern and southern loop segments to achieve the objectives of the proposed project. Further refinement and evaluation of alternatives will determine the best location of new Mississippi River crossing(s).

In addition to the Mississippi River, corridor segment 66 also includes a crossing of the Gulf Intracoastal Waterway Alternate Route, a navigable waterway regulated by the USACE.

The project boundary area also contains two rivers that are Louisiana designated natural and scenic rivers, the Comite and the Amite Rivers. Corridor segments 60 and 61 cross both the Comite and Amite Rivers. Corridor segment 79 crosses the Amite River. The portion of the Amite River within the project boundary area is not designated as natural and scenic. Corridor segment 61 crosses the portion of the Comite River designated as natural and scenic.

Corridors retained for further study and designated waterways in the project boundary area are illustrated on **Figure 4-5**.

Figure 4-5: Designated Waterways

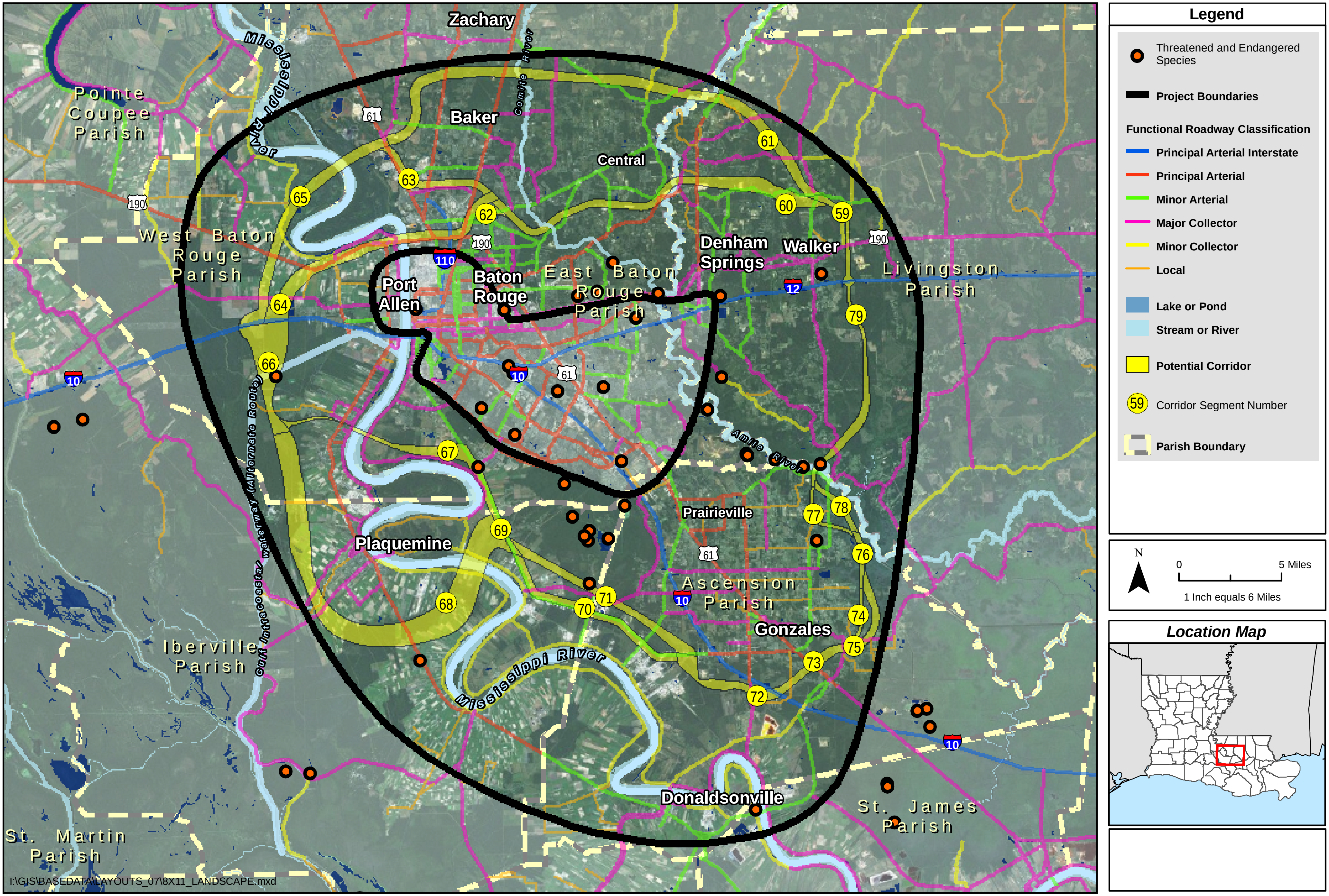


4.1.8. Potential Rare, Threatened And Endangered Species Critical Habitat

The construction of transportation projects can reduce and fragment habitat. Habitat fragmentation can have negative effects to species that depend on these natural areas to survive. Transportation projects can also isolate species by creating a barrier to movement.

As shown on **Figure 4-6**, corridor segments 66, 67, 71, and 79 have the potential to impact potential rare, threatened and endangered species critical habitat. The data utilized to determine potential impacts to areas where rare, threatened and endangered species may be located are approximate and variable. These data are used as a guide to indicate where rare, threatened and endangered species are more likely to occur, and they do not represent current, verified information.

Figure 4-6: Potential Rare, Threatened and Endangered Species Habitat



4.2. Summary of Corridor Evaluation Findings

Table 4-5 summarizes the findings of the GIS database queries performed as part of the evaluation of potential impacts to environmental concerns. As illustrated in **Table 4-5**, key concerns that will need to be addressed in subsequent planning stages include community facilities, floodplains, and wetlands.

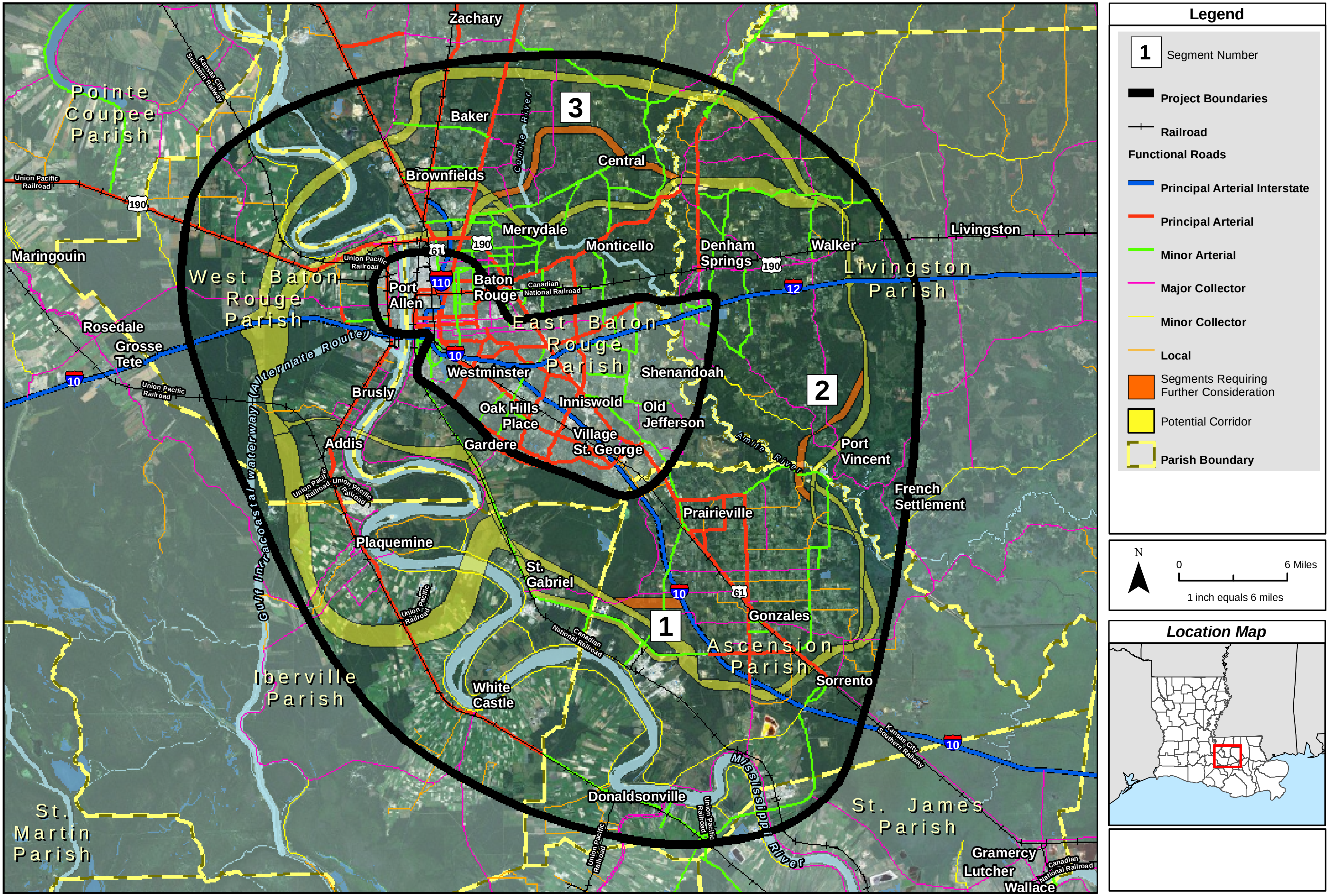
Table 4-5
Summary of Corridor Evaluation Findings

Corridor Segment	Community Facilities	Recreation Areas	National Registry of Historic Places (NRHP)	Landfills and NPL Sites	Wetlands	Floodplains	Designated Waterways	Potential Critical Habitat
59	○	○	○	○	○	◒	○	○
60	◒	○	○	○	○	●	○	○
61	●	◒	◒	○	○	●	◒	○
62	●	●	○	○	○	○	○	○
63	◒	○	○	○	○	○	○	○
64	●	◒	○	○	◒	◒	○	○
65	◒	○	○	○	◒	◒	○	○
66	○	○	○	○	●	◒	○	◒
67	◒	○	◒	○	●	◒	○	◒
68	◒	○	○	○	●	◒	○	○
69	○	○	○	○	○	◒	○	○
70	○	○	○	○	●	◒	○	○
71	○	○	○	○	●	●	○	◒
72	○	○	○	○	◒	●	○	○
73	○	○	○	○	●	●	○	○
74	◒	○	○	○	◒	●	○	○
75	○	○	○	○	●	●	○	○
76	○	○	○	○	◒	●	○	○
77	○	○	○	○	◒	●	○	○
78	○	○	○	○	◒	●	○	○
79	◒	○	○	○	◒	●	○	◒

● *High Potential Impacts*
◒ *Moderate Potential Impacts*
○ *Low Potential Impacts*

As part of the on-going corridor development process, additional corridors were identified that warrant further study and will be advanced into the Tier 1 EIS. These corridor segments are shown in orange on **Figure 4-7**. As the planning process progresses, additional environmental investigations will be undertaken to determine the potential environmental impacts associated with these corridor segments.

Figure 4-7: Segments Requiring Further Consideration



Baton Rouge Loop
Implementation Plan

Baton Rouge Loop

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Technical Memorandum No. 3
Preliminary Traffic & Revenue Analyses

July 2008

East Baton Rouge | West Baton Rouge | Livingston Parish | Ascension Parish | Iberville Parish

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FOREWORD

The Baton Rouge Loop will be a free flow toll road around the Baton Rouge metropolitan area. The Implementation Plan phase of project development is the initial part of the process in planning, design, construction, and operations of the new roadway. The Implementation Plan phase is to analyze engineering, environmental, and financial feasibility of the proposed loop as well as solicit public, agency, and political involvement in initial planning for the project. The end result of the Implementation Plan phase is to identify and lay out the process for activities going forward that will lead to opening and operations of the loop.

A series of six technical memorandums have been developed to document the analysis and other activities during the Implementation Plan phase. These technical memorandums present and document work in the areas of engineering, environmental, traffic & revenue, financial feasibility, community involvement, and implementation planning. This technical memorandum is one of the series of six.

The team of planners, engineers, and other specialists developing the Implementation Plan are indicated below:

HNTB

ABMB ENGINEERS, INC.

URS

KPMG

MARMILLION/GRAY/SABISTON

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This report is subject to the following conditions and limitations:

- In our review and analysis, and arriving at our projections, we have assumed and relied upon the accuracy and completeness of all of the information provided to us (both written and oral) by the CRPC or otherwise publicly available, and have neither attempted independently to verify, nor assumed responsibility for verifying, such information. We have relied upon the assurances of the CRPC that they are not aware of any facts that would make such information misleading.

- All estimates and projections in our report are based on URS' experience and judgment and upon a review of information provided to URS by the CRPC and a review of other publicly available reports and information.

- Any summary of URS's information contained in this report is not a complete description of the analysis and methods conducted in the URS report as such analysis and method involves a complex analytical process involving various determinations as to the most appropriate and relevant methods of analysis and the application of those methods to the particular circumstances; therefore, any analysis is not readily susceptible to a summary description. URS has made qualitative judgments as to the significance and relevance of each analysis and method that it considered. Accordingly, URS's analyses must be considered as a whole and that selecting portions of any individual analyses without considering all analyses and methods could create a misleading or incomplete view of the processes underlying its analyses. We therefore give no opinion as to the value or merit standing alone of any one or more sections of our report.

- This report is necessarily based upon scientific, governmental, market, economic, demographic and other conditions as in effect on, and information made available to us as of, the date of our report. It should be understood that subsequent developments may affect the estimates or projections expressed in the report and cannot be predicted with certainty. We specifically do not guarantee or warrant any estimate or projections contained in our report.

- Certain statements made in the report that are not historical facts may constitute estimates, projections or other forward-looking statements and even though URS believes that such forward-looking statements are reasonable and are based on reasonable assumptions as of the date in the report, such forward-looking statements by their nature involve risks and uncertainties that could cause actual results to differ materially from the results predicted.

- We disclaim any undertaking or obligation to advise any person of any change in any matter affecting this report, which may come or be brought to our attention after the date of this report.

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APPENDICES

1. INTRODUCTION

Baton Rouge, located in the southeast portion of Louisiana along the Mississippi River, is the capital and the second largest metropolitan area in the State behind New Orleans. It is a major industrial, petrochemical, and port center of the American South.

A loop road system for Baton Rouge to supplement Interstates I-10 and I-12 has been discussed for decades and studied extensively in the mid-1990's, again in the late 1990s for a southern bypass and most recently in 2004 for a northern bypass. It is expected that the loop road will ease overall traffic congestion in the area.

The purpose of this study, prepared by URS in conjunction with other members of the Loop team, is to develop traffic and revenue estimates for several different alternatives to assist in the preliminary feasibility assessment of the proposed Baton Rouge Loop.

The Baton Rouge Capital Region Planning Commission (CRPC) regional transportation model has been utilized for this study. This model area covers most of East Baton Rouge, West Baton Rouge, Livingston, and Ascension Parishes, and part of Iberville Parish. The analysis was conducted for the future horizon years 2018 and 2032. These years represent data points from which interpolation can be made for the identified opening year and out years that are used in the financial analysis. For this project the opening year is taken to be 2016 and out years extend to 2065.

2. REGIONAL ECONOMICS

In developing projections of toll road traffic and revenue, it is important to understand the economy of the region in which the toll road will operate. The information in this section provides a profile of economic projections for the Baton Rouge Loop area and the region as a whole. Historical and projected economic data for population and employment for the traffic zones in the study area, in the Parish, and in the state were analyzed. Hurricane Katrina evacuations and relocations caused a meaningful overnight influx of people, activity, and traffic in the Baton Rouge region in late 2005. Since then, some normalization has occurred in the historical growth patterns although the population, activity, and traffic remain ahead of the pre-Katrina growth curve.

Historical socioeconomic data beginning in 1980 for the whole of the five-Parish region were obtained from U.S. Census Bureau while projected socioeconomic data for the study area only for 2032 were obtained from the Baton Rouge Regional Transportation Model.

Census data are presented in the following discussions for the Parishes of East Baton Rouge, West Baton Rouge, Livingston, Ascension, and Iberville. Data from the model are presented only for the "Study Area" within the parish. The "Study Area" is defined as the areas covered by the current Baton Rouge Regional Model, with planning district numbers, as shown in Figure 2-1.

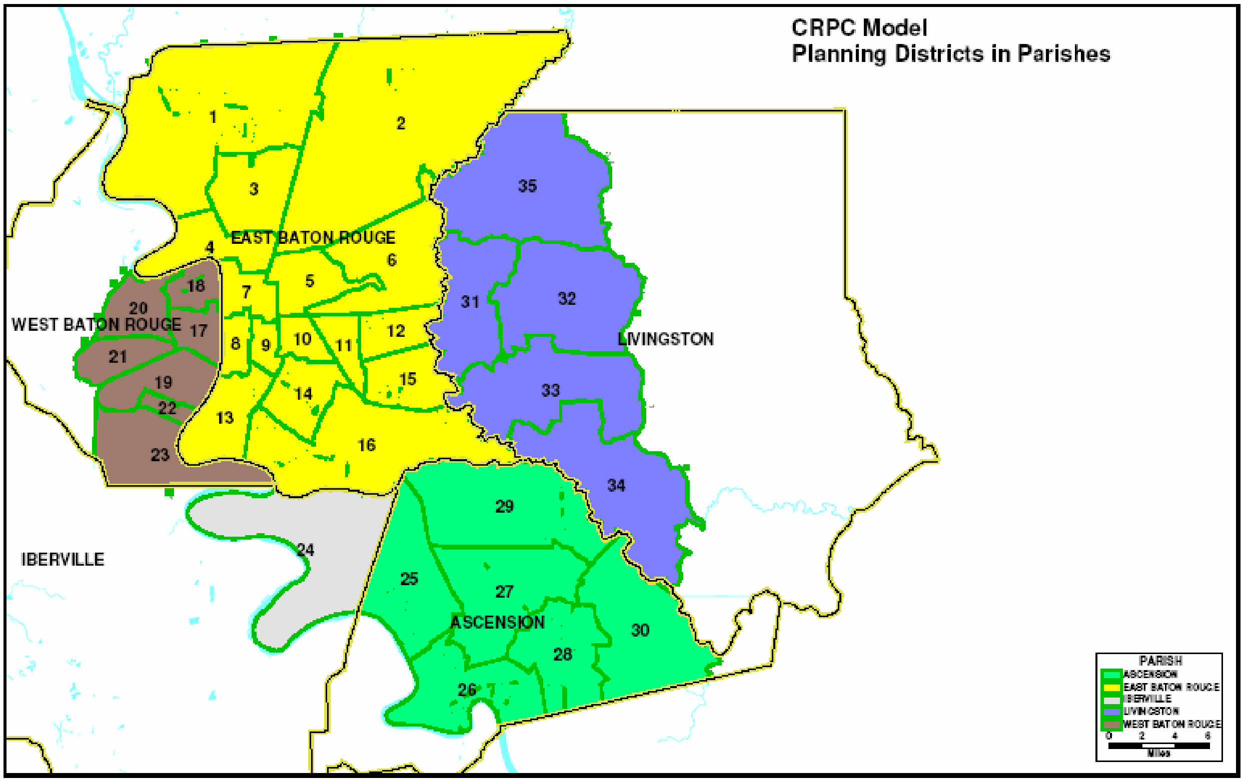


Figure 2-1. Study Area

2.1 Population

<u>All of Five-Parish Area</u>

Between 1980 and 2006, population in the Baton Rouge area increased, as seen in Table 2.1 which presents data for all of East Baton Rouge and the surrounding four Parishes. For East Baton Rouge Parish, which represented approximately 60 percent of the population of the total area in 2006, the population changed at an average annual rate of 0.4 percent from 1980 to 1990, the increase was 0.8 percent from 1990 to 2000 and 0.6 percent from 2000 to 2006.

The suburban area was growing at a higher rate, although from a lower base. Livingston had a significant increase in population growth, with an average annual growth rate of 1.8 percent from 1980 to 1990, 2.7 percent from 1990 to 2000, and 3.8 percent from 2000 to 2006. This trend can also be seen in the rapid growth of Ascension Parish; between 1980 and 2006 the population almost doubled.

Table 2-1. Population from 1980 to 2006

Year	Parish					Regional Totals
	E. Baton Rouge	W. Baton Rouge	Livingston	Ascension	Iberville	
1980	366,191	19,086	58,806	50,068	32,159	526,310
1990	380,105	19,419	70,526	58,214	31,049	559,313
2000	412,852	21,601	91,814	76,627	33,320	636,214
July 2006*	435,413	22,109	115,868	97,381	33,564	704,335
	Average Annual Percentage Change					
1980 to 1990	0.4%	0.2%	1.8%	1.5%	-0.4%	0.6%
1990 to 2000	0.8%	1.1%	2.7%	2.8%	0.7%	1.3%
2000 to July 2006*	0.9%	0.4%	4.0%	4.1%	0.1%	1.7%

Source: U.S. Census Bureau
(*) 2007 Claritas Update Demographics; reflects post-Katrina estimates

On August 29, 2005, Hurricane Katrina hit the Gulf Coast with devastating results. A considerable number of people moved to other parts of Louisiana, Mississippi, and Texas. Population reflecting the overall impact on the study area is also summarized in Table 2-1, with Claritas demographic data, showing a population increase in the area resulting from hurricane-based relocations.

Study Area Only

Table 2-2 presents the population in the Study Area only. The projections in the Regional Model, considering the effects of Hurricane Katrina, represent higher future growth rates for the Baton Rouge region than the historical rates indicated by the U.S. Census data. Between 2004 and 2009, an annual average growth rate of 6.7 percent is projected for West Baton Rouge, 1.5 percent for East Baton Rouge, 3.7 percent for Livingston, 4.5 percent for Ascension and 6.0 percent for Iberville.

Table 2-2. Population Projections in the Study Area

Year	Parish					Regional Totals
	E. Baton Rouge	W. Baton Rouge*	Livingston*	Ascension*	Iberville*	
2004	431,135	18,216	88,067	69,811	3,929	611,158
2009-Projected	464,595	25,187	105,412	86,837	5,263	687,194
2012-Projected	475,429	28,481	110,164	91,954	5,812	711,840
2022-Projected	497,231	30,677	116,501	97,306	6,174	747,889
2032-Projected	533,587	34,576	127,239	106,667	6,837	808,906
	Average Annual Percentage Change					
2004-2009	1.5%	6.7%	3.7%	4.5%	6.0%	2.4%
2009-2012	0.8%	4.2%	1.5%	1.9%	3.4%	1.2%
2012-2022	0.4%	0.7%	0.6%	0.6%	0.6%	0.5%
2022-2032	0.7%	1.2%	0.9%	0.9%	1.0%	0.8%

Source: CRPC 2007 -- Baton Rouge Regional Model
(*) Study area does not cover full parish area.

2.2 Employment

Employment projection data from the Baton Rouge regional model was reviewed and is presented in Table 2-3 below.

This employment data in the study area indicates a higher growth rate compared to the growth rate of the population. For East Baton Rouge Parish, the annual employment growth from 2004 to 2009 is 2.3 percent versus the population growth of 1.5 percent. Similar trends are observed in the surrounding Parishes. Growth rate percent is generally higher for employment than for population because of a lower base from which to grow.

Table 2-3. Employment Projections in the Study Area

Year	Parish					Regional Totals
	E. Baton Rouge	W. Baton Rouge*	Livingston*	Ascension*	Iberville*	
2004	237,903	9,782	13,709	22,655	3,241	287,290
2009-Projected	267,016	13,866	17,442	26,403	3,967	328,694
2012-Projected	277,092	16,332	19,940	28,380	4,153	345,897
2022-Projected	298,168	22,215	25,035	32,361	4,886	382,655
2032-Projected	328,329	28,328	30,651	37,249	5,687	430,244
	Average Annual Percentage Change					
2004-2009	2.3%	7.2%	4.9%	3.1%	4.1%	2.7%
2009-2012	1.2%	5.6%	4.6%	2.4%	1.5%	1.7%
2012-2022	0.7%	3.1%	2.3%	1.3%	1.6%	1.0%
2022-2032	1.0%	2.5%	2.0%	1.4%	1.5%	1.2%

Source: CRPC 2007 -- Baton Rouge Regional Model
(*) Study area does not cover full parish area.

Generally, projected population and employment data as presented above indicate a consistent upward growth trend for the Baton Rouge metropolitan area.

3. TRANSPORTATION SYSTEM AND TRAFFIC CHARACTERISTICS

3.1 Regional Transportation Network

The existing highway network in the area served by the proposed Loop consists of both interstate highways and arterials. The major competing and/or parallel routes are I-10 and I-12. Other major competing roads include I-110, Florida Boulevard, and Airline Highway.

- ***Interstate Highway, I-10***: Currently, I-10, the primary alternative route for west – southeast trips, is a multi-lane controlled-access highway. It is a major transcontinental Interstate Highway, which passes through New Orleans and Baton Rouge.

- ***Interstate Highway, I-12***: I-12 is a controlled-access interstate highway that runs east-west on the eastern side of the study area. It starts in Baton Rouge at Interstate 10, and travels along the North Shore of Lake Pontchartrain to rejoin I-10 in Slidell. I-12 is six lanes from its western terminus until O'Neal Lane at which point it becomes a 4 lane freeway all the way to the eastern terminus.

- ***Interstate Highway I-110***: I-110 is an 8.9 mile spur route in Baton Rouge, running from Interstate 10 in the city's downtown area north to US Highway 61 and the Baton Rouge Metropolitan Airport in the northern part of the city. Near its southern end, the freeway serves as the border between what is considered downtown Baton Rouge and mid-city Baton Rouge.

- ***Airline Highway***: Airline Highway is a divided highway built in the 1930s and 1940s that carries US Highway 61 from New Orleans northwest to Baton Rouge, and US Highway 190 from Baton Rouge west over the Mississippi River on the Huey P. Long Bridge.

3.2 Historical Traffic Volumes

Historical traffic count volumes for highways in the study area were obtained from DOTD data and reviewed to give an indication of the historical traffic patterns and growth in the study area. Historical growth is used in conjunction with various socioeconomic data, such as population trends, in order to forecast future traffic volumes.

Table 3-1 presents the historical traffic volumes on selected key roadways in the Baton Rouge region. Overall, traffic growth has been generally moderate on the local roads in the study area. However, traffic counts on the Interstate highways show a higher growth which is representative of both increased external to external trips (originating and ending outside of Baton Rouge) and internal trips (which use the local freeways due to congestion on local arterial routes).

Table 3-1. Historical Traffic Volumes in the Study Area (Selected Locations)

Route	Location	1999	2002	2005
I-10	Between LA 1 and Highland Road	72,784	81,161	95,488
I-10	Between I-110 and Dalrymple Drive	120,734*	136,313	148,532
I-10	Between Acadian Thruway and College Dr	119,469*	143,106	164,286
I-10	Between I-12 and Essen Lane	72,232	79,517	96,933
I-10	Between Siegen Lane and Highland Road	54,802	65,596	67,215
I-12	Between Millerville Road and O'Neal Lane	60,481	92,526	84,438
I-110	at I-10	63,105	79,589	84,298
I-110	at Spanish Town Road	62,195	84,169	87,271
I-110	at Plank Road	53,578	76,289	83,417
I-110	at Hollywood Street	57,917	64,507	72,581
Airline Highway	Between Old Scenic Hwy (LA964) & I-110	18,593	24,121	27,679
Airline Highway	Between I-110 and Scotland Ave.	8,912	7,256	7,942
Airline Highway	Between Harding Blvd. and Airline Hwy	19,447	19,741	21,241
Airline Highway	Between Hollywood St. and Evangeline St.	10,011	9,814	11,330
Airline Highway	Between Evangeline St. and Prescott Rd	44,135	45,606	43,218
Airline Highway	Between I-12 and S. Sherwood Forest Blvd.	46,648	34,350	36,470
Airline Highway	Between Industriplex Blvd and Highland Rd.	24,227	24,765	28,203
Average Annual Percent Change				
Route	**Location**	**1999-02**	**2002-05**	**1999-05**
I-10	Between LA 1 and Highland Road	3.7%	5.6%	4.6%
I-10	Between I-110 and Dalrymple Drive	2.5%*	2.9%	2.6%*
I-10	Between Acadian Thruway and College Dr	3.7%*	4.7%	4.1%*
I-10	Between I-12 and Essen Lane	3.3%	6.8%	5.0%
I-10	Between Siegen Lane and Highland Road	6.2%	0.8%	3.5%
I-12	Between Millerville Road and O'Neal Lane	15.2%	-3.0%	5.7%
I-110	at I-10	8.0%	1.9%	4.9%
I-110	at Spanish Town Road	10.6%	1.2%	5.8%
I-110	at Plank Road	12.5%	3.0%	7.7%
I-110	at Hollywood Street	3.7%	4.0%	3.8%
Airline Highway	Between Old Scenic Hwy (LA964) & I-110	9.1%	4.7%	6.9%
Airline Highway	Between I-110 and Scotland Ave.	-6.6%	3.1%	-1.9%
Airline Highway	Between Harding Blvd. and Airline Hwy	0.5%	2.5%	1.5%
Airline Highway	Between Hollywood St. and Evangeline St.	-0.7%	4.9%	2.1%
Airline Highway	Between Evangeline St. and Prescott Rd	1.1%	-1.8%	-0.3%
Airline Highway	Between I-12 and S. Sherwood Forest Blvd.	-9.7%	2.0%	-4.0%
Airline Highway	Between Industriplex Blvd and Highland Rd.	0.7%	4.4%	2.6%

Source: DOTD Website
(*) Used 1997 traffic counts, as 1999 data was not available for these locations.

3.3 Traffic Patterns

In addition to the traffic volumes listed in Table 3-1, Figures 3-1 through 3-4 show the current (August 2007) vehicle and trip characteristics for four locations in the study area.

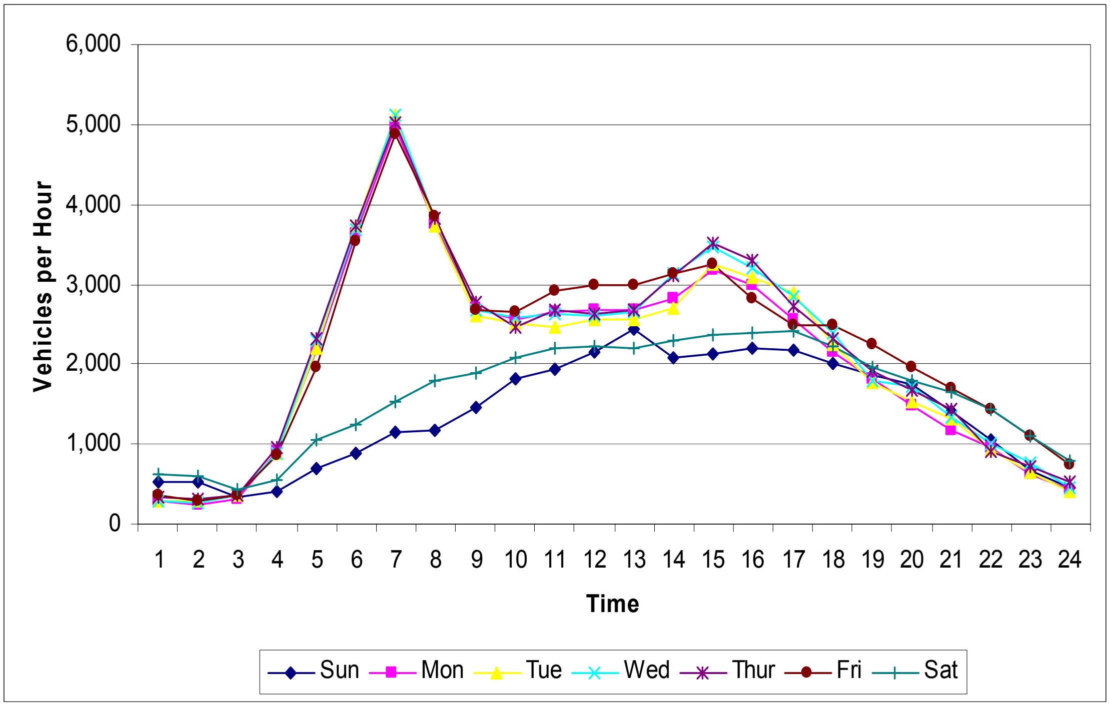


Figure 3-1. Daily Traffic Pattern (I-110 at Spanish Town Road)

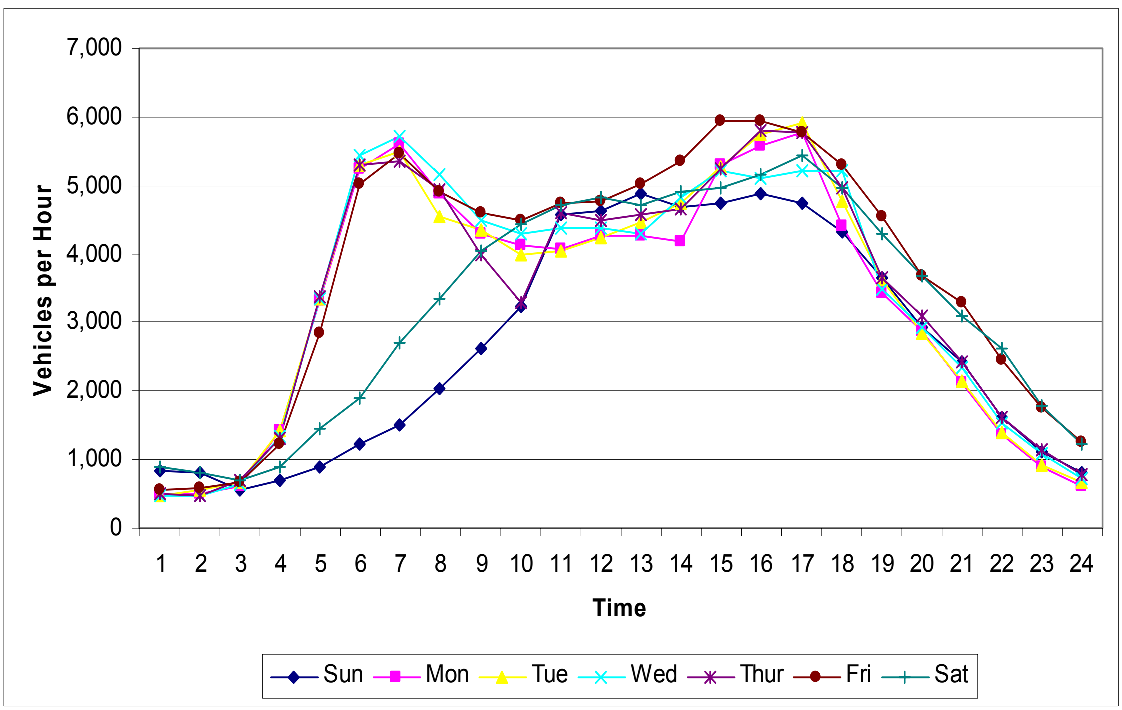


Figure 3-2. Daily Traffic Pattern (I-10 at Highland Road)

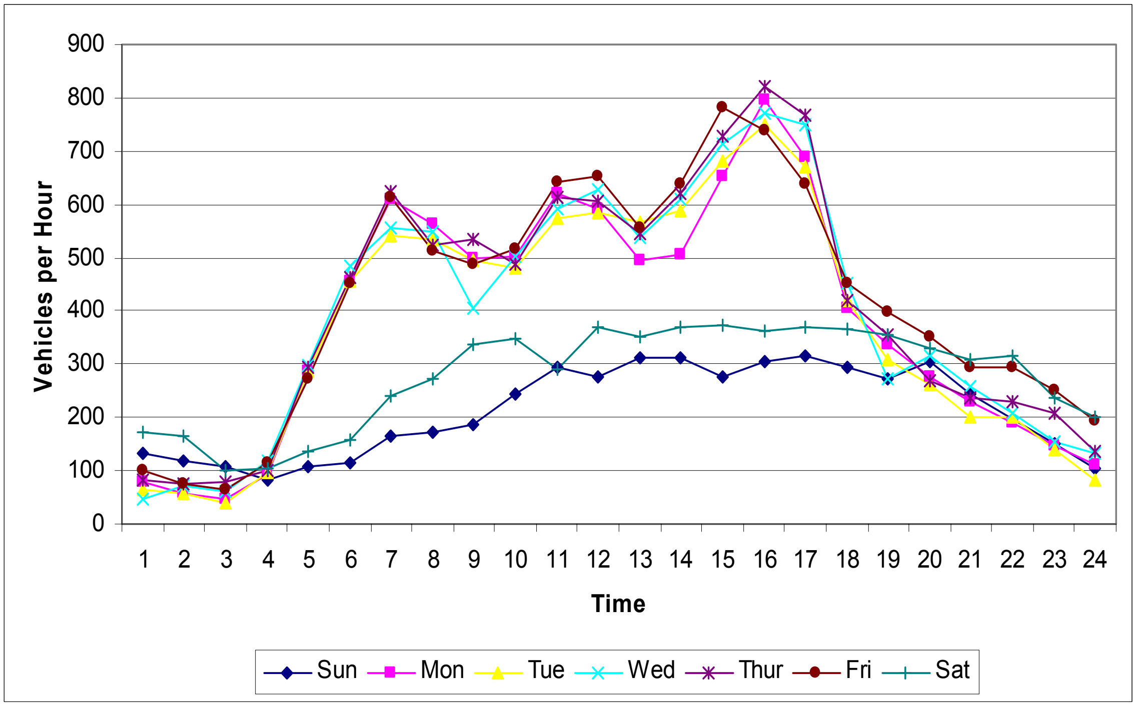


Figure 3-3. Daily Traffic Pattern (Airline Hwy. (U.S. 61) between Hollywood St and Evangeline St.)

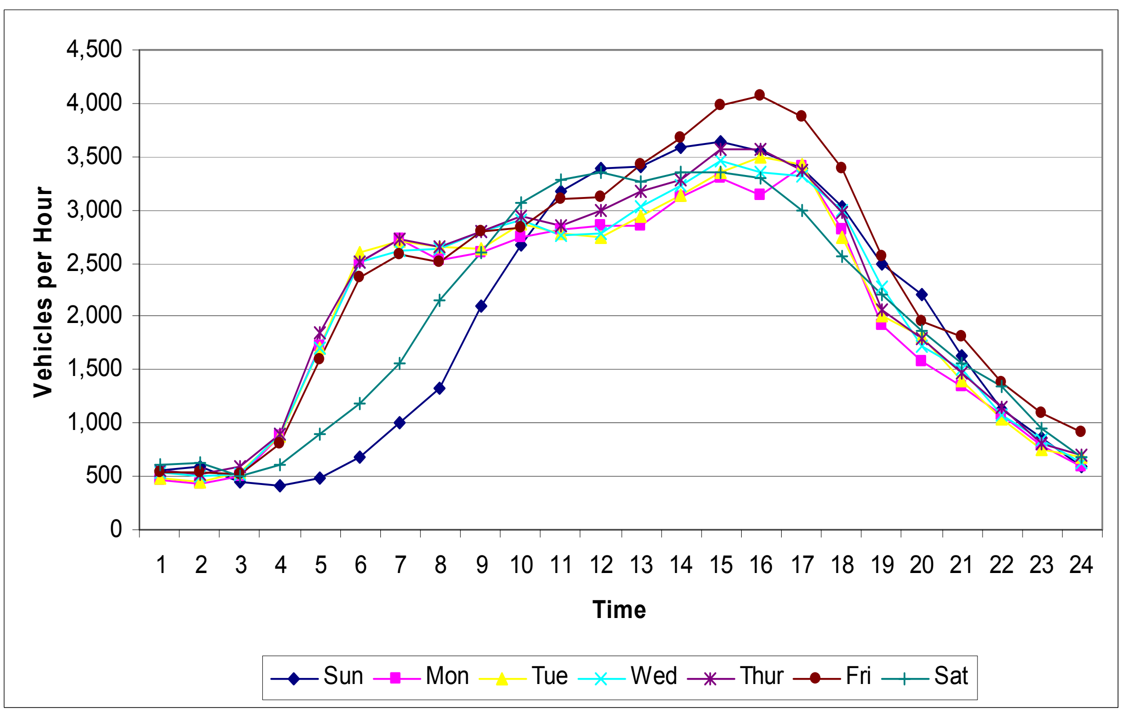


Figure 3-4. Daily Traffic Pattern (I-12 just west of Livingston interchange)

4. TRAFFIC FORECASTING MODEL

4.1 Description of Model

The most current post-Katrina Baton Rouge regional transportation model, created by independent consultants in 2007 for the Capital Region Planning Commission (CRPC), was used for this project. This model area covers all of East Baton Rouge, most of West Baton Rouge, Livingston, and Ascension Parishes, and part of Iberville Parish (See Figure 2-1). CRPC model years available for use in the Loop traffic & revenue study include a base year of 2004 and future years of 2009, 2012, 2022, and 2032. Originally, the CRPC model was calibrated and validated using 2004 base year 24-hour traffic count data. The demographic and other socio-economic impacts from Hurricane Katrina are reflected in the model system from the first future year, 2009.

The Baton Rouge Loop was not coded into the original CRPC regional model. Therefore, the project team coded two Loop alternatives (Outer and Inner) into the roadway network to assess the impact on traffic assignments preliminarily gauge the traffic value of different Loop alternatives.

4.2 Model Validation

URS performed entire CRPC model runs for base year 2004 and horizon year 2032, as delivered, to replicate the reported assignment results for the respective years and compared the outputs with the assignment volumes reported by the CRPC. The outputs were identical to each other.

Due to the nature of the study, URS did not change the basic modeling parameters in the trip generation, trip distribution, and mode choice stages of the model. Trip tables and networks were available for necessary updates.

In addition, to ensure that the model is reasonably calibrated, URS calculated validation statistics for year 2004. Each link in the network had been given an "observed traffic count" to signify 24-hour actual traffic levels in 2004. URS calculated the RMSE (Root Mean Square Error) for each individual functional class and category based on the magnitude of the traffic count volumes.

Although absolute criteria for assessing the validity of all model systems cannot be precisely defined, a number of target values have been developed. These commonly-used values provide excellent guidance for evaluating the relative performance of particular models. Generally, an RMSE of less than 40 percent is necessary for a calibrated model. The Montana Department of Transportation (MDT) suggests that an appropriate aggregate %RMSE is less than 30%. Dr. Fred Wegmann, of the University of Tennessee, presented %RMSE by Link Volume as shown in Table 4-1. Usual %RMSE ranges used in other URS studies are also presented for comparison purposes.

Table 4-1. Recommended Percent RMSE by Link Volume

Link Volume	% RMSE(1)	% RMSE(2)
0 to 4999	116	45-55
5000 to 9999	43	35-45
10000 to 19999	28	27-35
20000 to 39999	25	22-27
40000 to 59999	30	18-22
60000 to 89999	19	17-18
Overall		32-39

Sources: (1) Minimum Travel Demand Model Calibration and Validation Guidelines for State of Tennessee, Fred Wegmann and Jerry Everett, the Univ. of Tennessee,
(2) URS Studies

Table 4-2 presents %RMSE by facility type and link volume produced for this study. As shown, the %RMSE is 14 percent for freeways; 21 percent for major arterials; 28 percent for minor arterials; 51 percent for collectors; and 72 percent for local streets. Also shown is the %RMSE for routes aggregated based on volume. For all categories where the volume is 5,000 or greater, the %RMSE is less than 40%. The assignment produces an overall %RMSE of 25.3 percent. This indicates that the model reproduces ground counts well, as the lower %RMSE means better replication of the observed counts.

Table 4-2. URS Model % RMSE Statistics

Category	Number of Counts	% RMSE	Volume / Count
By Facility Type			
Freeway	81	14.0	1.04
Major Arterial	236	21.4	1.06
Minor Arterial	253	27.6	1.04
Collector	220	50.9	1.06
Local Street	70	71.7	1.04
By Link Volume			
ADT<=5K	232	70.7	1.13
ADT=5K-10K	184	38.8	1.12
ADT=10K-25K	291	26.8	1.07
ADT=25K-40K	93	16.5	1.04
ADT=40K-60K	50	10.9	1.00
ADT>60K	12	10.3	0.94
Grand Total	862	25.3	1.05

Source: URS Model Output

Also shown in Table 4-2 is the volume/count ratio. The range of values is from 0.94 to 1.13, with an average of 1.05. This range is acceptable within the industry.

4.3 Growth Analysis

Traffic growth in the CRPC trip table was reviewed by conducting modeling processes for the 2018 and 2032 horizon years. No-Build scenarios without constructing the Loop. As the size of trip table is directly correlated to population and employment forecasts of the study area, the reasonableness of estimated growth in the study area can be checked using these results. Table 4-3 shows the traffic growth pattern of the study area, using observed traffic in base year and forecasted traffic for future years.

Table 4-3. Model Estimated Traffic Growth in the Study Area

Location		Observed Counts	Model Estimated		Annual Growth Rate	
From	To	Yr. 2005	Yr. 2018	Yr. 2032	2005-18	2018-32
I-10 Corridor						
Base Inner Loop	Lobdell Highway	37,247 (1)	46,103	57,000	1.5%	1.5%
Lobdell Highway	LA1	53,383 (1)	80,918	85,100	3.0%	0.4%
LA 1	Highland Rd	95,488	137,445	162,100	2.8%	1.2%
I-110	Dalrymple Drive	148,532	141,080	153,500	-0.4%	0.6%
Acadian Thruway	College Drive	164,286	162,712	174,100	-0.1%	0.5%
College Drive	I-12	166,902	188,962	202,300	1.0%	0.5%
I-12	Essen Lane	96,933	106,205	112,400	0.7%	0.4%
Siegen Lane	Highland Rd	67,215	88,935	95,900	2.2%	0.5%
I-12 Corridor						
Airline Highway	South Sherwood Forest Blvd	99,009	133,403	143,500	2.3%	0.5%
Millerville Road	O'Neal Lane	84,438	109,677	119,700	2.0%	0.6%
Satsuma Road	Frost Road	44,119 (2)	57,340	72,500	1.8%	1.7%
I-110 Corridor						
at Florida Blvd		21,800	34,582	40,800	3.6%	1.2%
at Spanish Town Road		87,271	93,691	100,100	0.5%	0.5%
at Plank Road		83,417	81,287	87,800	-0.2%	0.6%
at Hollywood St.		64,507 (3)	82,684	91,300	1.6%	0.7%
at 72nd Ave		37,236 (3)	75,459	83,600	4.5%	0.7%
at Scenic Highway		22,258 (3)	35,698	38,700	3.0%	0.6%

Sources: Observed Traffic Count (2003-2005), URS Model Output
(1) Used 2004 traffic counts.
(2) Used 2003 traffic counts.
(3) Used 2002 traffic counts.

4.4 Value of Time

The CRPC model does not explicitly handle the impacts of tolls on traffic volumes. Toll analysis therefore requires that the toll be converted into an equivalent time penalty. This requires an estimate of the value of time that motorists have in deciding whether to pay a toll in order to save time. For a more detailed study, a stated preference survey could be conducted to measure potential motorists' willingness to pay for toll roads, toll elasticity and possible variations in this value due to such factors as trip purpose and residential locations. A stated preference survey can be a time-consuming and costly endeavor. For this study, measures of household income, in conjunction with established values of time from studies of similar or nearby toll roads, were used to develop an estimate of average value of time for the area in question. This is accepted practice for preliminary estimates of toll facility traffic and revenue.

In this report, values of time of $16 and $18 per hour were utilized, after converting to the equivalent time penalty in the model. This is a combined value of time for autos and trucks in the model. The values were developed in consideration of income data from Census Bureau and CRPC.

5. BASE LOOP ANALYSIS

This task is to identify future needs for transportation facilities and/or services. By identifying roadway alternatives where future demand for transportation services is expected to approach or exceed the capacity of the existing transportation networks, transportation plans can select preferred alternatives to the area.

5.1 Basic Analysis for Alternative Selection

The project team is analyzing several different loop alternatives for this study. Initially, two representative alternatives, Outer Loop and Base Inner Loop, were selected.

URS conducted a traffic analysis of these two alternatives. Table 5-1 compares 2032 traffic volumes estimated by the model, by segment, for the two alternatives. Figures 5-1 and 5-2 illustrate the locations of the counts shown in Table 5-1. Generally, the estimated traffic volumes on the Base Inner Loop are higher than those on the comparable Outer Loop links.

Table 5-1. Daily Traffic Estimate for each Alternative, Year 2032

With Outer Loop Link – Toll Free		With Base Inner Loop Link – Toll Free	
Location ID	**Traffic Volume**	**Location ID**	**Traffic Volume**
16 (East Link)	68,500	14 (East Link)	73,500
1 (West Link)	46,500	1 (West Link)	57,800
6 (South Link)	22,000	10 (South Link)	47,800
24 (North Link)	60,700	19 (North Link)	78,600

Source: URS Model Output
See Figures 5-1 and 5-2 for Location ID

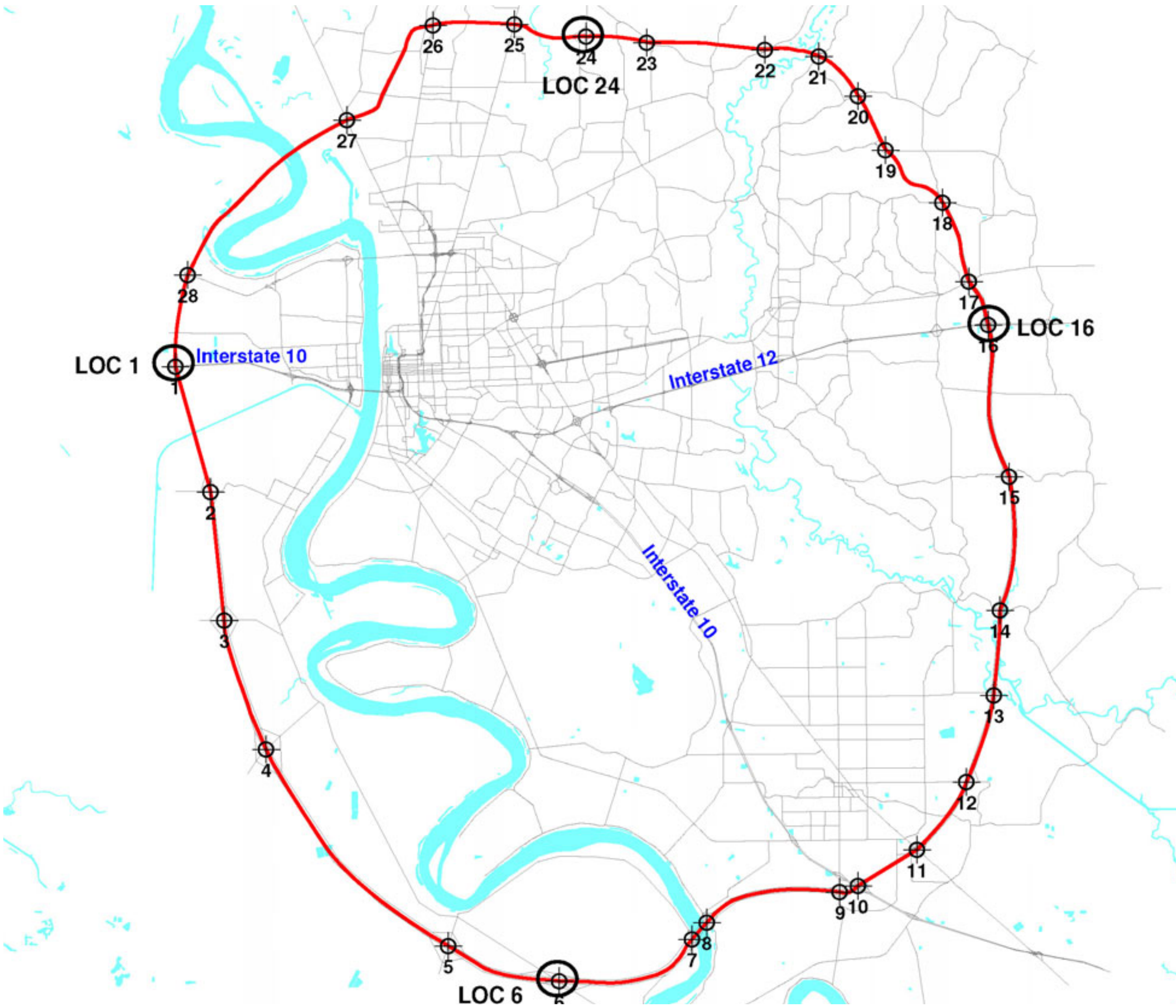


Figure 5-1. Configuration of Outer Loop

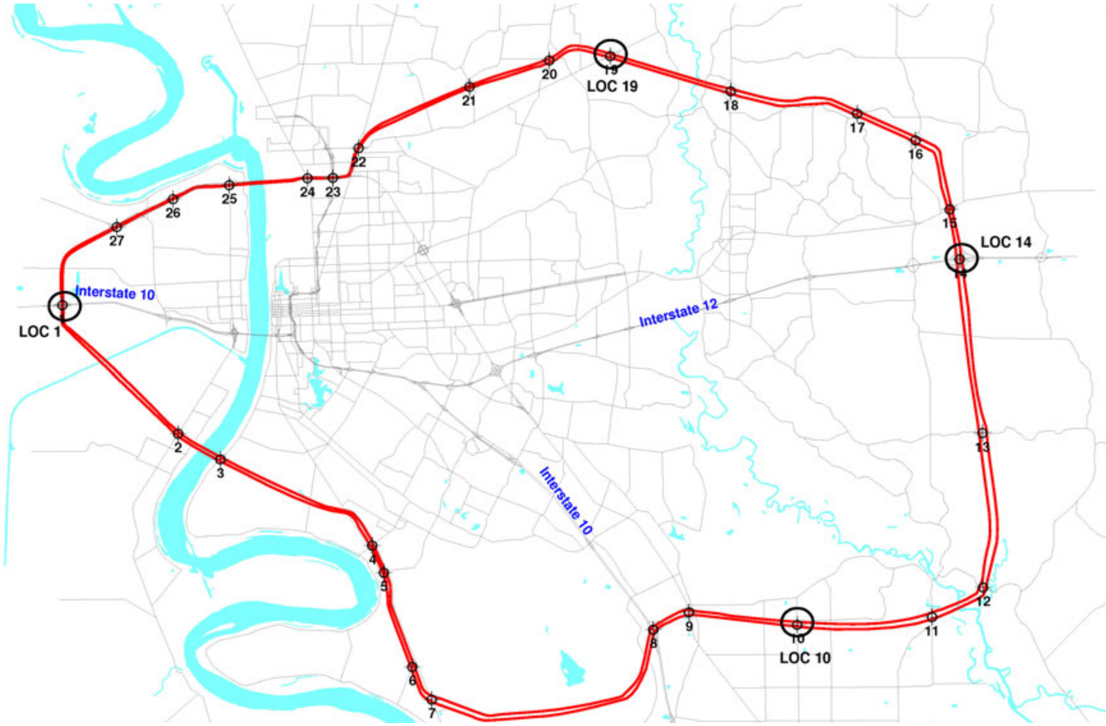


Figure 5-2. Configuration of Base Inner Loop

When improvements such as the Loop are added to the regional transportation system, traffic is attracted to these new facilities because of their additional capacity and higher travel speeds, until travel speeds and resulting travel times reach equilibrium with the other alternate routes on the system. It may also create bottlenecks in areas with no previous problems. However, these large-scale capacity improvements, like the Loop, decrease time traveled on the total system. These measurements for the whole system are summarized in Table 5-2 using vehicle miles traveled (VMT) and vehicle hours traveled (VHT). Both the Outer Loop and Base Inner Loop alternatives reduce travel time and increase average travel speed for the whole system.

Table 5-2. 2032 Daily VHT and VMT Traveled for the Whole System

Scenario	Daily VHT	Daily VMT	Avg. Speed
No-Build	919,923	26,317,449	28.6
Outer Loop – Toll Free	874,530	28,662,617	32.8
Base Inner Loop – Toll Free	887,223	28,622,697	32.3

Source: URS Model Output

In order to estimate the impact of the newly proposed loop roads on other roads in the regional highway network, the model results for the 2032 No-Build, Outer Loop Build, and Base Inner Loop Build alternatives were compared.

Table 5-3 shows traffic volumes at key locations on other routes in the study area for the No-Build and the Build conditions. Most of the Loop trips are diverted from existing Interstate Highways I-10 and I-12. On Interstate I-110, there is almost no impact for the Outer Loop alternative; however, I-110 traffic is estimated to increase with the Base Inner Loop alternative.

A general comparison of traffic on the regional highway network, especially on I-10 and I-12, indicates large decreases with the Base Inner Loop build alternative. Daily traffic estimates for all locations for the Outer Loop alternative and Base Inner Loop alternative are presented in the Appendices A and B.

Table 5-3. 2032 Daily Traffic Estimates in the Study Area

Location	With No Loop (A)	With Toll-free Outer Loop (B)	(B)/(A)	With Toll-free Base Inner Loop (C)	(C)/(A)
At Interstate Highway I-10					
Between Base Inner Loop and Lobdell Highway	57,000	54,600	96%	30,100	53%
Between LA1 and Highland Rd	162,100	111,800	69%	91,700	57%
Between College Drive and Split to EB I-12	202,300	168,400	83%	176,800	87%
Between Siegen Lane and Highland Road	95,900	89,600	93%	87,500	91%
At Interstate Highway I-12					
Bet. Jefferson Hwy(LA73) and Airline Hwy(US61)	134,600	124,800	93%	119,400	89%
Between O'Neal Lane and S. Range Road	113,700	86,000	76%	81,100	71%
At Interstate Highway I-110					
At M/L @Spanish Town Rd	100,100	99,200	99%	100,700	101%
At M/L @Hollywood St.	91,300	88,400	97%	107,900	118%

Source: URS Model Output

The preferred alternative cannot be selected based on traffic volume analysis only, as there are other issues to be considered, such as construction, operation, and environmental factors. The Base Inner Loop alternative produces better results in overall traffic impact to the area. More detailed analyses for the Inner Loop alternative will be conducted in the following chapter.

5.2 Inner Loop Alternative Analysis

This chapter includes traffic analyses for three additional southeast inner loop alternatives selected. Figures 5-3 through 5-5 describes the alignments for these alternatives.

- Inner Loop Southeast Alternative 1
- Inner Loop Southeast Alternative 2
- Inner Loop Southeast Alternative 3

Compared to the Base Inner Loop, Southeast Alternative 1 extends more network coverage toward the southwestern area, west of the Mississippi River. It is an 88-mile highway facility.

Southeast Alternative 2 and Alternative 3 also have similar shapes to the Base Inner Loop; however, they extend more toward the southeastern area. The length of proposed Alternative 2 is approximately 87.5 miles, and 80.5 miles for Alternative 3.

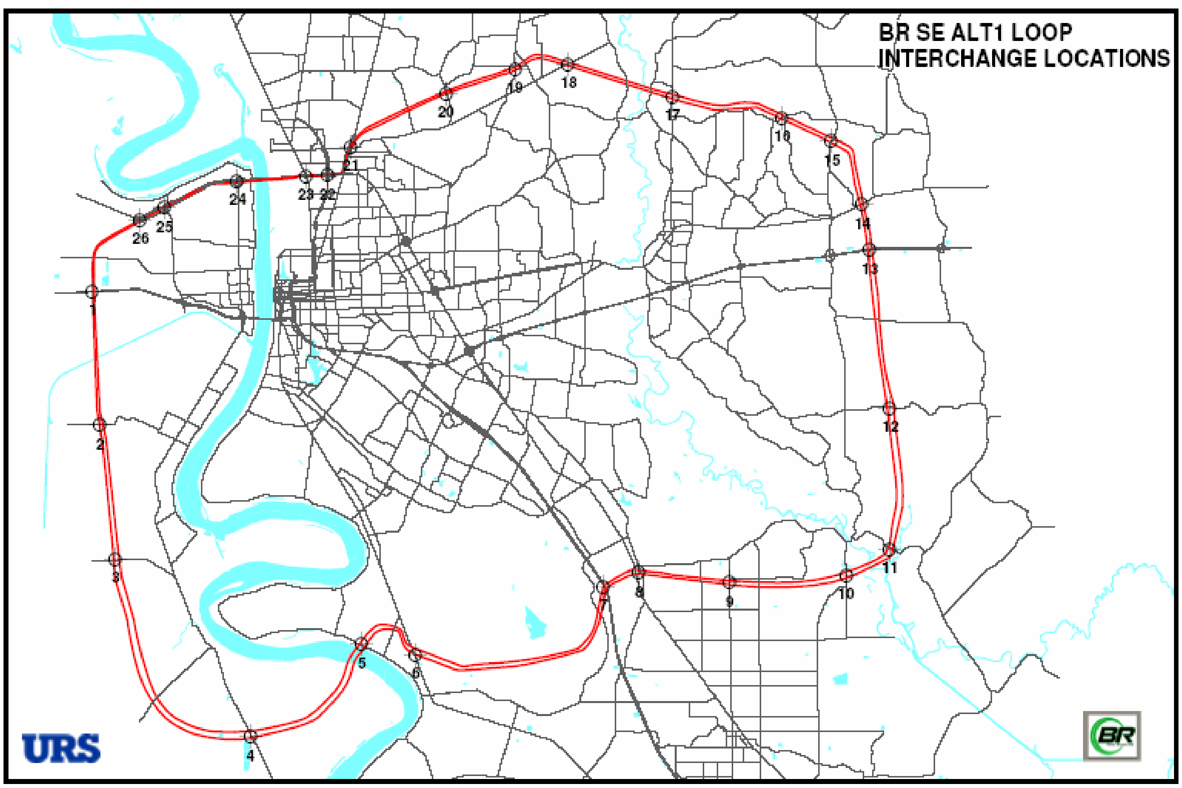


Figure 5-3. Configuration of Inner Loop – Southeast Alternative 1

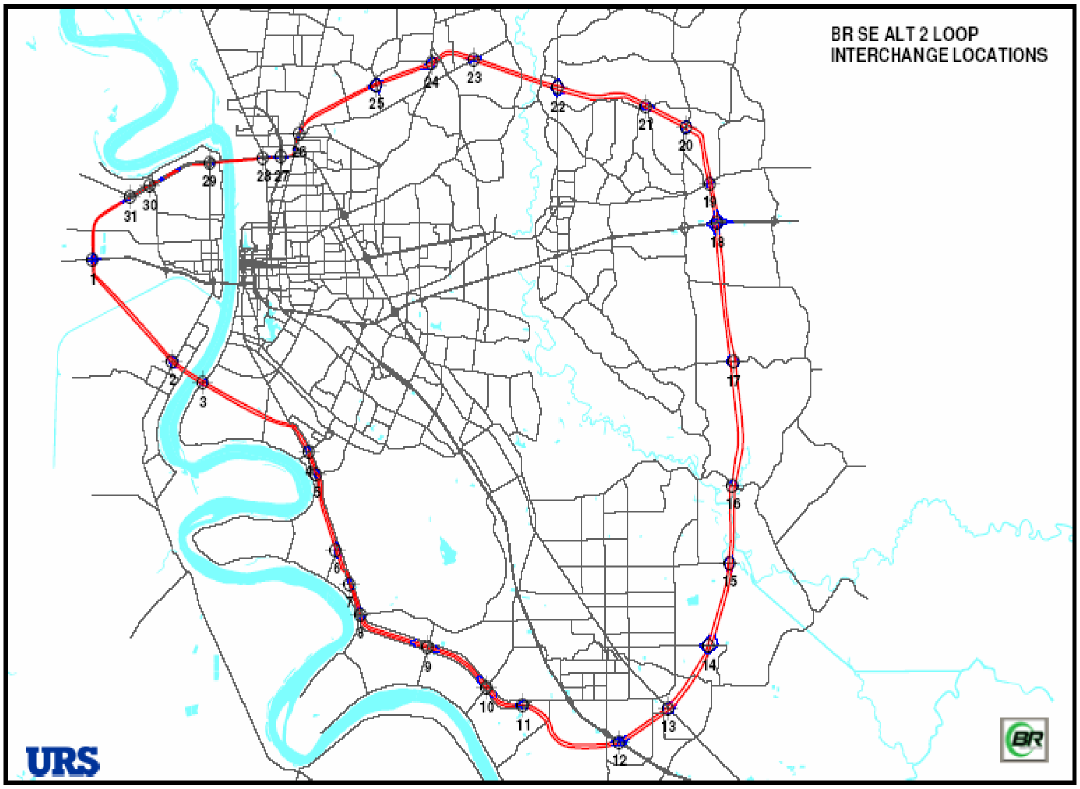


Figure 5-4. Configuration of Inner Loop – Southeast Alternative 2

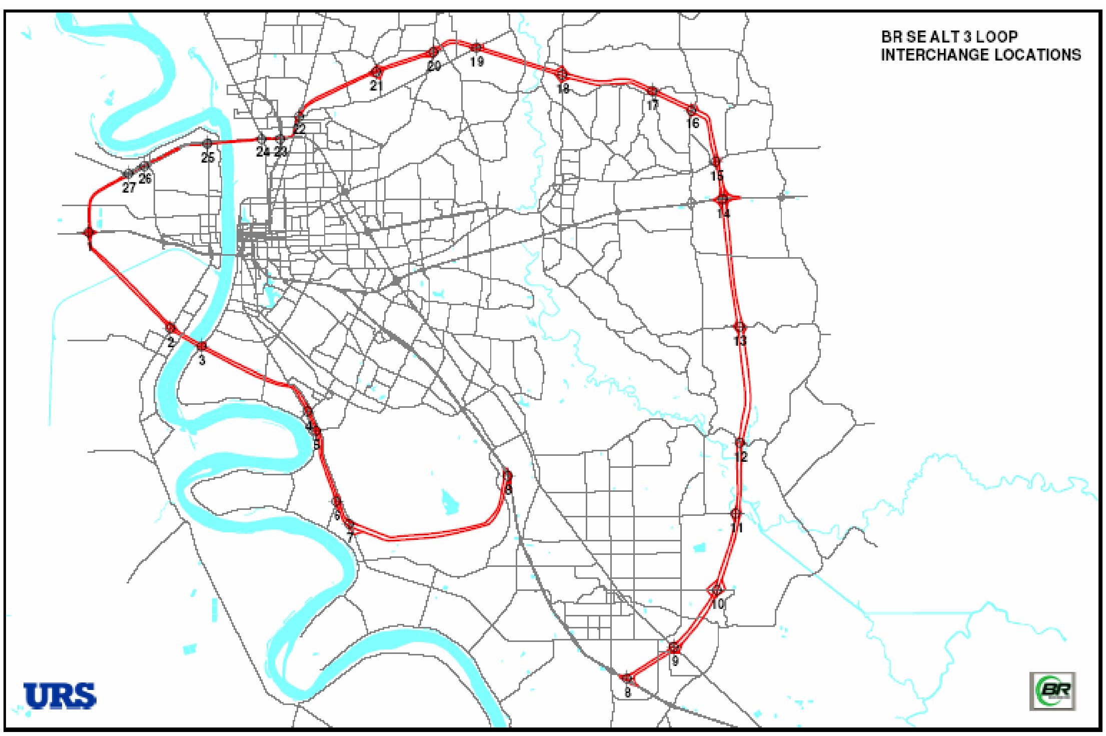


Figure 5-5. Configuration of Inner Loop – Southeast Alternative 3

Tables 5-4 and 5-5 compare traffic impacts on the Loop and adjacent highways for each alternative. In Table 5-4, the Loop is categorized as three segments: South Segment (between I-10 west of Mississippi River and I-10 Prairieville/Gonzales); East Segment (between I-10 Prairieville/Gonzales and I-12); and North Segment (I-12 and I-10 west of Mississippi River). These segments are shown graphically on Figure 6-3. Daily traffic estimates for all locations for these Inner Loop alternatives are presented in the Appendices B through E.

Table 5-4. Comparison of 2032 Toll-Free Daily Traffic Estimates on the Loop

Location		Base Inner Loop	Inner Loop SE Alt. 1	Inner Loop SE Alt. 2	Inner Loop SE Alt. 3
From	To				
South Segment					
I-10	LA 1	57,800	48,700	58,600	56,200
LA 1	River Road	63,200	N/A	64,800	61,700
River Road	Gardere Lane	53,300	N/A	54,800	50,400
Bluebonnet Road	Bayou Paul Lane	56,400	N/A	58,400	51,200
Choctaw Road	LA 1148	N/A	38,100	N/A	N/A
LA 1	LA 75	N/A	43,400	N/A	N/A
LA 75	Nicholson Drive	N/A	31,700	N/A	N/A
Nicholson Drive	I-10	43,300	40,800	56,200	32,400
East Segment					
Airline Highway	LA 44	50,200	53,000	N/A	N/A
LA 431	LA 16	66,600	65,600	N/A	N/A
Nicholson Drive	I-10	N/A	N/A	42,600	N/A
LA 935	Lake Martin Road	N/A	N/A	43,800	42,700
State Route 16	Hood Road	N/A	N/A	N/A	56,800
Hood Road	I-12	57,200	57,400	58,700	61,300
North Segment					
Florida Blvd.	Walker Rd North	65,800	66,600	67,600	69,000
Arnold Road	LA 16	66,200	66,900	68,500	70,200
Hooper Road	Joor Road	78,600	79,200	81,200	81,700
Blackwater Road	Plank Road	69,900	70,200	70,900	71,700
I-110	Scenic Highway	69,400	72,000	71,900	69,900
US 190	I-10	61,000	53,300	61,300	59,700

Source: URS Model Output

Table 5-5. 2032 Daily Traffic Impact of the Loop in the Study Area

Location		No-Build	Base Inner Loop	Inner Loop SE Alt. 1	Inner Loop SE Alt. 2	Inner Loop SE Alt. 3
I-10 Corridor						
Base Inner Loop	Lobdell Highway	57,000	30,100	42,800	29,000	29,900
Lobdell Highway	LA1	85,100	48,500	66,300	49,100	48,600
LA 1	Highland Rd	162,100	91,700	110,800	93,000	92,200
I-110	Dalrymple Drive	153,500	128,800	135,800	127,200	128,400
Acadian Thruway	College Drive	174,100	150,400	155,700	148,300	150,000
College Drive	I-12	202,300	176,800	183,400	174,600	176,000
I-12	Essen Lane	112,400	103,900	110,400	102,500	101,900
Siegen Lane	Highland Rd	95,900	87,500	91,400	80,800	82,300
Burnside Ave	LA 22	69,600	67,700	64,900	73,700	78,500
I-12 Corridor						
I-10	Essen Lane	119,200	105,600	104,800	107,000	106,200
Airline Highway	South Sherwood Forest Blvd	143,500	125,200	126,200	129,500	129,700
Millerville Road	O'Neal Lane	119,700	93,300	93,900	98,100	98,900
S. Range Road	Juban Road	94,300	71,500	72,400	76,400	78,300
Walker South Rd	Inner Loop	82,500	66,200	67,000	70,000	71,500
Satsuma Road	Frost Road	72,500	72,500	72,500	72,500	72,500
I-110 Corridor						
at Florida Blvd		40,800	28,100	28,000	28,600	28,500
at Spanish Town Road		100,100	100,700	101,000	99,700	10,000
at Plank Road		87,800	91,700	91,700	90,300	89,300
at Hollywood St.		91,300	107,900	109,200	105,100	103,300
at 72nd Ave		83,600	77,700	78,000	75,300	75,800
at Rosenwald Road		77,100	81,000	80,500	79,800	79,800
at Scenic Highway		38,700	38,800	39,000	37,800	38,500

Source: URS Model Output

Table 5-6 compares VMT for these alternatives with the results for the Inner Loop alternative cases discussed above. As shown in the table, the results for all alternatives are similar. In terms of average daily traffic volume per mile, the Base Inner Loop case attracts the highest traffic volume, and Southeast Alternative 1 shows the lowest volume.

Table 5-6. 2032 Inner Loop Alternative VMT & VHT Comparison – Toll Free

Scenario	Modeled Highway Length (mile)	Total Daily VMT in the Loop (vehicle-miles)	Total Daily VHT in the Loop (hour)	Avg. Daily Traffic Volume per Mile per direction	Avg. Traffic Speed (mph)
Base Inner	80.0	4,588,981	85,995	28,681	53.4
SE Alt 1	88.0	4,609,690	84,319	26,191	54.7
SE Alt 2	87.5	4,999,528	93,685	28,569	53.4
SE Alt 3	80.5	4,483,280	84,812	27,846	52.9

Source: URS Model Output

6. FUTURE MODEL ANALYSIS

6.1 Toll Sensitivity Analysis

The purpose of a toll sensitivity analysis is to estimate the effects of toll increases on traffic and revenue. As toll rates increase, some motorists divert from the toll road to alternative routes since the perceived benefits of traveling on the toll road are not great enough to warrant the toll expenditure.

For toll sensitivity analysis one horizontal year is normally selected and is representative throughout the analysis period. Model assignments were run at three different tolling levels as follows:

- Horizon Year 2018: 10 cents per mile, 15 cents per mile, and 20 cents per mile, (25 cents per mile was interpolated by URS).

Toll revenues have been generated and compared for horizon year 2018 as shown in Table 6-1. Using model results, 2018 revenues are estimated to be $59 million (in 2007 dollars) with 10 cents/mile toll rate, $67 million (in 2007 dollars) with a 15 cents/mile toll rate, $64 million (in 2007 dollars) with a 20 cents/mile toll rate and $57 million (in 2007 dollars) with a 25 cents/mile toll rate.

The results indicate that total revenues increase as the toll rate increases up to a level of 15 cents. At higher rates, total revenues decrease since the toll increase is not great enough to compensate for the revenue loss due to the shift of traffic to alternative routes. The results are shown in Table 6-1 and Figure 6-1.

Table 6-1. Toll Sensitivity in Year 2018

Scenario	Toll Rate ($/mile)	Daily VMT (mile)	Annual Revenue in 2007 dollars (in $1000)*
Toll Free Base Inner Loop	NA	3,458,000	$0
Base Inner Loop	$0.10	1,790,000	$ 59,000
Base Inner Loop	$0.15	1,360,000	$ 67,000
Base Inner Loop	$0.20	970,000	$ 64,000
Base Inner Loop	$0.25	690,000	$ 57,000

Source: Preliminary URS Model Output
(*) Annualization factor of 330 was assumed; Ramp-up reduction factor was not considered; factors for higher truck toll rate was not considered.

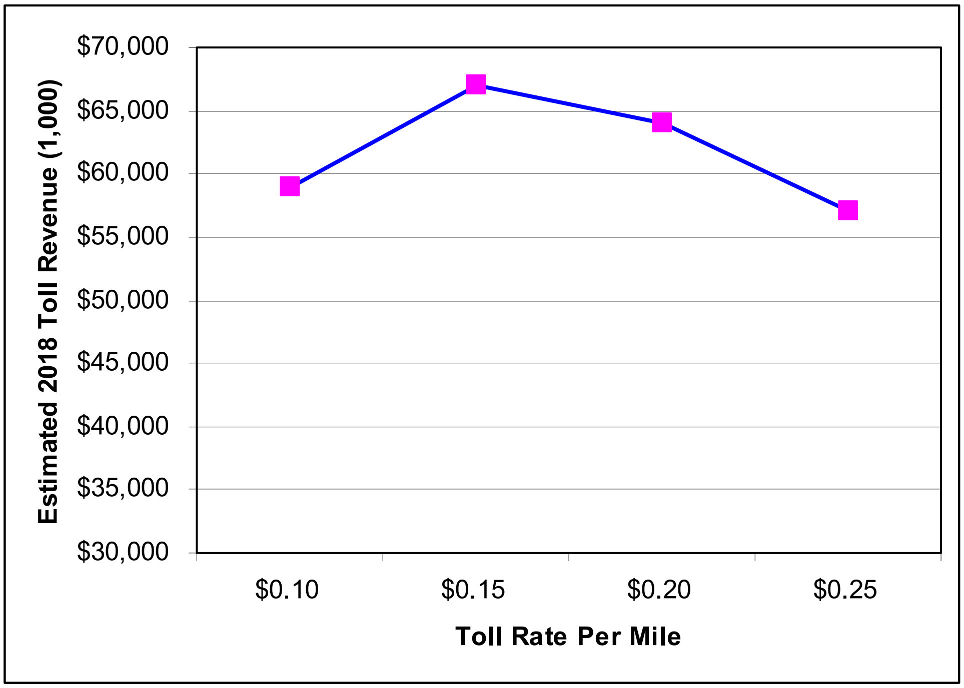


Figure 6-1. 2018 Toll Sensitivity (presented in 2007$)

6.2 Toll Collection

For this study, it has been assumed that the Electronic Toll Collection (ETC) only option will be provided from the beginning of toll operation. ETC, also referred to as Open Road Tolling, is the collection of tolls on toll roads without the use of toll booths. ETC is the direction for new toll facilities and even for many of the older toll agencies that are looking ahead for future upgrading and service to their patrons. Miami Dade Expressway, North Texas Tollway Authority, E470 Public Highway Authority in Colorado, Central Texas RMA and TxDOT are all committed to going all electronic - abandoning cash. Maryland's Inter County Connector and I-95 HOT Lanes are both under construction as all electronic.

The major advantage of ETC is that users are able to drive through the toll plaza at highway speeds without having to slow down to pay the toll. The disadvantage of ETC is the possibility of "leakage"; that is, "violators" who do not pay. However, a recent study by the North Carolina Turnpike Authority found that the lower operating costs of all electronic tolling offset the estimated revenue losses from violations.

Based on the maximum revenue analysis in Chapter 6.1, the assumed toll rate is $0.15 (in 2007 dollars) per mile. URS also assumed that periodic toll increases at the same rate as increases in the inflation would be implemented, so that toll rates are constant, maintaining the same level as the base year. To reflect this, toll revenues are increased by 2.5 percent per year.

6.3 Future Year Analysis

Based on the transportation modeling assumptions described in the previous chapters, more detailed analyses for the Base Inner Loop are conducted in this chapter.

Key assumptions used in the analysis are as follows:

- Base Inner Loop
- Toll Rate: $0.15 per mile (2007 value)

As summarized in Table 6-2, model results for the 2018 No-Build, Toll-Free Build, and Toll Build scenarios were compared in locations of the Loop and major routes in the study area. With the opening of the Loop, trips are diverted from the existing I-10, I-12, and I-110.

As can be seen from the table, the Loop has significant impact on I-10 and I-12. In 2018, the Loop, as a toll-free route, carries estimated daily traffic volumes of 33,800 ~ 63,800 depending on the segment. By comparison, parallel sections of I-10 and I-12 lose traffic volumes of 12,200 ~ 63,700.

For a number of trips, the proposed Loop will result in a reduction in travel time over competitive route choices. But the decision to use the toll road requires payment of a toll. In the model, each trip evaluates the tradeoff that travelers are willing to make between toll and travel time savings. The results of the model show that overall 2018 traffic on the Loop, with implementation of tolls at a rate of $0.15 per mile, is estimated to lose more than 55 percent of the traffic compared to the toll-free scenario. For the model year 2032, it is estimated that the Loop will lose about 45 percent of the traffic compared to the toll-free scenario. These losses represent toll diversion estimates sufficient for this study. The loss estimates are based on traditional approaches. These toll diversion estimates and other elements of the forecasting will need to be considered further as various finance options, including public-private partnership investments, are considered.

The future highway travel time with and without the Loop are analyzed also, and isochrones of equal travel time to downtown are presented in Figure 6-2. With the construction of the Loop, access time to downtown is reduced.

Table 6-2. 2018 Daily Traffic Estimates in the Study Area

Location		No-Build (A)	Build Toll-Free (B)	Difference (B – A)	Build ($0.15/mile) (C)	Difference (C – B)	Difference (C – A)
From	To						
Loop - South Segment							
I-10	LA 1		42,601	42,601	12,559	(30,042)	12,559
LA 1	River Road		46,980	46,980	25,694	(21,286)	25,694
River Road	Gardere Ln.		37,859	37,859	11,976	(25,883)	11,976
Bluebonnet Road	Bayou Paul Lane		44,837	44,837	14,056	(30,781)	14,056
Nicholson Dr.	I-10		35,287	35,287	5,195	(30,092)	5,195
Loop - East Segment							
Airline Hwy.	LA 44		42,180	42,180	24,799	(17,381)	24,799
LA 431	LA 16		41,409	41,409	31,110	(10,299)	31,110
Hood Road	I-12		33,757	33,757	15,957	(17,800)	15,957
Loop - North Segment							
Florida Blvd.	Walker Road N.		51,151	51,151	19,967	(31,184)	19,967
Arnold Road	LA 16		49,601	49,601	21,021	(28,580)	21,021
Hooper Road	Joor Road		61,854	61,854	30,087	(31,767)	30,087
Blackwater Road	Plank Road		62,042	62,042	31,376	(30,666)	31,376
I-110	Scenic Hwy.		63,820	63,820	22,577	(41,243)	22,577
US 190	I-10		45,246	45,246	11,279	(33,967)	11,279
I-10							
Base Inner Loop	Lobdell Highway	46,103	21,095	(25,008)	33,898	12,803	(12.205)
Lobdell Hwy.	LA1	80,918	37,499	(43,419)	64,131	26,632	(16,787)
LA 1	Highland Rd	137,445	73,718	(63,727)	102,271	28,553	(35,174)
I-110	Dalrymple Drive	141,080	113,734	(27,346)	131,924	18,190	(9,156)
Acadian Thruway	College Drive	162,712	134,933	(27,779)	153,558	18,625	(9,154)
College Drive	I-12	188,962	158,670	(30,292)	179,279	20,609	(9,683)
I-12	Essen Lane	106,205	93,996	(12,209)	104,174	10,178	(2,031)
Siegen Lane	Highland Rd	88,935	76,124	(12,811)	88,029	11,905	(906)
I-12							
I-10	Essen Lane	110,449	94,558	(15,891)	104,075	9,517	(6,374)
Airline Highway	S. Sherwood Forest	133,403	113,212	(20,191)	125,709	12,497	(7,694)
Millerville Rd.	O'Neal Lane	109,677	82,790	(26,887)	97,989	15,199	(11,688)
S. Range Rd	Juban Road	82,761	59,559	(23,202)	73,715	14,156	(9,046)
Walker South Rd	Inner Loop	67,792	51,604	(16,188)	61,101	9,497	(6,691)
Satsuma Rd	Frost Road	57,340	57,340	-	57,340	-	-
I-110							
at Florida Blvd		34,582	22,612	(11,970)	26,535	3,923	(8,047)
at Spanish Town Road		93,691	91,069	(2,622)	95,789	4,720	2,098
at Plank Road		81,287	82,690	1,403	86,074	3,384	4,787
at Hollywood St.		82,684	95,939	13,255	95,679	(260)	12,995
at 72nd Ave		75,459	66,211	(9,248)	71,006	4,795	(4,453)
at Rosenwald Road		71,731	70,166	(1,565)	69,991	(175)	(1,740)
at Scenic Highway		35,698	33,764	(1,934)	34,592	828	(1,106)

Source: Preliminary Model Output

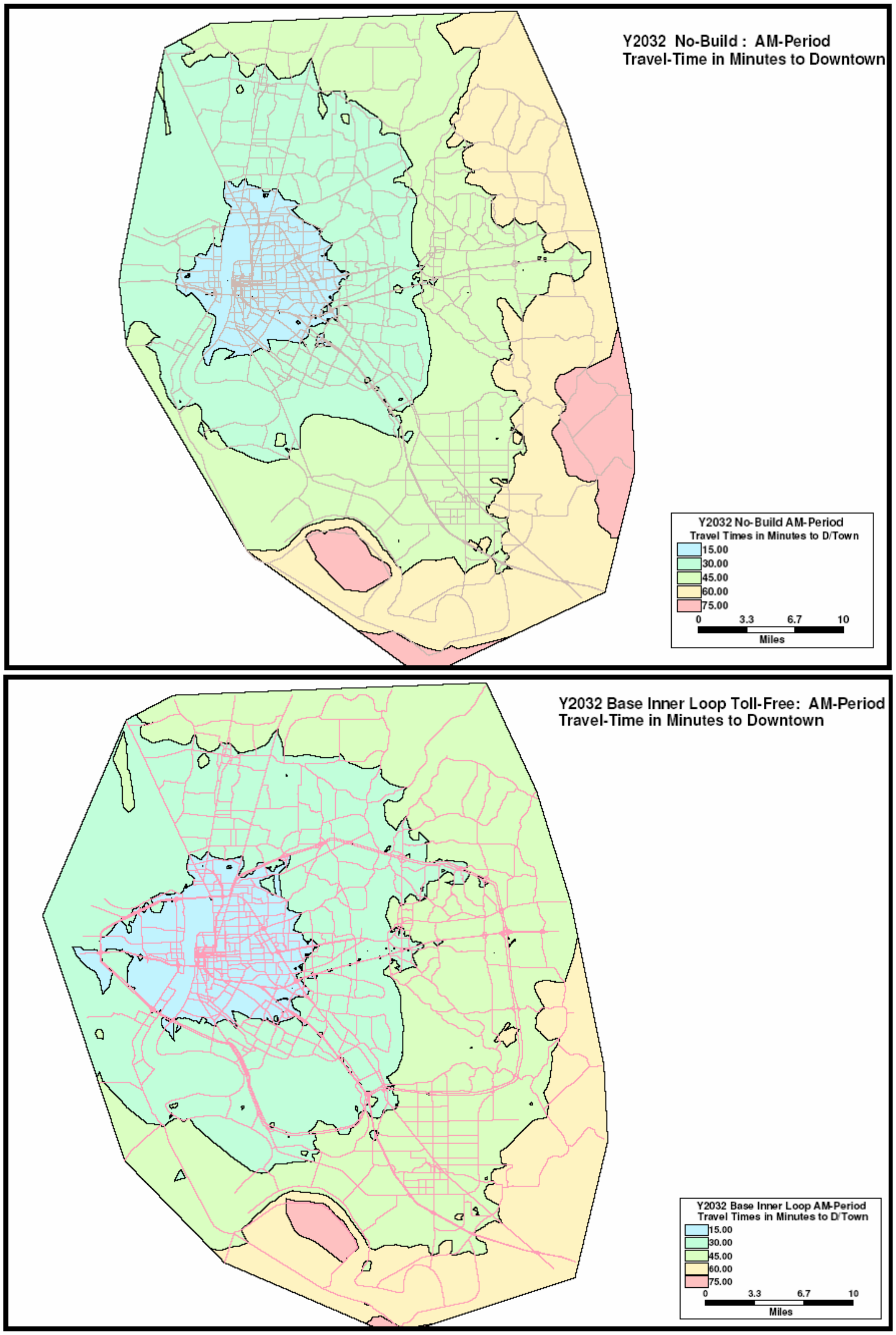


Figure 6-2. Travel Time Comparison for 2032 Base Inner Loop

6.4 Phase Analysis

In addition to the full development, it was discussed that the Loop can be constructed in stages. In this phased implementation, three service scenarios were analyzed.

- Construction of the South Segment Only
- Construction of the East Segment Only
- Construction of the North Segment Only

Figure 6-3 describes each segment in the Loop.

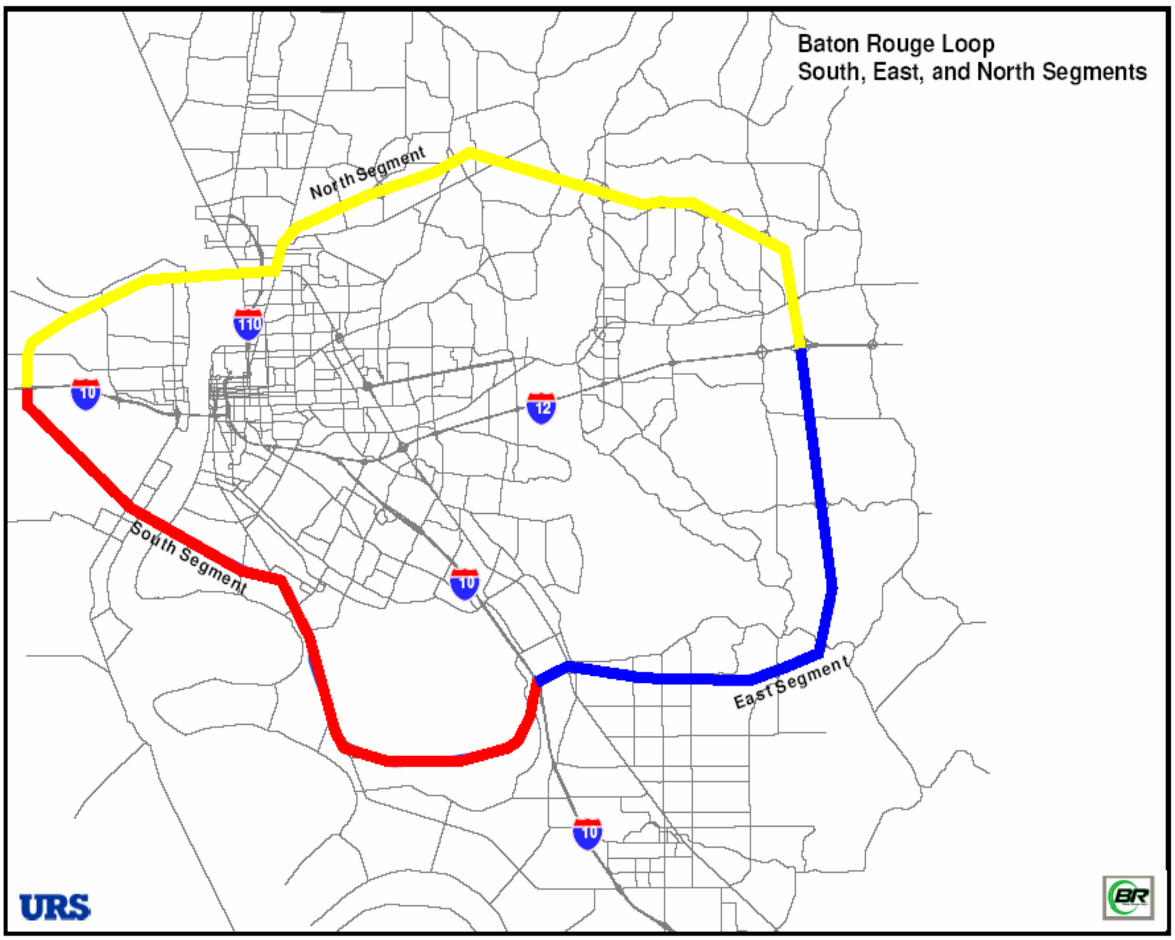


Figure 6-3. Loop Segments (Base Inner Loop Shown)

Table 6-3 compares VMT, VHT, Average Travel Speed, and Revenue. Among scenarios, travel speeds are similar.

- Base Inner Loop Full-Build: With this scenario, the Loop will generate the highest traffic and revenue. This alternative is the subject of the report.

- South Segment Only: This alternative will generate the lowest traffic and revenue.

- East Segment Only: This alternative generates comparable traffic per mile to the North Segment Only scenario.

- North Segment Only: Average travel speed in this scenario is estimated to be the lowest, due to the highest traffic volume per mile.

Table 6-3. VMT and VHT Comparison

Scenario (1)	Daily VMT/Mile per direction	Daily VHT (hour)	Speed (mph)	Annual Revenue ($ 1,000)
Year 2018 (2)				
Full-Build Base Inner Loop	8,511	20,406	66.7	$60,667
South Segment Only	4,345	3,159	69.4	9,767
East Segment Only	9,065	5,201	68.5	15,867
North Segment Only	10,893	11,154	64.7	32,149
Year 2032				
Full-Build Base Inner Loop	15,678	40,195	62.4	124,170
South Segment Only	9,939	7,449	67.3	24,825
East Segment Only	17,507	10,662	64.5	34,069
North Segment Only	18,567	21,108	58.3	60,890

Source: Preliminary Model Output
Assumptions: Toll Rate, $0.15 per mile; and annualization factor of 330 was used
(1) Project length: Base Inner Loop = 80 mile; South Segment = 25.2 mile; East Segment = 18.6 mile; North Segment = 33.1 mile
(2) 10% Ramp-up reduction is reflected.

7. FUTURE TRAFFIC AND REVENUE PROJECTIONS

The traffic estimates have been prepared for the Loop using the outputs of the revised CRPC model. Using these traffic estimates and some assumptions, preliminary toll revenues are also estimated.

7.1 Socioeconomic Data Update and Assumptions

CRPC provided the latest personal income information for the study area. CRPC noted that the latest information reflected changed income patterns after Hurricane Katrina.

URS refined the value of time information using the latest personal income data. The refined value of time for each vehicle ranges between $16 and $18 per hour depending on the focused region. Using these two values of time, future traffic and revenue analyses were conducted.

Since the URS demand model estimates annual average weekday conditions (a 5 day average), some conversion from Annual Average Weekday Traffic to Annual Average Daily Traffic is required in order to estimate annual revenue. URS looked into available traffic counts in the study area including I-110, I-10, and US61, and developed an annualization factor of 330 in order to estimate annual toll revenue. 365 is not used because average weekend traffic volume is lower than weekday traffic volume in the study area.

The toll rate, used in the model, for all vehicle types is $0.15 (in 2007 dollars) per mile. For revenue estimation purpose, truck tolls were assumed at 3 times the passenger car rate.

It is typical that when a toll road first opens that traffic volumes will not reach full potential until two or three years, due to driver behavior adjustments and adaptability to the toll nature of the facility. This is called a ramp up period. Traffic and revenue reduction due to ramp-up are considered: 30 percent reduction in the first year, 20 percent reduction in the second year, and 10 percent reduction in the third year.

Violations are assumed to be at a minimum because of strict enforcement. For all project years, the violation rate was assumed to be five percent of all users.

Toll rate increases are assumed to be based on a 2.5 percent increase per year, in accordance with anticipated increases in inflation.

The availability and price of fuel are assumed to be comparable to current conditions.

7.2 Traffic and Revenue Projections

For the future traffic and revenue estimates for the Base Inner Loop alternative, two major horizon years, 2018 and 2032, were analyzed. For intermediate years, traffic volumes were estimated by straight-line interpolation. Similarly, projections back to opening year 2016 and forward to year 2065 were made by extending the straight line interpolation generated by the 2018 and 2032 data points. The estimated number of transactions and toll revenues on the Base Inner Loop from 2016 through 2065, for values of time $16 and $18, are presented in Tables 7-1 through 7-4. After 2065, it is assumed that traffic increases at an average annual rate of 1.0 percent.

For each value of time, two model adjustment factors for trucks were applied in revenue estimation, as the CRPC model did not have a reasonable truck trip table to evaluate impact of higher truck toll rates. The combination of two values of time assumptions and two assumptions about reduced truck traffic due to higher truck tolls leads to four distinct scenarios for traffic and revenue estimates:

- Scenario 1: $16 value of time with reduced truck traffic due to higher truck toll
- Scenario 2: $16 value of time without changes in truck traffic
- Scenario 3: $18 value of time with reduced truck traffic due to higher truck toll
- Scenario 4: $18 value of time without changes in truck traffic

The toll revenue estimates are presented in terms of 2007 dollars and in nominal terms. Nominal means the value at the year of collection.

In Scenario 1, the lowest revenue case shown in Table 7-1, total annual toll revenues for 2016, the first full year of operation of the proposed Loop, are estimated to be $50.3 million (in 2007 dollars) with a $0.15 per mile toll rate for passenger car and $0.45 for truck. This reflects a 30 percent reduction due to ramp-up. Over the period from 2016 to 2065, toll revenues are estimated to increase from $50.3 million to $203.1 million, an average annual rate of growth of 2.9 percent. For the first three years traffic, and thus toll revenues, are reduced due to ramp-up: a 30 percent reduction in the first year, a 20 percent reduction in the second year; and a 10 percent reduction in the third year.

In Scenario 4, the highest revenue case shown in Table 7-4, toll revenues are estimated to increase from $61.7 million (in 2007 dollars) to $236.9 million (in 2007 dollars), between 2016 and 2065, an average annual rate of growth of 2.8 percent.

While the projections are made and presented on a year-by-year basis, they are intended to show trends reflecting the analysis described previously and the assumptions and conditions set forth. Variations in the year-to-year forecasts may occur and such variations may be significant.

Table 7-1. Traffic and Toll Revenue Estimates for the Full Phase Construction: Scenario 1- VOT $16 with Reduced Truck Traffic Due to Higher Truck Toll

Year	Annual Transactions (000s)	Gross Annual Revenue before O&M (000s)	
		2007 Dollars	Nominal Dollars
2016	70,138	50,345	62,874
2017	84,990	61,006	78,093
2018	101,051	72,535	95,172
2019	114,643	84,930	114,222
2020	117,048	89,266	123,055
2021	119,486	93,602	132,258
2022	121,952	97,939	141,844
2023	124,443	102,275	151,827
2024	126,956	106,611	162,221
2025	129,487	110,947	173,039
2026	132,034	115,283	184,297
2027	134,596	119,619	196,010
2028	137,171	123,955	208,193
2029	139,757	128,291	220,863
2030	142,354	132,627	234,036
2031	144,960	136,964	247,730
2032	147,574	141,300	261,962
2033	151,311	144,878	275,311
2034	154,377	147,814	287,912
2035	156,880	150,210	299,893
2036	158,914	152,158	311,377
2037	160,562	153,736	322,472
2038	162,168	155,274	333,839
2039	163,790	156,826	345,607
2040	165,428	158,395	357,790
2041	167,082	159,979	370,402
2042	168,753	161,578	383,459
2043	170,440	163,194	396,975
2044	172,145	164,826	410,969
2045	173,866	166,474	425,455
2046	175,605	168,139	440,453
2047	177,361	169,820	455,979
2048	179,134	171,519	472,052
2049	180,926	173,234	488,692
2050	182,735	174,966	505,918
2051	184,562	176,716	523,752
2052	186,408	178,483	542,214
2053	188,272	180,268	561,327
2054	190,155	182,071	581,114
2055	192,056	183,891	601,598
2056	193,977	185,730	622,804
2057	195,917	187,587	644,758
2058	197,876	189,463	667,486
2059	199,855	191,358	691,015
2060	201,853	193,272	715,373
2061	203,872	195,204	740,590
2062	205,910	197,156	766,696
2063	207,970	199,128	793,722
2064	210,049	201,119	821,701
2065	212,150	203,130	850,666

Source: URS Model Output and Adjustment Factors

Table 7-2. Traffic and Toll Revenue Estimates for the Full Phase Construction: Scenario 2- VOT $16 without Changing Truck Traffic

Year	Annual Transactions (000s)	Gross Annual Revenue before O&M (000s)	
		2007 Dollars	Nominal Dollars
2016	72,561	54,723	68,342
2017	87,927	66,311	84,884
2018	104,542	78,842	103,448
2019	118,605	92,315	124,154
2020	121,092	97,029	133,755
2021	123,614	101,742	143,758
2022	126,166	106,455	154,178
2023	128,743	111,168	165,030
2024	131,342	115,881	176,327
2025	133,961	120,594	188,086
2026	136,597	125,308	200,323
2027	139,247	130,021	213,054
2028	141,911	134,734	226,297
2029	144,587	139,447	240,068
2030	147,273	144,160	254,387
2031	149,969	148,873	269,271
2032	152,673	153,587	284,741
2033	156,540	157,477	299,252
2034	159,712	160,667	312,948
2035	162,300	163,272	325,971
2036	164,405	165,389	338,453
2037	166,111	167,105	350,513
2038	167,772	168,776	362,869
2039	169,449	170,463	375,660
2040	171,144	172,168	388,902
2041	172,855	173,890	402,611
2042	174,584	175,629	416,803
2043	176,330	177,385	431,495
2044	178,093	179,159	446,705
2045	179,874	180,950	462,452
2046	181,673	182,760	478,753
2047	183,489	184,587	495,629
2048	185,324	186,433	513,100
2049	187,178	188,298	531,187
2050	189,049	190,181	549,911
2051	190,940	192,082	569,295
2052	192,849	194,003	589,363
2053	194,778	195,943	610,138
2054	196,725	197,903	631,646
2055	198,693	199,882	653,911
2056	200,680	201,881	676,961
2057	202,686	203,899	700,824
2058	204,713	205,938	725,528
2059	206,760	207,998	751,103
2060	208,828	210,078	777,580
2061	210,916	212,178	804,989
2062	213,026	214,300	833,365
2063	215,156	216,443	862,741
2064	217,307	218,608	893,153
2065	219,480	220,794	924,637

Source: URS Model Output and Adjustment Factors

Table 7-3. Traffic and Toll Revenue Estimates for the Full Phase Construction: Scenario 3- VOT $18 with Reduced Truck Traffic Due to Higher Truck Toll

Year	Annual Transactions (000s)	Gross Annual Revenue before O&M (000s)	
		2007 Dollars	Nominal Dollars
2016	79,080	56,764	70,890
2017	95,330	68,428	87,594
2018	112,818	80,981	106,254
2019	127,457	94,423	126,989
2020	129,637	98,867	136,290
2021	131,879	103,311	145,976
2022	134,176	107,755	156,062
2023	136,519	112,199	166,560
2024	138,903	116,643	177,487
2025	141,322	121,087	188,855
2026	143,772	125,531	200,681
2027	146,249	129,975	212,980
2028	148,751	134,419	225,768
2029	151,274	138,863	239,063
2030	153,817	143,307	252,882
2031	156,377	147,751	267,242
2032	158,953	152,196	282,162
2033	162,778	155,858	296,175
2034	165,912	158,858	309,423
2035	168,467	161,304	322,043
2036	170,542	163,292	334,161
2037	172,247	164,924	345,940
2038	173,970	166,574	358,135
2039	175,710	168,239	370,759
2040	177,467	169,922	383,828
2041	179,241	171,621	397,358
2042	181,034	173,337	411,365
2043	182,844	175,071	425,865
2044	184,673	176,821	440,877
2045	186,519	178,590	456,418
2046	188,385	180,375	472,507
2047	190,268	182,179	489,163
2048	192,171	184,001	506,406
2049	194,093	185,841	524,256
2050	196,034	187,699	542,737
2051	197,994	189,576	561,868
2052	199,974	191,472	581,674
2053	201,974	193,387	602,178
2054	203,993	195,321	623,405
2055	206,033	197,274	645,380
2056	208,094	199,247	668,129
2057	210,175	201,239	691,681
2058	212,276	203,252	716,063
2059	214,399	205,284	741,304
2060	216,543	207,337	767,435
2061	218,709	209,410	794,487
2062	220,896	211,504	822,492
2063	223,105	213,619	851,485
2064	225,336	215,756	881,500
2065	227,589	217,913	912,573

Source: URS Model Output and Adjustment Factors

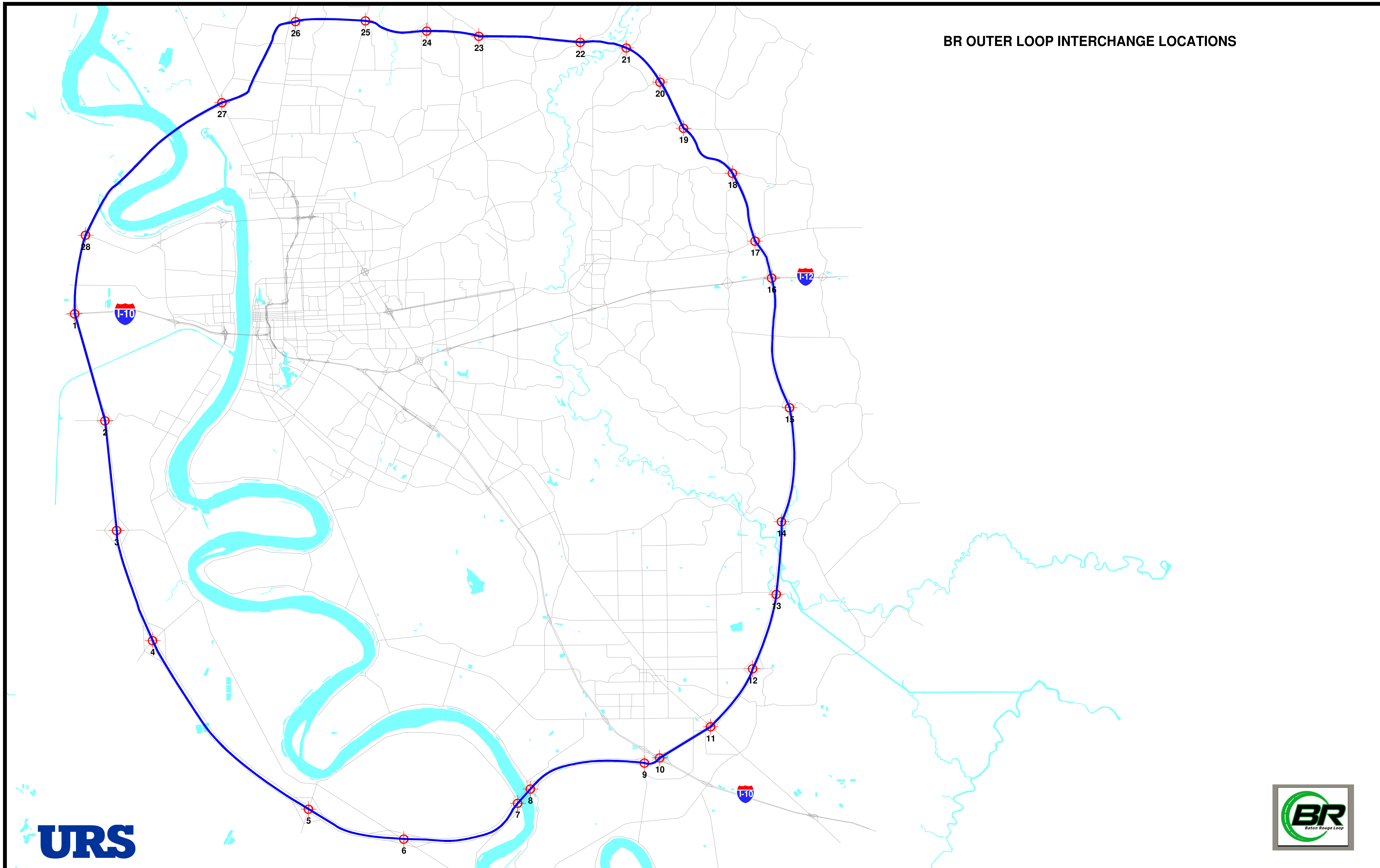
Table 7-4. Traffic and Toll Revenue Estimates for the Full Phase Construction: Scenario 4- VOT $18 without Changing Truck Traffic

Year	Annual Transactions (000s)	Gross Annual Revenue before O&M (000s)	
		2007 Dollars	Nominal Dollars
2016	81,812	61,700	77,055
2017	98,624	74,378	95,211
2018	116,716	88,023	115,494
2019	131,862	102,634	138,031
2020	134,116	107,464	148,141
2021	136,436	112,295	158,670
2022	138,812	117,125	169,632
2023	141,236	121,956	181,044
2024	143,702	126,786	192,920
2025	146,205	131,617	205,277
2026	148,740	136,447	218,131
2027	151,303	141,278	231,500
2028	153,891	146,108	245,400
2029	156,502	150,939	259,851
2030	159,132	155,769	274,872
2031	161,781	160,599	290,480
2032	164,446	165,430	306,698
2033	168,403	169,411	321,930
2034	171,644	172,672	336,330
2035	174,288	175,331	350,047
2036	176,435	177,491	363,218
2037	178,199	179,266	376,022
2038	179,981	181,058	389,277
2039	181,781	182,869	402,999
2040	183,599	184,698	417,204
2041	185,435	186,545	431,911
2042	187,289	188,410	447,136
2043	189,162	190,294	462,897
2044	191,054	192,197	479,214
2045	192,964	194,119	496,107
2046	194,894	196,060	513,594
2047	196,843	198,021	531,699
2048	198,811	200,001	550,441
2049	200,799	202,001	569,844
2050	202,807	204,021	589,931
2051	204,836	206,061	610,726
2052	206,884	208,122	632,254
2053	208,953	210,203	654,541
2054	211,042	212,305	677,614
2055	213,153	214,428	701,500
2056	215,284	216,572	726,227
2057	217,437	218,738	751,827
2058	219,611	220,926	778,329
2059	221,808	223,135	805,765
2060	224,026	225,366	834,168
2061	226,266	227,620	863,573
2062	228,529	229,896	894,014
2063	230,814	232,195	925,527
2064	233,122	234,517	958,152
2065	235,453	236,862	991,927

Source: URS Model Output and Adjustment Factors

APPENDIX A

Year 2032 Outer Loop – Toll Free Model Volumes


BR OUTER LOOP INTERCHANGE LOCATIONS
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I-12
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URS
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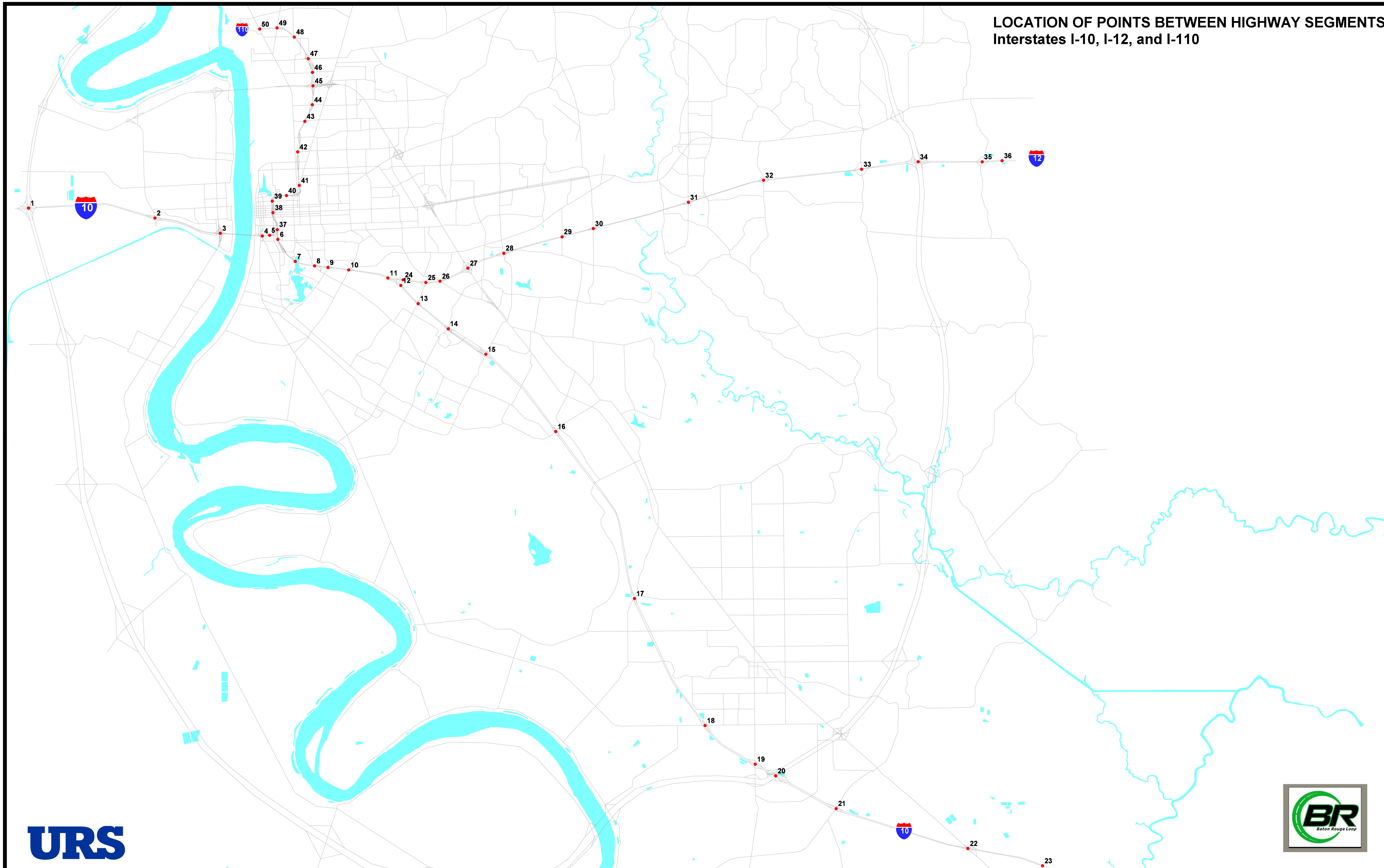
Baton Rouge Loop

OUTER LOOP INTERCHANGES AND SEGMENT NUMBERS

INT. POINT NUMBER	LOCATION OF POINT		LOOP SEGMENT	LOOP SEGMENT #
1	I-10			
2	Choctaw Rd		I-10 --> Choctaw Road	**1**
3	LA 1148		Choctaw Road -->LA 1148	**2**
4	LA 75		LA 1148 --> LA 75	**3**
5	LA 69		LA 75 --> LA 69	**4**
6	LA 1		LA 69 --> LA 1	**5**
7	LA 405		LA 1 --> LA 405	**6**
8	LA 75		LA 405 --> LA 75	**7**
9	LA 44		LA 75 --> LA 44	**8**
10	I-10		LA 44 --> I-10	**9**
11	Airline Highway (US 61)		I-10 --> Airline Highway	**10**
12	LA 935		Airline Highway --> LA 935	**11**
13	Lake Martin Road		LA 935 --> Lake Martin Road	**12**
14	LA 16		Lake Martin Road --> LA 16	**13**
15	Hood Rd		LA 16 --> Hood Road	**14**
16	I-12		Hood Road --> I-12	**15**
17	Florida Blvd (US 190)		I-12 --> Florida Blvd.	**16**
18	Arnold Rd (LA 1025)		Florida Blvd. --> Arnold Road	**17**
19	Cane Market Rd (LA 1024)		Arnold Road --> Cane Market Road	**18**
20	Springfield Rd (LA 1019)		Cane Market Road --> Springfield Road	**19**
21	LA 16		Springfield Road --> LA 16	**20**
22	Greenwell Springs Rd (SR 37)		LA 16 --> Greenwell Springs Road	**21**
23	Greenwell Springs Pt. Hudson Rd. (SR 64)		Greenwell Springs Road --> Hudson Road	**22**
24	Blackwater Rd (SR 410)		Hudson Road --> Blackwater Road	**23**
25	Plank Rd (SR 67)		Blackwater Road --> Plank Road	**24**
26	Zachary Highway (SR 19)		Plank Road --> Zachary Highway	**25**
27	Scenic Hwy (US 61)		Zachary Highway --> Scenic highway	**26**
28	US 190		Scenic Highway --> US 190	**27**
			US 190 --> I-10	**28**


LOCATION OF POINTS BETWEEN HIGHWAY SEGMENTS
Interstates I-10, I-12, and I-110
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URS
BR
Baton Rouge Loop

I-10, I-12, I-110 SEGMENT NUMBERS

INTERSTATE 10

POINT NUMBER	LOCATION OF POINT	INTERSTATE I-10	I-10 SEGMENT	I-10 SEGMENT #
1	BR Outer Loop	**I-10**	West of Outer Loop --> Loop	**1**
2	Lobdell Highway	**I-10**	Loop --> Lobdell Highway	**2**
3	LA 1	**I-10**	Lobdell Highway --> LA 1	**3**
4	Highland Road	**I-10**	LA 1 --> Highland Road (on Bridge)	**4**
5	Split to I-110	**I-10**	Highland Road (on Bridge) --> Split to I	**5**
6	Merge with I-110	**I-10**	Split to I-110 --> Merge with SB I-110	**6**
7	Park Blvd/Dalrymple Drive	**I-10**	Merge with SB I-110 --> Park Blvd	**7**
8	Perkins Road	**I-10**	Park Blvd --> Perkins Road	**8**
9	Acadian Thruway	**I-10**	Perkins Road --> Acadian Thruway	**9**
10	College Drive	**I-10**	Acadian Thruway --> College Drive	**10**
11	Split to I-12	**I-10**	College Drive --> Split to I-12	**11**
12	Merge with I-12	**I-10**	Split to I-12 --> Merge with WB I-12	**12**
13	Essen lane	**I-10**	Merge with WB I-12 --> Essen Lane	**13**
14	Blue Bonnett Blvd	**I-10**	Essen Lane --> Bluebonnett Blvd	**14**
15	Siegen Lane	**I-10**	Bluebonnett Blvd --> Siegen Lane	**15**
16	Highland Road	**I-10**	Siegen Lane --> Highland Road	**16**
17	LA 73	**I-10**	Highland Road --> LA 73	**17**
18	Nicholson Drive	**I-10**	LA 73 --> Nicholson Drive	**18**
19	Burnside Ave (LA 44)	**I-10**	Nicholson Drive --> Burnside Ave	**19**
20	Outer Loop	**I-10**	Burnside Ave --> Outer Loop	**20**
21	LA 22	**I-10**	Outer Loop --> LA 22	**21**
22	Airline Highway	**I-10**	LA 22 --> Airline Highway	**22**

INTERSTATE 12

POINT NUMBER	LOCATION OF POINT	INTERSTATE I-12	I-12 SEGMENT	I-12 SEGMENT #
24	I-10 Merge with I-10	**I-12**	SB I-10 -->Merge with NB I-10	**1**
25	Essen Lane	**I-12**	I-10 Merge --> Essen Lane	**2**
26	Jefferson Highway	**I-12**	Essen Lane --> Jefferson Highway	**3**
27	Airline Highway	**I-12**	JeffersinHighway --> Airkine Highway	**4**
28	Sherwood Forest Blvd	**I-12**	Airline Highway --> Sherwood Forest	**5**
29	Millerville Road	**I-12**	Sherwood Forest Blvd --> Millerville R	**6**
30	O'Neal Lane	**I-12**	Millerville Road --> O'Neal Lane	**7**
31	S. Range Road	**I-12**	O'Neal Lane --> S. Range Road	**8**
32	Juban Road	**I-12**	S. Range Road --> Juban Road	**9**
33	Walker Road South	**I-12**	Juban Road --> Walker Road South	**10**
34	Outer Loop	**I-12**	Walker Road South --> Outer Loop	**11**
35	Satsuma Road	**I-12**	Outer Loop --> Satsuma Road	**12**
36	S. Frost Road	**I-12**	Satsuma Road --> S. Frost Road	**13**

INTERSTATE 110

POINT NUMBER	LOCATION OF POINT	INTERSTATE I-110	I-110 SEGMENT	I-110 SEGMENT #
37	I10/I-110 Merge	**I-110**	I-10 --> I-110	**1**
38	Florida Blvd	**I-110**	M/L @ Florida Blvd	**2**
39	Spanish Town Road	**I-110**	M/L @ Spanish Town Rd	**3**
40	Fuqua St	**I-110**	M/L before off-ramp to Fuqua	**4**
41	Plank Road	**I-110**	M/L @ Plank Rd	**5**
42	Windbourne Ave	**I-110**	M/L @ Windbourne Ave	**6**
43	Evangeline St	**I-110**	M/L @Evangeline St	**7**
44	Hollywood St	**I-110**	M/L@Hollywood St	**8**
45	Airline Hwy	**I-110**	M/L@Airline Highway	**9**
46	72nd St	**I-110**	M/L @ 72nd Ave	**10**
47	Harding Blvd	**I-110**	M/L @ Harding Blvd	**11**
48	Rosenwald Rd	**I-110**	M/L @ Rosenwald Rd	**12**
49	Baker Rd	**I-110**	M/L @ Baker Rd.	**13**
50	Scenic Hwy	**I-110**	M/L@Scenic Highway	**14**

Table 1: Y2032 Daily Assigned Volumes on Toll-Free Outer Loop Segments

			LOOP	LOOP	LOOP
			Y2032 DAILY	Y2032 DAILY	Y2032 DAILY
SEGMENT	FROM	TO	Anticlockwise ASSN	Clockwise ASSN	Both Directions
1	I-10	Choctaw Rd	21,700	24,800	46,500
2	Choctaw Rd	LA 1148	16,500	19,000	35,500
3	LA 1148	LA 75	16,200	18,700	34,900
4	LA 75	LA 69	17,500	19,600	37,100
5	LA 69	LA 1	13,100	13,900	27,000
6	LA 1	LA 405	10,700	11,300	22,000
7	LA 405	LA 75	23,000	24,000	47,000
8	LA 75	LA 44	15,800	16,500	32,300
9	LA 44	I-10	15,800	15,300	31,100
10	I-10	Airline Highway (US 61)	12,600	13,000	25,600
11	Airline Highway (US 61)	LA 935	19,500	20,000	39,500
12	LA 935	Lake Martin Road	20,500	21,100	41,600
13	Lake Martin Road	LA 16	26,900	27,400	54,300
14	LA 16	Hood Rd	26,400	26,500	52,900
15	Hood Rd	I-12	29,700	28,500	58,200
16	I-12	Florida Blvd (US 190)	34,000	34,500	68,500
17	Florida Blvd (US 190)	Arnold Rd (LA 1025)	31,300	32,100	63,400
18	Arnold Rd (LA 1025)	Cane Market Rd (LA 1024)	29,600	29,000	58,600
19	Cane Market Rd (LA 1024)	Springfield Rd (LA 1019)	28,400	29,300	57,700
20	Springfield Rd (LA 1019)	LA 16	30,600	30,700	61,300
21	LA 16	Greenwell Springs Rd (SR 37)	38,300	38,900	77,200
22	Greenwell Springs Rd (SR 37)	Greenwell Springs Pt. Hudson Rd. (SR 64)	33,800	34,400	68,200
23	Greenwell Springs Pt. Hudson Rd. (SR 64)	Blackwater Rd (SR 410)	31,100	29,700	60,800
24	Blackwater Rd (SR 410)	Plank Rd (SR 67)	30,700	30,000	60,700
25	Plank Rd (SR 67)	Zachary Highway (SR 19)	23,900	24,400	48,300
26	Zachary Highway (SR 19)	Scenic Hwy (US 61)	21,900	22,600	44,500
27	Scenic Hwy (US 61)	US 190	24,500	24,400	48,900
28	US 190	I-10	29,900	30,300	60,200

Table 2: Y2032 Daily Assigned Volumes on I-10 Segments

SEGMENT	FROM	TO	Y2004 DAILY BOTH DIRECTIONS	NO LOOP Y2032 DAILY SB ASSN	NO LOOP Y2032 DAILY NB ASSN	NO LOOP Y2032 DAILY SB+NB	WITH OUTER LOOP Y2032 DAILY SB ASSN	WITH OUTER LOOP Y2032 DAILY NB ASSN	WITH OUTER LOOP Y2032 DAILY SB+NB	LOOP-NOLOOP Y2032 DAILY SB ASSN	LOOP-NOLOOP Y2032 DAILY NB ASSN	LOOP-NOLOOP Y2032 DAILY SB+NB	LOOP-NOLOOP Y2032 DAILY SB ASSN	LOOP-NOLOOP Y2032 DAILY NB ASSN	LOOP-NOLOOP Y2032 DAILY SB+NB
1	**West of Outer Loop**		n/a				28,500	28,500	57,000						
2	**Outer Loop**	Lobdell Highway	37,200	28,500	28,500	57,000	28,600	26,000	54,600	100	-2,500	-2,400	0%	-10%	-4%
3	Lobdell Highway	LA 1	53,900	37,700	47,400	85,100	38,700	36,500	75,200	1,000	-10,900	-9,900	3%	-30%	-13%
4	LA 1	Highland Rd (on I-10 Bridge)	107,000	80,600	81,500	162,100	48,200	63,600	111,800	-32,400	-17,900	-50,300	-67%	-28%	-45%
5	Highland Rd	Split to I-110	95,500	63,300	63,700	127,000	40,900	46,800	87,700	-22,400	-16,900	-39,300	-55%	-36%	-45%
6	Split to I-110	Merge with I-110	80,100	41,900	40,200	82,100	41,600	29,900	71,500	-300	-10,300	-10,600	-1%	-34%	-15%
7	Merge with I-110	Park Blvd/Dalrymple Drive	144,900	79,000	74,500	153,500	68,800	65,100	133,900	-10,200	-9,400	-19,600	-15%	-14%	-15%
8	Park Blvd/Dalrymple Drive	Perkins Rd.	135,400	74,800	79,800	154,600	62,500	71,200	133,700	-12,300	-8,600	-20,900	-20%	-12%	-16%
9	Perkins Rd.	Acadian Thruway	134,900	66,500	71,200	137,700	63,300	62,300	125,600	-3,200	-8,900	-12,100	-5%	-14%	-10%
10	Acadian Thruway	College Drive	164,300	86,300	87,800	174,100	81,200	80,000	161,200	-5,100	-7,800	-12,900	-6%	-10%	-8%
11	College Drive	Split to EB I-12	164,900	99,800	102,500	202,300	74,000	94,400	168,400	-25,800	-8,100	-33,900	-35%	-9%	-20%
12	Split to I-12	Merge with I-12	n/a	45,300	52,700	98,000	47,100	49,500	96,600	1,800	-3,200	-1,400	4%	-6%	-1%
13	Merge with I-12	Essen Lane	96,900	59,900	52,500	112,400	54,400	50,100	104,500	-5,500	-2,400	-7,900	-10%	-5%	-8%
14	Essen Lane	Bluebonnett Blvd	95,000	52,200	56,600	108,800	47,900	54,100	102,000	-4,300	-2,500	-6,800	-9%	-5%	-7%
15	Bluebonnett Blvd	Siegen Lane	88,800	46,200	48,500	94,700	43,100	46,200	89,300	-3,100	-2,300	-5,400	-7%	-5%	-6%
16	Siegen Lane	Highland Road	67,200	47,600	48,300	95,900	44,000	45,600	89,600	-3,600	-2,700	-6,300	-8%	-6%	-7%
17	Highland Road	LA 73	59,900	46,100	46,400	92,500	40,500	42,900	83,400	-5,600	-3,500	-9,100	-14%	-8%	-11%
18	LA 73	Nicholson Drive	44,900	41,500	41,500	83,000	36,800	37,700	74,500	-4,700	-3,800	-8,500	-13%	-10%	-11%
19	Nicholson Drive	Burnside Ave (LA 44)	38,700	41,300	41,500	82,800	32,700	35,300	68,000	-8,600	-6,200	-14,800	-26%	-18%	-22%
20	Burnside Ave (LA 44)	**Outer Loop**	36,800	34,500	35,100	69,600	29,400	30,900	60,300	-5,100	-4,200	-9,300	-17%	-14%	-15%
21	**Outer Loop**	LA 22	36,800	34,500	35,100	69,600	32,600	33,100	65,700	-1,900	-2,000	-3,900	-6%	-6%	-6%
22	LA 22	Airline Hwy (US 61)	32,100	27,400	27,700	55,100	27,600	27,700	55,300	200	0	200	1%	0%	0%
23	Airline Hwy (US 61)	LA 641	29,500	27,300	27,300	54,600	27,300	27,300	54,600	0	0	0	0%	0%	0%

Table 3: Y2032 Daily Assigned Volumes on I-12 Segments

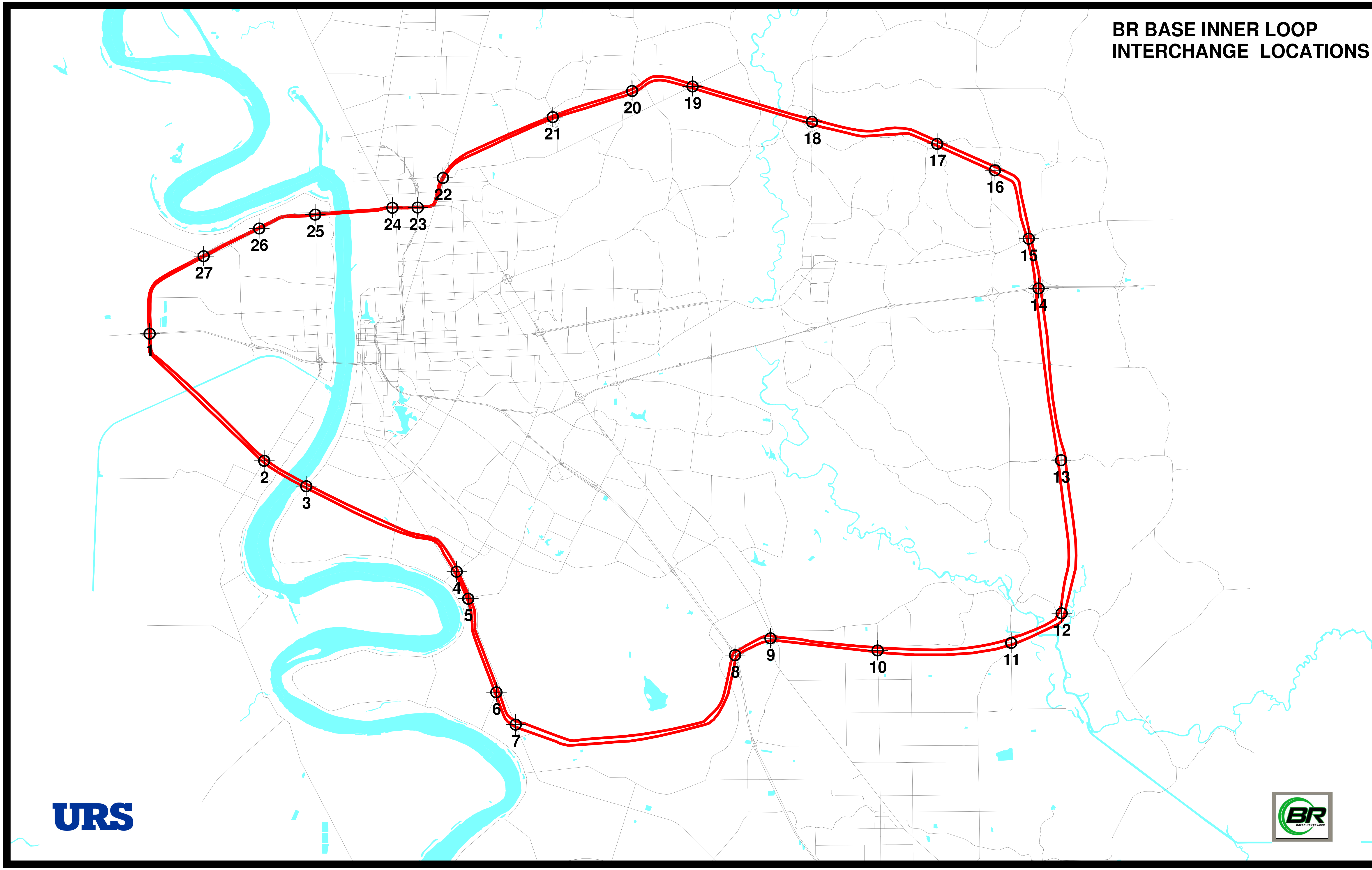
SEGMENT	FROM	TO	Y2004 DAILY BOTH DIRECTIONS	NO LOOP Y2032 DAILY EB ASSN	NO LOOP Y2032 DAILY WB ASSN	NO LOOP Y2032 DAILY EB+WB	WITH OUTER LOOP Y2032 DAILY EB ASSN	WITH OUTER LOOP Y2032 DAILY WB ASSN	WITH OUTER LOOP Y2032 DAILY EB+WB	LOOP-NOLOOP Y2032 DAILY EB ASSN	LOOP-NOLOOP Y2032 DAILY WB ASSN	LOOP-NOLOOP Y2032 DAILY EB+WB	LOOP-NOLOOP Y2032 DAILY EB ASSN	LOOP-NOLOOP Y2032 DAILY WB ASSN	LOOP-NOLOOP Y2032 DAILY EB+WB
1	From SB I-10	Merge with NB I-10	n/a	54,500	49,800	104,300	48,900	44,900	93,800	-5,600	-4,900	-10,500	-11%	-11%	-11%
2	Merge with NB I-10	Essen Lane	116,300	54,700	64,500	119,200	49,400	60,600	110,000	-5,300	-3,900	-9,200	-11%	-6%	-8%
3	Essen Lane	Jefferson Highway (LA 73)	n/a	64,100	58,700	122,800	58,600	55,100	113,700	-5,500	-3,600	-9,100	-9%	-7%	-8%
4	Jefferson Highway (LA 73)	Airline Highway (US 61)	106,000	68,100	66,500	134,600	62,800	62,000	124,800	-5,300	-4,500	-9,800	-8%	-7%	-8%
5	Airline Highway (US 61)	Sherwood Forest Blvd	99,000	70,800	72,700	143,500	75,900	67,700	143,600	5,100	-5,000	100	7%	-7%	0%
6	Sherwood Forest Blvd	Millerville Rd	91,600	68,400	68,600	137,000	63,000	63,300	126,300	-5,400	-5,300	-10,700	-9%	-8%	-8%
7	Millerville Rd	O'Neal Lane	84,400	59,600	60,100	119,700	52,700	53,200	105,900	-6,900	-6,900	-13,800	-13%	-13%	-13%
8	O'Neal Lane	S. Range Road	77,600	56,300	57,400	113,700	37,600	48,400	86,000	-18,700	-9,000	-27,700	-50%	-19%	-32%
9	S. Range Road	Juban Rd	50,100	47,000	47,300	94,300	41,300	42,000	83,300	-5,700	-5,300	-11,000	-14%	-13%	-13%
10	Juban Rd	Walker South Rd	n/a	46,700	46,400	93,100	41,800	42,700	84,500	-4,900	-3,700	-8,600	-12%	-9%	-10%
11	Walker South Rd	**Outer Loop**	42,900	41,400	41,100	82,500	35,400	35,900	71,300	-6,000	-5,200	-11,200	-17%	-14%	-16%
12	**Outer Loop**	Satsuma Rd	42,900	41,400	41,100	82,500	44,000	43,100	87,100	2,600	2,000	4,600	6%	5%	5%
13	Satsuma Rd	S. Frost Rd (SR 63)	43,900	36,200	36,300	72,500	36,200	36,300	72,500	0	0	0	0%	0%	0%

Table 4: Y2032 Daily Assigned Volumes on I-110 Segments

SEGMENT	FROM	TO	Y2004 DAILY BOTH DIRECTIONS	NO LOOP Y2032 DAILY NB ASSN	NO LOOP Y2032 DAILY SB ASSN	NO LOOP Y2032 DAILY NB+SB	WITH OUTER LOOP Y2032 DAILY NB ASSN	WITH OUTER LOOP Y2032 DAILY SB ASSN	WITH OUTER LOOP Y2032 DAILY NB+SB	LOOP-NOLOOP Y2032 DAILY NB ASSN	LOOP-NOLOOP Y2032 DAILY SB ASSN	LOOP-NOLOOP Y2032 DAILY NB+SB	LOOP-NOLOOP Y2032 DAILY NB ASSN	LOOP-NOLOOP Y2032 DAILY SB ASSN	LOOP-NOLOOP Y2032 DAILY NB+SB
1	EB I-10	NB I-110	21,800	21,300	19,500	40,800	20,000	17,000	37,000	-1,300	-2,500	-3,800	-7%	-15%	-10%
2		M/L @ Florida Blvd	n/a	50,200	56,200	106,400	48,900	55,900	104,800	-1,300	-300	-1,600	-3%	-1%	-2%
3		M/L @ Spanish Town Rd	87,300	47,600	52,500	100,100	47,000	52,200	99,200	-600	-300	-900	-1%	-1%	-1%
4		M/L before off-ramp to Fuqua St	n/a	49,100	53,000	102,100	48,200	52,300	100,500	-900	-700	-1,600	-2%	-1%	-2%
5		M/L @ Plank Rd	83,400	49,400	38,400	87,800	47,500	37,700	85,200	-1,900	-700	-2,600	-4%	-2%	-3%
6		M/L @ Windbourne Ave	88,800	48,900	51,500	100,400	47,200	49,800	97,000	-1,700	-1,700	-3,400	-4%	-3%	-4%
7		M/L @Evangeline St	n/a	46,100	47,700	93,800	44,700	46,400	91,100	-1,400	-1,300	-2,700	-3%	-3%	-3%
8		M/L@Hollywood St	72,600	45,200	46,100	91,300	44,200	44,200	88,400	-1,000	-1,900	-2,900	-2%	-4%	-3%
9		M/L@Airline Highway	43,600	40,500	43,100	83,600	39,200	40,800	80,000	-1,300	-2,300	-3,600	-3%	-6%	-5%
10		M/L @ 72nd Ave	43,600	40,500	43,100	83,600	39,200	40,800	80,000	-1,300	-2,300	-3,600	-3%	-6%	-5%
11		M/L @ Harding Blvd	n/a	37,400	47,500	84,900	36,100	45,900	82,000	-1,300	-1,600	-2,900	-4%	-3%	-4%
12		M/L @ Rosenwald Rd	49,700	38,500	38,600	77,100	37,500	36,900	74,400	-1,000	-1,700	-2,700	-3%	-5%	-4%
13		M/L @ Baker Rd.	25,700	19,600	19,100	38,700	18,100	17,100	35,200	-1,500	-2,000	-3,500	-8%	-12%	-10%
14		M/L@Scenic Highway	25,700	19,600	19,100	38,700	18,100	17,100	35,200	-1,500	-2,000	-3,500	-8%	-12%	-10%

APPENDIX B

Year 2032 Base Inner Loop – Toll Free Model Volumes


BR BASE INNER LOOP
INTERCHANGE LOCATIONS
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URS
BR
Baton Rouge Loop

BASE INNER LOOP INTERCHANGES AND SEGMENT NUMBERS

INT. POINT NUMBER	LOCATION OF POINT		LOOP SEGMENT	LOOP SEGMENT #
1	I-10			
2	LA 1		I-10 --> LA 1	**1**
3	River Road		LA 1 --> River Road	**2**
4	Gardere Lane		River Road --> Gardere Lane	**3**
5	Bluebonnett Road		Gardere Lane --> Bluebonnett Road	**4**
6	Bayou Paul Lane		Bluebonnett Road --> Bayou Paul Lane	**5**
7	Nicholson Drive		Bayou Paul Lane --> Nicholson Drive	**6**
8	I-10		Nicholson Drive --> I-10	**7**
9	Airline Highway		I-10 --> Airline Highway	**8**
10	LA 44		Airline Highway --> LA 44	**9**
11	LA 431		LA 44 --> LA 431	**10**
12	LA 16		LA 431 --> LA 16	**11**
13	Hood Road		LA 16 --> Hood Rood	**12**
14	I-12		Hood Road --> I-12	**13**
15	Florida Avenue		I-12 --> Florida Avenue	**14**
16	Walker Road North		Florida Avenue --> Walker Road North	**15**
17	Arnold Road		Walker Road North --> Arnold Road	**16**
18	LA 16		Arnold Road --> LA 16	**17**
19	Hooper Road		LA 16 --> Hooper Road	**18**
20	Joor Road		Hooper Road --> Joor Road	**19**
21	Blackwater Road		Joor Road --> Blackwater Road	**20**
22	Plank Road		Blackwater Road --> Plank Road	**21**
23	I-110		Plank Road --> I-110	**22**
24	Scenic Highway		I-110 --> Scenic Highway	**23**
25	LA 1		Scenic Highway --> LA 1	**24**
26	@ Lobdell Highway		LA 1 --> @ Lobdell Highway	**25**
27	US 190		@ Lobdell Highway -->US 190	**26**

Table 1: Y2032 Daily Assigned Volumes on Toll-Free Base Inner Loop Segments

			BASE INNER LOOP	BASE INNER LOOP	BASE INNER LOOP
			Y2032 DAILY	Y2032 DAILY	Y2032 DAILY
SEGMENT	FROM	TO	Anticlockwise ASSN	Clockwise ASSN	Both Directions
1	I-10	LA 1	28,900	28,900	57,800
2	LA 1	River Road	31,000	32,200	63,200
3	River Road	Gardere Lane	26,000	27,300	53,300
4	Gardere Lane	Bluebonnett Road	21,700	22,300	44,000
5	Bluebonnett Road	Bayou Paul Lane	28,200	28,200	56,400
6	Bayou Paul Lane	Nicholson Drive	26,800	26,900	53,700
7	Nicholson Drive	I-10	21,400	21,900	43,300
8	I-10	Airline Highway	26,500	28,600	55,100
9	Airline Highway	LA 44	24,400	25,800	50,200
10	LA 44	LA 431	23,300	24,500	47,800
11	LA 431	LA 16	33,100	33,500	66,600
12	LA 16	Hood Road	27,400	27,400	54,800
13	Hood Road	I-12	29,100	28,100	57,200
14	I-12	Florida Avenue	37,000	36,500	73,500
15	Florida Avenue	Walker Road North	34,000	31,800	65,800
16	Walker Road North	Arnold Road	32,100	32,100	64,200
17	Arnold Road	LA 16	32,600	33,600	66,200
18	LA 16	Hooper Road	47,700	47,900	95,600
19	Hooper Road	Joor Road	39,600	39,000	78,600
20	Joor Road	Blackwater Road	37,100	37,100	74,200
21	Blackwater Road	Plank Road	34,700	35,200	69,900
22	Plank Road	I-110	23,900	34,500	58,400
23	I-110	Scenic Highway	30,500	38,900	69,400
24	Scenic Highway	LA 1	41,400	34,500	75,900
25	LA 1	Lobdell Highway	20,100	19,500	39,600
26	Lobdell Highway	US 190	21,100	20,300	41,400
27	US 190	I-10	31,100	29,900	61,000

Table 2 : Y2032 Daily Assigned Volumes on I-10 Segments

SEGMENT	FROM	TO	Y2004 DAILY BOTH DIRECTIONS	NO LOOP Y2032 DAILY SB ASSN	NO LOOP Y2032 DAILY NB ASSN	NO LOOP Y2032 DAILY SB+NB	W/BASE INNER LOOP Y2032 DAILY SB ASSN	W/BASE INNER LOOP Y2032 DAILY NB ASSN	W/BASE INNER LOOP Y2032 DAILY SB+NB	LOOP-NOLOOP Y2032 DAILY SB ASSN	LOOP-NOLOOP Y2032 DAILY NB ASSN	LOOP-NOLOOP Y2032 DAILY SB+NB	LOOP-NOLOOP Y2032 DAILY SB ASSN	LOOP-NOLOOP Y2032 DAILY NB ASSN	LOOP-NOLOOP Y2032 DAILY SB+NB
1	West of Base Inner Loop		n/a				28,500	28,500	57,000						
2	Base Inner Loop	Lobdell Highway	37,200	28,500	28,500	57,000	15,800	14,300	30,100	-12,700	-14,200	-26,900	-80%	-99%	-89%
3	Lobdell Highway	LA 1	53,900	37,700	47,400	85,100	24,200	24,300	48,500	-13,500	-23,100	-36,600	-56%	-95%	-75%
4	LA 1	Highland Rd (on I-10 Bridge)	107,000	80,600	81,500	162,100	46,200	45,500	91,700	-34,400	-36,000	-70,400	-74%	-79%	-77%
5	Highland Rd	Split to I-110	95,500	63,300	63,700	127,000	36,900	35,000	71,900	-26,400	-28,700	-55,100	-72%	-82%	-77%
6	Split to I-110	Merge with I-110	80,100	41,900	40,200	82,100	21,500	22,400	43,900	-20,400	-17,800	-38,200	-95%	-79%	-87%
7	Merge with I-110	Park Blvd/Dalrymple Drive	144,900	79,000	74,500	153,500	66,800	62,000	128,800	-12,200	-12,500	-24,700	-18%	-20%	-19%
8	Park Blvd/Dalrymple Drive	Perkins Rd.	135,400	74,800	79,800	154,600	62,700	68,000	130,700	-12,100	-11,800	-23,900	-19%	-17%	-18%
9	Perkins Rd.	Acadian Thruway	134,900	66,500	71,200	137,700	54,600	60,000	114,600	-11,900	-11,200	-23,100	-22%	-19%	-20%
10	Acadian Thruway	College Drive	164,300	86,300	87,800	174,100	74,300	76,100	150,400	-12,000	-11,700	-23,700	-16%	-15%	-16%
11	College Drive	Split to EB I-12	164,900	99,800	102,500	202,300	87,000	89,800	176,800	-12,800	-12,700	-25,500	-15%	-14%	-14%
12	Split to I-12	Merge with I-12	n/a	45,300	52,700	98,000	40,300	47,400	87,700	-5,000	-5,300	-10,300	-12%	-11%	-12%
13	Merge with I-12	Essen Lane	96,900	59,900	52,500	112,400	55,900	48,000	103,900	-4,000	-4,500	-8,500	-7%	-9%	-8%
14	Essen Lane	Bluebonnett Blvd	95,000	52,200	56,600	108,800	49,300	52,400	101,700	-2,900	-4,200	-7,100	-6%	-8%	-7%
15	Bluebonnett Blvd	Siegen Lane	88,800	46,200	48,500	94,700	43,300	44,200	87,500	-2,900	-4,300	-7,200	-7%	-10%	-8%
16	Siegen Lane	Highland Road	67,200	47,600	48,300	95,900	43,400	44,100	87,500	-4,200	-4,200	-8,400	-10%	-10%	-10%
17	Highland Road	**Base Inner Loop**	59,900	46,100	46,400	92,500	42,000	42,600	84,600	-4,100	-3,800	-7,900	-10%	-9%	-9%
18	**Base Inner Loop**	LA 73	59,900	46,100	46,400	92,500	48,900	47,800	96,700	2,800	1,400	4,200	6%	3%	4%
19	LA 73	Nicholson Drive	44,900	41,500	41,500	83,000	43,400	42,900	86,300	1,900	1,400	3,300	4%	3%	4%
20	Nicholson Drive	Burnside Ave (LA 44)	38,700	41,300	41,500	82,800	40,800	40,600	81,400	-500	-900	-1,400	-1%	-2%	-2%
21	Burnside Ave (LA 44)	LA 22	36,800	34,500	35,100	69,600	33,600	34,100	67,700	-900	-1,000	-1,900	-3%	-3%	-3%
22	LA 22	Airline Hwy (US 61)	32,100	27,400	27,700	55,100	27,700	27,800	55,500	300	100	400	1%	0%	1%
23	Airline Hwy (US 61)	LA 641	29,500	27,300	27,300	54,600	27,300	27,300	54,600	0	0	0	0%	0%	0%

Table 3: Y2032 Daily Assigned Volumes on I-12 Segments

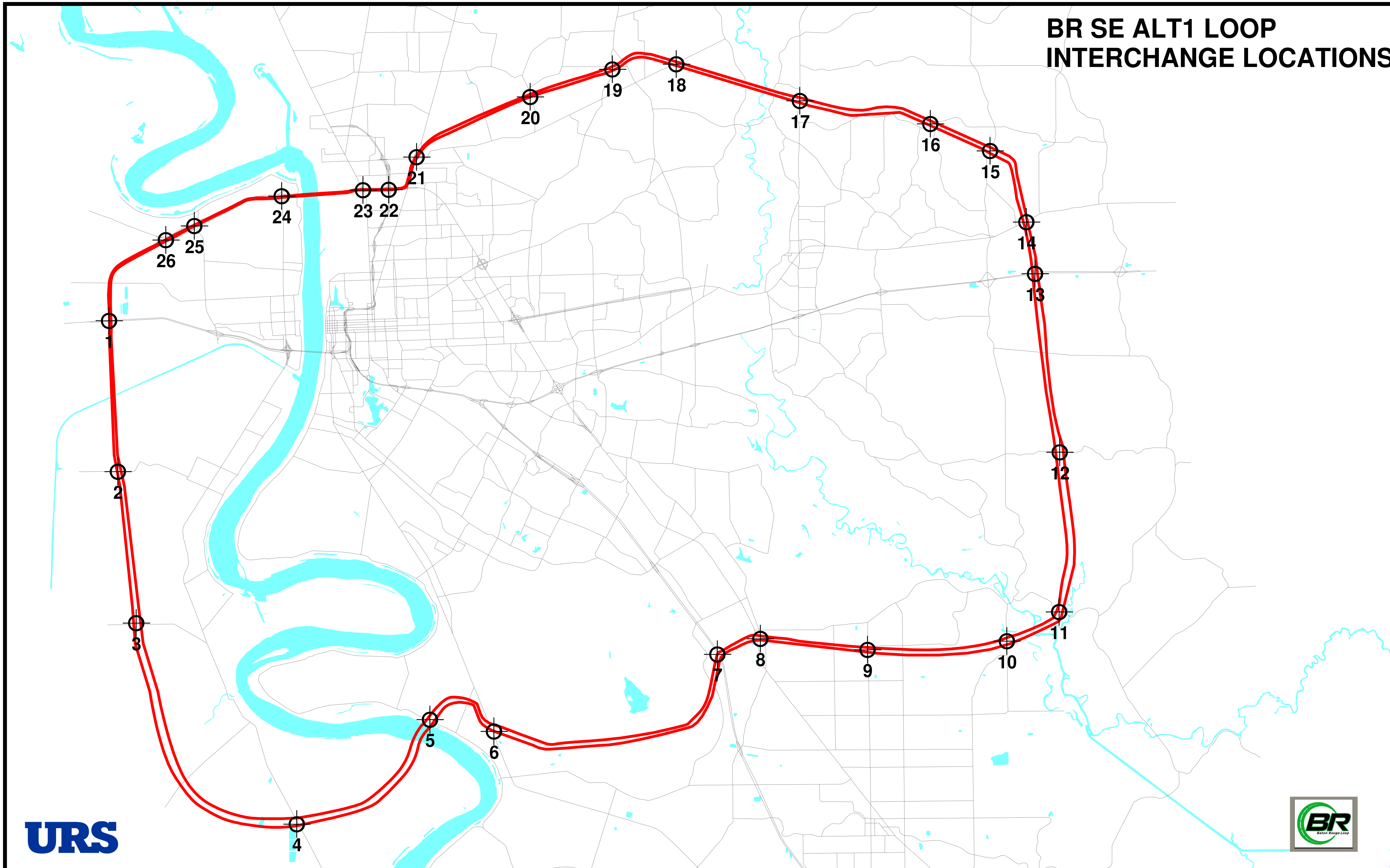
SEGMENT	FROM	TO	Y2004 DAILY BOTH DIRECTIONS	NO LOOP Y2032 DAILY EB ASSN	NO LOOP Y2032 DAILY WB ASSN	NO LOOP Y2032 DAILY EB+WB	W/BASE INNER LOOP Y2032 DAILY EB ASSN	W/BASE INNER LOOP Y2032 DAILY WB ASSN	W/BASE INNER LOOP Y2032 DAILY EB+WB	LOOP-NOLOOP Y2032 DAILY EB ASSN	LOOP-NOLOOP Y2032 DAILY WB ASSN	LOOP-NOLOOP Y2032 DAILY EB+WB	LOOP-NOLOOP Y2032 DAILY EB ASSN	LOOP-NOLOOP Y2032 DAILY WB ASSN	LOOP-NOLOOP Y2032 DAILY EB+WB
1	From SB I-10	Merge with NB I-10	n/a	54,500	49,800	104,300	47,000	42,400	89,400	-7,500	-7,400	-14,900	-16%	-17%	-17%
2	Merge with NB I-10	Essen Lane	116,300	54,700	64,500	119,200	47,500	58,100	105,600	-7,200	-6,400	-13,600	-15%	-11%	-13%
3	Essen Lane	Jefferson Highway (LA 73)	n/a	64,100	58,700	122,800	56,000	52,000	108,000	-8,100	-6,700	-14,800	-14%	-13%	-14%
4	Jefferson Highway (LA 73)	Airline Highway (US 61)	106,000	68,100	66,500	134,600	60,300	59,100	119,400	-7,800	-7,400	-15,200	-13%	-13%	-13%
5	Airline Highway (US 61)	Sherwood Forest Blvd	99,000	70,800	72,700	143,500	62,100	63,100	125,200	-8,700	-9,600	-18,300	-14%	-15%	-15%
6	Sherwood Forest Blvd	Millerville Rd	91,600	68,400	68,600	137,000	57,500	57,800	115,300	-10,900	-10,800	-21,700	-19%	-19%	-19%
7	Millerville Rd	O'Neal Lane	84,400	59,600	60,100	119,700	46,300	47,000	93,300	-13,300	-13,100	-26,400	-29%	-28%	-28%
8	O'Neal Lane	S. Range Road	77,600	56,300	57,400	113,700	40,100	41,000	81,100	-16,200	-16,400	-32,600	-40%	-40%	-40%
9	S. Range Road	Juban Rd	50,100	47,000	47,300	94,300	35,400	36,100	71,500	-11,600	-11,200	-22,800	-33%	-31%	-32%
10	Juban Rd	Walker South Rd	n/a	46,700	46,400	93,100	36,600	37,000	73,600	-10,100	-9,400	-19,500	-28%	-25%	-26%
11	Walker South Rd	**Inner Loop**	42,900	41,400	41,100	82,500	32,600	33,600	66,200	-8,800	-7,500	-16,300	-27%	-22%	-25%
12	**Inner Loop**	Satsuma Rd	42,900	41,400	41,100	82,500	41,000	41,400	82,400	-400	300	-100	-1%	1%	0%
13	Satsuma Rd	S. Frost Rd (SR 63)	43,900	36,200	36,300	72,500	36,200	36,300	72,500	0	0	0	0%	0%	0%

Table 4: Y2032 Daily Assigned Volumes on I-110 Segments

SEGMENT	FROM	TO	Y2004 DAILY BOTH DIRECTIONS	NO LOOP Y2032 DAILY NB ASSN	NO LOOP Y2032 DAILY SB ASSN	NO LOOP Y2032 DAILY NB+SB	W/BASE INNER LOOP Y2032 DAILY NB ASSN	W/BASE INNER LOOP Y2032 DAILY SB ASSN	W/BASE INNER LOOP Y2032 DAILY NB+SB	LOOP-NOLOOP Y2032 DAILY NB ASSN	LOOP-NOLOOP Y2032 DAILY SB ASSN	LOOP-NOLOOP Y2032 DAILY NB+SB	LOOP-NOLOOP Y2032 DAILY NB ASSN	LOOP-NOLOOP Y2032 DAILY SB ASSN	LOOP-NOLOOP Y2032 DAILY NB+SB
1	EB I-10	NB I-110	21,800	21,300	19,500	40,800	15,500	12,600	28,100	-5,800	-6,900	-12,700	-37%	-55%	-45%
2		M/L @ Florida Blvd	n/a	50,200	56,200	106,400	50,500	55,900	106,400	300	-300	0	1%	-1%	0%
3		M/L @ Spanish Town Rd	87,300	47,600	52,500	100,100	48,800	51,900	100,700	1,200	-600	600	2%	-1%	1%
4		M/L before off-ramp to Fuqua St	n/a	49,100	53,000	102,100	50,500	53,400	103,900	1,400	400	1,800	3%	1%	2%
5		M/L @ Plank Rd	83,400	49,400	38,400	87,800	51,300	40,400	91,700	1,900	2,000	3,900	4%	5%	4%
6		M/L @ Windbourne Ave	88,800	48,900	51,500	100,400	53,200	54,000	107,200	4,300	2,500	6,800	8%	5%	6%
7		M/L @Evangeline St	n/a	46,100	47,700	93,800	52,700	52,000	104,700	6,600	4,300	10,900	13%	8%	10%
8		M/L@Hollywood St	72,600	45,200	46,100	91,300	54,400	53,500	107,900	9,200	7,400	16,600	17%	14%	15%
9		M/L@Airline Highway	43,600	40,500	43,100	83,600	37,500	40,200	77,700	-3,000	-2,900	-5,900	-8%	-7%	-8%
10		M/L @ 72nd Ave	43,600	40,500	43,100	83,600	37,500	40,200	77,700	-3,000	-2,900	-5,900	-8%	-7%	-8%
11		M/L @ Harding Blvd	n/a	37,400	47,500	84,900	38,300	41,900	80,200	900	-5,600	-4,700	2%	-13%	-6%
12		M/L @ Rosenwald Rd	49,700	38,500	38,600	77,100	40,800	40,200	81,000	2,300	1,600	3,900	6%	4%	5%
13		M/L @ Baker Rd.	25,700	19,600	19,100	38,700	19,200	19,600	38,800	-400	500	100	-2%	3%	0%
14		M/L@Scenic Highway	25,700	19,600	19,100	38,700	19,200	19,600	38,800	-400	500	100	-2%	3%	0%

APPENDIX C

Year 2032 Base Inner Loop – 10 Cent Per Mile Model Volume


BR SE ALT1 LOOP
INTERCHANGE LOCATIONS
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URS
BR
Baton Rouge Loop

SE ALT 1 LOOP INTERCHANGES AND SEGMENT NUMBERS

INT. POINT NUMBER	LOCATION OF POINT		LOOP SEGMENT	LOOP SEGMENT #
1	I-10			
2	Choctaw Road		I-10 --> Choctaw Road	1
3	LA 1148		Choctaw Road --> LA 1148	2
4	LA 1		LA 1148 --> LA 1	3
5	LA 75		LA 1 --> LA 75	4
6	Nicholson Drive		LA 75 --> Nicholson Drive	5
7	I-10		Nicholson Drive --> I-10	6
8	Airline Highway		I-10 --> Airline Highway	7
9	LA 44		Airline Highway --> LA 44	8
10	LA 431		LA 44 --> LA 431	9
11	LA 16		LA 431 --> LA 16	10
12	Hood Road		LA 16 --> Hood Road	11
13	I-12		Hood Road --> I-12	12
14	Florida Avenue		I-12 --> Florida Avenue	13
15	Walker Road North		Florida Avenue --> Walker Road North	14
16	Arnold Road		Walker Road North --> Arnold Road	15
17	LA 16		Arnold Road --> LA 16	16
18	Hooper Road		LA 16 --> Hooper Road	17
19	Joor Road		Hooper Road --> Joor Road	18
20	Blackwater Road		Joor Road --> Blackwater Road	19
21	Plank Road		Blackwater Road --> Plank Road	20
22	I-110		Plank Road --> I-110	21
23	Scenic Highway		I-110 --> Scenic Highway	22
24	LA 1		Scenic Highway --> LA 1	23
25	Lobdell Highway		LA 1 -->Lobdell Highway	24
26	US 190		Lobdell Highway --> US 190	25
			US 190 --> I-10	26

Table 1: Y2032 Daily Assigned Volumes on Toll-Free SE ALT1 Loop Segments

			SE ALT 1 LOOP	SE ALT 1 LOOP	SE ALT 1 LOOP
			Y2032 DAILY	Y2032 DAILY	Y2032 DAILY
SEGMENT	FROM	TO	Anticlockwise ASSN	Clockwise ASSN	Both Directions
1	I-10	Choctaw Road	24,200	24,500	48,700
2	Choctaw Road	LA 1148	19,300	18,800	38,100
3	LA 1148	LA 1	19,000	18,500	37,500
4	LA 1	LA 75	21,600	21,800	43,400
5	LA 75	Nicholson Drive	15,100	16,600	31,700
6	Nicholson Drive	I-10	19,800	21,000	40,800
7	I-10	Airline Highway	28,200	30,500	58,700
8	Airline Highway	LA 44	25,700	27,300	53,000
9	LA 44	LA 431	24,100	25,000	49,100
10	LA 431	LA 16	32,600	33,000	65,600
11	LA 16	Hood Road	27,000	27,200	54,200
12	Hood Road	I-12	29,300	28,100	57,400
13	I-12	Florida Avenue	37,300	37,300	74,600
14	Florida Avenue	Walker Road North	34,300	32,300	66,600
15	Walker Road North	Arnold Road	32,500	32,600	65,100
16	Arnold Road	LA 16	32,900	34,000	66,900
17	LA 16	Hooper Road	48,000	48,300	96,300
18	Hooper Road	Joor Road	40,200	39,000	79,200
19	Joor Road	Blackwater Road	37,300	37,000	74,300
20	Blackwater Road	Plank Road	35,100	35,100	70,200
21	Plank Road	I-110	23,300	33,100	56,400
22	I-110	Scenic Highway	33,400	38,600	72,000
23	Scenic Highway	LA 1	42,200	38,000	80,200
24	LA 1	Lobdell Highway	16,900	17,500	34,400
25	Lobdell Highway	US 190	17,800	18,300	36,100
26	US 190	I-10	26,500	26,800	53,300

Table 2 : Y2032 Daily Assigned Volumes on I-10 Segments

SEGMENT	FROM	TO	Y2004 DAILY BOTH DIRECTIONS	NO LOOP Y2032 DAILY SB ASSN	NO LOOP Y2032 DAILY NB ASSN	NO LOOP Y2032 DAILY SB+NB	W/BASE INNER LOOP TOLL-FREE Y2032 DAILY SB ASSN	W/BASE INNER LOOP TOLL-FREE Y2032 DAILY NB ASSN	W/BASE INNER LOOP TOLL-FREE Y2032 DAILY SB+NB	W/BASE INNER LOOP 10c Per Mile Toll Y2032 DAILY SB ASSN	W/BASE INNER LOOP 10c Per Mile Toll Y2032 DAILY NB ASSN	W/BASE INNER LOOP 10c Per Mile Toll Y2032 DAILY SB+NB	W/BASE INNER LOOP 15c Per Mile Toll Y2032 DAILY SB ASSN	W/BASE INNER LOOP 15c Per Mile Toll Y2032 DAILY NB ASSN	W/BASE INNER LOOP 15c Per Mile Toll Y2032 DAILY SB+NB	W/SE ALT 1 LOOP TOLL-FREE Y2032 DAILY SB ASSN	W/SE ALT 1 LOOP TOLL-FREE Y2032 DAILY NB ASSN	W/SE ALT 1 LOOP TOLL-FREE Y2032 DAILY SB+NB
1	West of Inner Loop		n/a				28,500	28,500	57,000	28,500	28,500	57,000	28,500	28,500	57,000	28,500	28,500	57,000
2	Inner Loop	Lobdell Highway	37,200	28,500	28,500	57,000	15,800	14,300	30,100	19,200	18,200	37,400	22,400	21,100	43,500	21,400	21,400	42,800
3	Lobdell Highway	LA 1	53,900	37,700	47,400	85,100	24,200	24,300	48,500	31,700	31,700	63,400	37,300	36,800	74,100	32,600	33,700	66,300
4	LA 1	Highland Rd (on I-10 Bridge)	107,000	80,600	81,500	162,100	46,200	45,500	91,700	55,200	54,800	110,000	61,400	60,300	121,700	55,200	55,600	110,800
5	Highland Rd	Split to I-110	95,500	63,300	63,700	127,000	36,900	35,000	71,900	45,300	43,400	88,700	50,900	48,800	99,700	41,200	40,200	81,400
6	Split to I-110	Merge with I-110	80,100	41,900	40,200	82,100	21,500	22,400	43,900	28,300	29,300	57,600	33,600	34,000	67,600	25,600	27,900	53,500
7	Merge with I-110	Park Blvd/Dalrymple Drive	144,900	79,000	74,500	153,500	66,800	62,000	128,800	72,400	67,800	140,200	75,500	70,000	145,500	70,200	65,600	135,800
8	Park Blvd/Dalrymple Drive	Perkins Rd.	135,400	74,800	79,800	154,600	62,700	68,000	130,700	68,400	73,300	141,700	71,900	76,100	148,000	65,900	69,100	135,000
9	Perkins Rd.	Acadian Thruway	134,900	66,500	71,200	137,700	54,600	60,000	114,600	60,400	65,200	125,600	63,900	68,400	132,300	57,200	60,100	117,300
10	Acadian Thruway	College Drive	164,300	86,300	87,800	174,100	74,300	76,100	150,400	80,100	82,100	162,200	84,100	85,100	169,200	77,600	78,100	155,700
11	College Drive	Split to EB I-12	164,900	99,800	102,500	202,300	87,000	89,800	176,800	93,700	96,600	190,300	97,700	100,500	198,200	90,900	92,500	183,400
12	Split to I-12	Merge with I-12	n/a	45,300	52,700	98,000	40,300	47,400	87,700	42,900	50,200	93,100	45,500	52,900	98,400	44,300	50,200	94,500
13	Merge with I-12	Essen Lane	96,900	59,900	52,500	112,400	55,900	48,000	103,900	58,400	50,700	109,100	61,100	53,200	114,300	59,500	50,900	110,400
14	Essen Lane	Bluebonnett Blvd	95,000	52,200	56,600	108,800	49,300	52,400	101,700	51,600	54,800	106,400	54,400	57,300	111,700	51,800	54,800	106,600
15	Bluebonnett Blvd	Siegen Lane	88,800	46,200	48,500	94,700	43,300	44,200	87,500	44,200	46,500	90,700	47,700	47,100	94,800	45,200	45,800	91,000
16	Siegen Lane	Highland Road	67,200	47,600	48,300	95,900	43,400	44,100	87,500	46,200	46,700	92,900	49,600	49,500	99,100	45,300	46,100	91,400
17	Highland Road	**Inner Loop**	59,900	46,100	46,400	92,500	42,000	42,600	84,600	45,600	46,000	91,600	49,300	48,900	98,200	45,800	46,200	92,000
18	**Inner Loop**	LA 73	59,900	46,100	46,400	92,500	48,900	47,800	96,700	47,300	46,600	93,900	46,200	45,800	92,000	47,600	46,900	94,500
19	LA 73	Nicholson Drive	44,900	41,500	41,500	83,000	43,400	42,900	86,300	42,000	41,900	83,900	41,100	41,300	82,400	41,700	41,600	83,300
20	Nicholson Drive	Burnside Ave (LA 44)	38,700	41,300	41,500	82,800	40,800	40,600	81,400	40,900	41,000	81,900	41,100	41,200	82,300	39,100	39,000	78,100
21	Burnside Ave (LA 44)	LA 22	36,800	34,500	35,100	69,600	33,600	34,100	67,700	35,100	35,400	70,500	35,000	35,200	70,200	32,300	32,600	64,900
22	LA 22	Airline Hwy (US 61)	32,100	27,400	27,700	55,100	27,700	27,800	55,500	27,900	27,800	55,700	28,000	27,900	55,900	27,800	27,800	55,600
23	Airline Hwy (US 61)	LA 641	29,500	27,300	27,300	54,600	27,300	27,300	54,600	27,300	27,300	54,600	27,300	27,300	54,600	27,300	27,300	54,600

Table 3: Y2032 Daily Assigned Volumes on I-12 Segments

SEGMENT	FROM	TO	Y2004 DAILY BOTH DIRECTIONS	NO LOOP Y2032 DAILY EB ASSN	NO LOOP Y2032 DAILY WB ASSN	NO LOOP Y2032 DAILY EB+WB	W/BASE INNER LOOP TOLL-FREE Y2032 DAILY EB ASSN	W/BASE INNER LOOP TOLL-FREE Y2032 DAILY WB ASSN	W/BASE INNER LOOP TOLL-FREE Y2032 DAILY EB+WB	W/BASE INNER LOOP 10c Per Mile Toll Y2032 DAILY EB ASSN	W/BASE INNER LOOP 10c Per Mile Toll Y2032 DAILY WB ASSN	W/BASE INNER LOOP 10c Per Mile Toll Y2032 DAILY EB+WB	W/BASE INNER LOOP 15c Per Mile Toll Y2032 DAILY EB ASSN	W/BASE INNER LOOP 15c Per Mile Toll Y2032 DAILY WB ASSN	W/BASE INNER LOOP 15c Per Mile Toll Y2032 DAILY EB+WB	SE ALT 1 LOOP TOLL-FREE Y2032 DAILY EB ASSN	SE ALT 1 LOOP TOLL-FREE Y2032 DAILY WB ASSN	SE ALT 1 LOOP TOLL-FREE Y2032 DAILY EB+WB
1	From SB I-10	Merge with NB I-10	n/a	54,500	49,800	104,300	47,000	42,400	89,400	50,900	46,400	97,300	52,100	47,500	99,600	46,600	42,300	88,900
2	Merge with NB I-10	Essen Lane	116,300	54,700	64,500	119,200	47,500	58,100	105,600	51,400	62,100	113,500	52,500	63,100	115,600	47,400	57,400	104,800
3	Essen Lane	Jefferson Highway (LA 73)	n/a	64,100	58,700	122,800	56,000	52,000	108,000	60,500	56,300	116,800	61,900	57,600	119,500	56,200	52,100	108,300
4	Jefferson Highway (LA 73)	Airline Highway (US 61)	106,000	68,100	66,500	134,600	60,300	59,100	119,400	64,500	63,800	128,300	65,400	64,800	130,200	60,300	59,800	120,100
5	Airline Highway (US 61)	Sherwood Forest Blvd	99,000	70,800	72,700	143,500	62,100	63,100	125,200	66,600	68,100	134,700	68,300	68,800	137,100	62,500	63,700	126,200
6	Sherwood Forest Blvd	Millerville Rd	91,600	68,400	68,600	137,000	57,500	57,800	115,300	62,700	63,400	126,100	64,600	64,700	129,300	57,800	58,000	115,800
7	Millerville Rd	O'Neal Lane	84,400	59,600	60,100	119,700	46,300	47,000	93,300	52,000	52,900	104,900	54,100	54,600	108,700	46,700	47,200	93,900
8	O'Neal Lane	S. Range Road	77,600	56,300	57,400	113,700	40,100	41,000	81,100	46,800	47,900	94,700	49,000	49,900	98,900	40,500	41,400	81,900
9	S. Range Road	Juban Rd	50,100	47,000	47,300	94,300	35,400	36,100	71,500	40,600	41,300	81,900	42,100	42,900	85,000	35,900	36,500	72,400
10	Juban Rd	Walker South Rd	n/a	46,700	46,400	93,100	36,600	37,000	73,600	41,800	42,200	84,000	43,000	43,600	86,600	37,300	37,700	75,000
11	Walker South Rd	**Inner Loop**	42,900	41,400	41,100	82,500	32,600	33,600	66,200	37,000	38,200	75,200	37,000	39,100	76,100	33,000	34,000	67,000
12	**Inner Loop**	Satsuma Rd	42,900	41,400	41,100	82,500	41,000	41,400	82,400	41,600	41,900	83,500	41,700	42,200	83,900	41,100	40,800	81,900
13	Satsuma Rd	S. Frost Rd (SR 63)	43,900	36,200	36,300	72,500	36,200	36,300	72,500	36,200	36,300	72,500	36,200	36,300	72,500	36,200	36,300	72,500

Table 4: Y2032 Daily Assigned Volumes on I-110 Segments

SEGMENT	FROM	TO	Y2004 DAILY BOTH DIRECTIONS	NO LOOP Y2032 DAILY NB ASSN	NO LOOP Y2032 DAILY SB ASSN	NO LOOP Y2032 DAILY NB+SB	W/BASE INNER LOOP TOLL-FREE Y2032 DAILY NB ASSN	W/BASE INNER LOOP TOLL-FREE Y2032 DAILY SB ASSN	W/BASE INNER LOOP TOLL-FREE Y2032 DAILY NB+SB	W/BASE INNER LOOP 10c Per Mile Toll Y2032 DAILY NB ASSN	W/BASE INNER LOOP 10c Per Mile Toll Y2032 DAILY SB ASSN	W/BASE INNER LOOP 10c Per Mile Toll Y2032 DAILY NB+SB	W/BASE INNER LOOP 15c Per Mile Toll Y2032 DAILY NB ASSN	W/BASE INNER LOOP 15c Per Mile Toll Y2032 DAILY SB ASSN	W/BASE INNER LOOP 15c Per Mile Toll Y2032 DAILY NB+SB	SE ALT 1 LOOP TOLL-FREE Y2032 DAILY NB ASSN	SE ALT 1 LOOP TOLL-FREE Y2032 DAILY SB ASSN	SE ALT 1 LOOP TOLL-FREE Y2032 DAILY NB+SB
1	EB I-10	NB I-110	21,800	21,300	19,500	40,800	15,500	12,600	28,100	17,000	14,200	31,200	17,400	14,700	32,100	15,500	12,500	28,000
2		M/L @ Florida Blvd	n/a	50,200	56,200	106,400	50,500	55,900	106,400	51,500	56,700	108,200	50,200	56,600	106,800	49,200	56,600	105,800
3		M/L @ Spanish Town Rd	87,300	47,600	52,500	100,100	48,800	51,900	100,700	50,200	53,200	103,400	48,500	53,200	101,700	47,700	53,300	101,000
4		M/L before off-ramp to Fuqua St	n/a	49,100	53,000	102,100	50,500	53,400	103,900	51,700	54,600	106,300	50,300	54,700	105,000	49,300	54,100	103,400
5		M/L @ Plank Rd	83,400	49,400	38,400	87,800	51,300	40,400	91,700	52,600	40,800	93,400	50,800	40,700	91,500	51,200	40,500	91,700
6		M/L @ Windbourne Ave	88,800	48,900	51,500	100,400	53,200	54,000	107,200	54,100	54,700	108,800	51,600	54,400	106,000	53,500	55,000	108,500
7		M/L @Evangeline St	n/a	46,100	47,700	93,800	52,700	52,000	104,700	52,700	52,400	105,100	50,700	51,600	102,300	53,200	53,400	106,600
8		M/L@Hollywood St	72,600	45,200	46,100	91,300	54,400	53,500	107,900	53,900	53,400	107,300	52,100	52,400	104,500	54,700	54,500	109,200
9		M/L@Airline Highway	43,600	40,500	43,100	83,600	37,500	40,200	77,700	38,600	40,900	79,500	39,300	42,600	81,900	37,200	40,800	78,000
10		M/L @ 72nd Ave	43,600	40,500	43,100	83,600	37,500	40,200	77,700	38,600	40,900	79,500	39,300	42,600	81,900	37,200	40,800	78,000
11		M/L @ Harding Blvd	n/a	37,400	47,500	84,900	38,300	41,900	80,200	38,600	42,800	81,400	38,700	44,300	83,000	37,800	42,200	80,000
12		M/L @ Rosenwald Rd	49,700	38,500	38,600	77,100	40,800	40,200	81,000	40,600	40,000	80,600	40,500	39,900	80,400	40,200	40,300	80,500
13		M/L @ Baker Rd.	25,700	19,600	19,100	38,700	19,200	19,600	38,800	19,300	19,700	39,000	19,300	19,800	39,100	19,400	19,600	39,000
14		M/L@Scenic Highway	25,700	19,600	19,100	38,700	19,200	19,600	38,800	19,300	19,700	39,000	19,300	19,800	39,100	19,400	19,600	39,000

APPENDIX D

Year 2032 Base Inner Loop – 15 Cent Per Mile Model Volume

BR SE ALT 2 LOOP INTERCHANGE LOCATIONS

SE ALT 2 LOOP INTERCHANGES AND SEGMENT NUMBERS

INT. POINT NUMBER	LOCATION OF POINT		LOOP SEGMENT	LOOP SEGMENT #
1	I-10			
2	LA 1		I-10 --> LA 1	1
3	River Road		LA 1 --> River Road	2
4	Gardere Lane		River Road --> Gardere Lane	3
5	Bluebonnett Road		Gardere Lane --> Bluebonnet Road	4
6	Bayou Paul Lane		Bluebonnett Road --> Bayou Paul Lane	5
7	Nicholson Drive		Bayou Paul Lane --> Nicholson Drive	6
8	LA 74		Nicholson Drive --> LA 74	7
9	LA 3115		LA 74 --> LA 3115	8
10	LA 73		LA 3115 --> LA 73	9
11	Nicholson/LA 3251		LA 73 --> Nicholson/LA 3251	10
12	I-10		Nicholson/LA 3251 --> I-10	11
13	Airline Highway		I-10 --> Airline Highway	12
14	LA 935		Airline Highway --> LA 935	13
15	Lake Martin Road		LA 935 --> Lake Martin Road	14
16	State Rt. 16		Lake Martin Road --> State Rt. 16	15
17	Hood Road		State Rt. 16 --> Hood Road	16
18	I-12		Hood Road --> I-12	17
19	Florida Avenue		I-12 --> Florida Avenue	18
20	Walker Road North		Florida Avenue --> Walker Road North	19
21	Arnold Road		Walker Road North --> Arnold Road	20
22	LA 16		Arnold Road --> LA 16	21
23	Hooper Road		LA 16 --> Hooper Road	22
24	Joor Road		Hooper Road --> Joor Road	23
25	Blackwater Road		Joor Road --> Blackwater Road	24
26	Plank Road		Blackwater Road --> Plank Road	25
27	I-110		Plank Road --> I-110	26
28	Scenic Highway		I-110 --> Scenic Highway	27
29	LA 1		Scenic Highway --> LA 1	28
30	Lobdell Highway		LA 1 -->Lobdell Highway	29
31	US 190		Lobdell Highway --> US 190	30
			US 190 --> I-10	31

Table 1: Y2032 Daily Assigned Volumes on Toll-Free SE ALT 2 Loop Segments

SEGMENT	FROM	TO	SE ALT 2 LOOP Y2032 DAILY Anticlockwise ASSN	SE ALT 2 LOOP Y2032 DAILY Clockwise ASSN	SE ALT 2 LOOP Y2032 DAILY Both Directions
1	I-10	LA 1	29,200	29,400	58,600
2	LA 1	River Road	31,500	33,300	64,800
3	River Road	Gardere Lane	26,500	28,300	54,800
4	Gardere Lane	Bluebonnett Road	21,000	22,900	43,900
5	Bluebonnett Road	Bayou Paul Lane	28,700	29,700	58,400
6	Bayou Paul Lane	Nicholson Drive	24,400	30,100	54,500
7	Nicholson Drive	LA 74	26,100	30,100	56,200
8	LA 74	LA 3115	27,400	27,900	55,300
9	LA 3115	LA 73	25,600	25,600	51,200
10	LA 73	Nicholson/LA 3251	26,300	25,100	51,400
11	Nicholson/LA 3251	I-10	20,000	22,600	42,600
12	I-10	Airline Highway	11,900	14,700	26,600
13	Airline Highway	LA 935	20,200	21,300	41,500
14	LA 935	Lake Martin Road	21,500	22,300	43,800
15	Lake Martin Road	State Rt. 16	27,400	28,400	55,800
16	State Rt. 16	Hood Road	26,900	27,500	54,400
17	Hood Road	I-12	29,500	29,200	58,700
18	I-12	Florida Avenue	37,400	37,300	74,700
19	Florida Avenue	Walker Road North	34,900	32,700	67,600
20	Walker Road North	Arnold Road	33,100	33,300	66,400
21	Arnold Road	LA 16	33,600	34,900	68,500
22	LA 16	Hooper Road	48,800	49,300	98,100
23	Hooper Road	Joor Road	40,500	40,700	81,200
24	Joor Road	Blackwater Road	37,700	37,900	75,600
25	Blackwater Road	Plank Road	35,200	35,700	70,900
26	Plank Road	I-110	24,000	34,300	58,300
27	I-110	Scenic Highway	32,800	39,100	71,900
28	Scenic Highway	LA 1	42,500	36,800	79,300
29	LA 1	Lobdell Highway	21,000	20,000	41,000
30	Lobdell Highway	US 190	21,900	21,200	43,100
31	US 190	I-10	31,200	30,100	61,300

Table 2 : Y2032 Daily Assigned Volumes on I-10 Segments

SEGMENT	FROM	TO	Y2004 DAILY BOTH DIRECTIONS	NO LOOP Y2032 DAILY SB ASSN	NO LOOP Y2032 DAILY NB ASSN	NO LOOP Y2032 DAILY SB+NB	SE ALT 2 LOOP TOLL-FREE Y2032 DAILY SB ASSN	SE ALT 2 LOOP TOLL-FREE Y2032 DAILY NB ASSN	SE ALT 2 LOOP TOLL-FREE Y2032 DAILY SB+NB
1	West of SE ALT2 Loop		n/a				28,500	28,500	57,000
2	SE ALT2 Loop	Lobdell Highway	37,200	28,500	28,500	57,000	15,200	13,800	29,000
3	Lobdell Highway	LA 1	53,900	37,700	47,400	85,100	24,500	24,600	49,100
4	LA 1	Highland Rd (on I-10 Bridge)	107,000	80,600	81,500	162,100	47,000	46,000	93,000
5	Highland Rd	Split to I-110	95,500	63,300	63,700	127,000	38,200	35,600	73,800
6	Split to I-110	Merge with I-110	80,100	41,900	40,200	82,100	22,400	22,800	45,200
7	Merge with I-110	Park Blvd/Dalrymple Drive	144,900	79,000	74,500	153,500	66,500	60,700	127,200
8	Park Blvd/Dalrymple Drive	Perkins Rd.	135,400	74,800	79,800	154,600	62,400	67,200	129,600
9	Perkins Rd.	Acadian Thruway	134,900	66,500	71,200	137,700	54,400	59,100	113,500
10	Acadian Thruway	College Drive	164,300	86,300	87,800	174,100	73,600	74,700	148,300
11	College Drive	Split to EB I-12	164,900	99,800	102,500	202,300	86,300	88,300	174,600
12	Split to I-12	Merge with I-12	n/a	45,300	52,700	98,000	39,100	46,000	85,100
13	Merge with I-12	Essen Lane	96,900	59,900	52,500	112,400	55,600	46,900	102,500
14	Essen Lane	Bluebonnett Blvd	95,000	52,200	56,600	108,800	48,200	50,400	98,600
15	Bluebonnett Blvd	Siegen Lane	88,800	46,200	48,500	94,700	40,800	40,500	81,300
16	Siegen Lane	Highland Road	67,200	47,600	48,300	95,900	40,300	40,500	80,800
17	Highland Road	LA 73	59,900	46,100	46,400	92,500	35,100	34,700	69,800
18	LA 73	Nicholson Drive	44,900	41,500	41,500	83,000	32,600	31,900	64,500
19	Nicholson Drive	Burnside Ave (LA 44)	38,700	41,300	41,500	82,800	31,600	30,700	62,300
20	Burnside Ave (LA 44)	**SE ALT2 Loop**	36,800	34,500	35,100	69,600	29,800	28,900	58,700
21	**SE ALT2 Loop**	LA 22	36,800	34,500	35,100	69,600	37,400	36,300	73,700
22	LA 22	Airline Hwy (US 61)	32,100	27,400	27,700	55,100	28,100	28,100	56,200
23	Airline Hwy (US 61)	LA 641	29,500	27,300	27,300	54,600	27,300	27,300	54,600

Table 3: Y2032 Daily Assigned Volumes on I-12 Segments

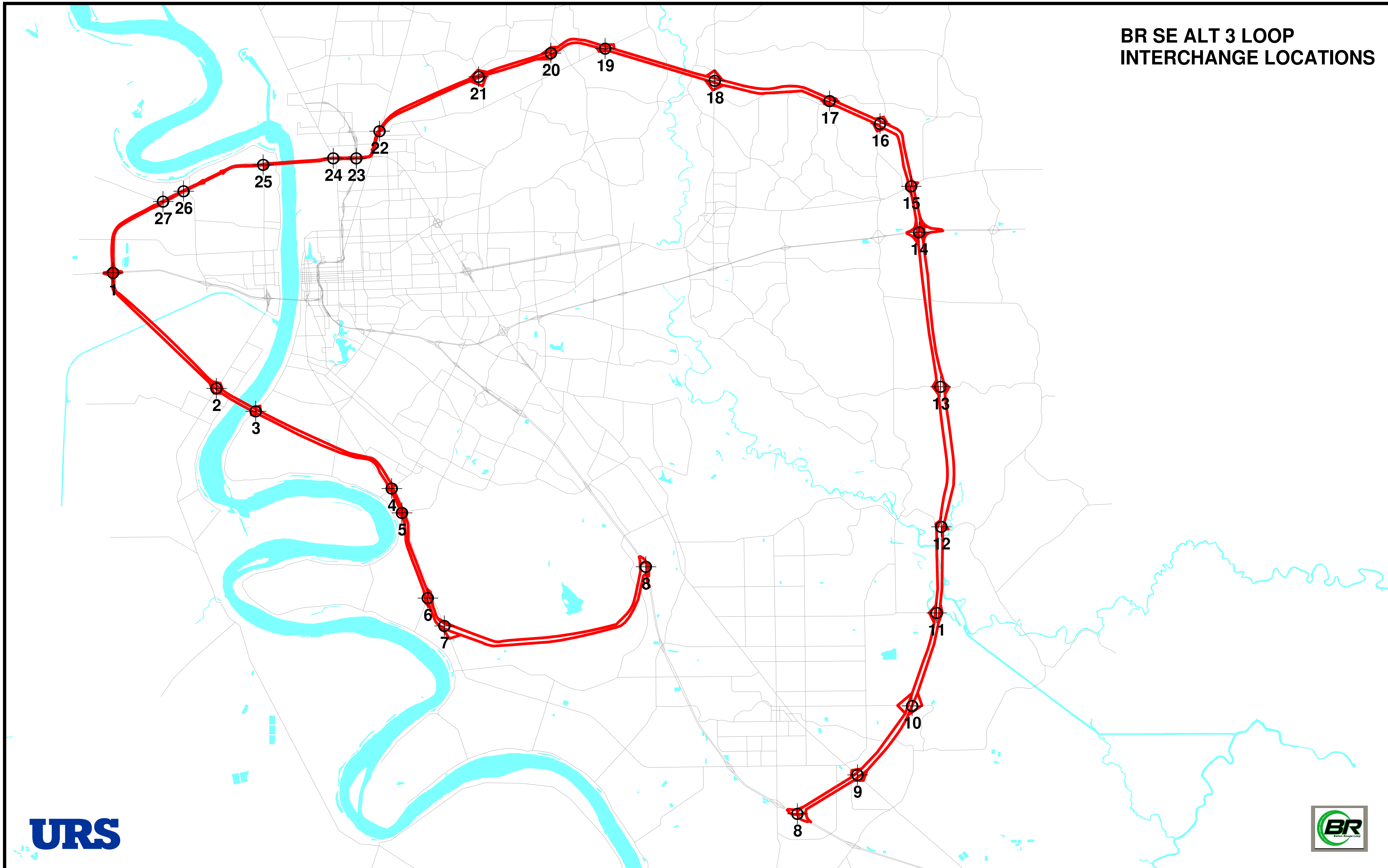
				NO LOOP	NO LOOP	NO LOOP	SE ALT 2 LOOP	SE ALT 2 LOOP	SE ALT 2 LOOP
							TOLL-FREE	TOLL-FREE	TOLL-FREE
			Y2004 DAILY	Y2032 DAILY	Y2032 DAILY	Y2032 DAILY	Y2032 DAILY	Y2032 DAILY	Y2032 DAILY
SEGMENT	FROM	TO	BOTH DIRECTIONS	EB ASSN	WB ASSN	EB+WB	EB ASSN	WB ASSN	EB+WB
1	From SB I-10	Merge with NB I-10	n/a	54,500	49,800	104,300	47,300	42,300	89,600
2	Merge with NB I-10	Essen Lane	116,300	54,700	64,500	119,200	48,200	58,800	107,000
3	Essen Lane	Jefferson Highway (LA 73)	n/a	64,100	58,700	122,800	56,900	53,500	110,400
4	Jefferson Highway (LA 73)	Airline Highway (US 61)	106,000	68,100	66,500	134,600	61,300	60,600	121,900
5	Airline Highway (US 61)	Sherwood Forest Blvd	99,000	70,800	72,700	143,500	64,900	64,600	129,500
6	Sherwood Forest Blvd	Millerville Rd	91,600	68,400	68,600	137,000	60,000	59,900	119,900
7	Millerville Rd	O'Neal Lane	84,400	59,600	60,100	119,700	48,800	49,300	98,100
8	O'Neal Lane	S. Range Road	77,600	56,300	57,400	113,700	43,200	44,100	87,300
9	S. Range Road	Juban Rd	50,100	47,000	47,300	94,300	38,000	38,400	76,400
10	Juban Rd	Walker South Rd	n/a	46,700	46,400	93,100	39,000	39,400	78,400
11	Walker South Rd	**SE ALT2 Loop**	42,900	41,400	41,100	82,500	34,800	35,200	70,000
12	**SE ALT2 Loop**	Satsuma Rd	42,900	41,400	41,100	82,500	41,600	41,800	83,400
13	Satsuma Rd	S. Frost Rd (SR 63)	43,900	36,200	36,300	72,500	36,200	36,300	72,500

Table 4: Y2032 Daily Assigned Volumes on I-110 Segments

				NO LOOP	NO LOOP	NO LOOP	SE ALT 2 LOOP TOLL-FREE	SE ALT 2 LOOP TOLL-FREE	SE ALT 2 LOOP TOLL-FREE
SEGMENT	FROM	TO	Y2004 DAILY BOTH DIRECTIONS	Y2032 DAILY NB ASSN	Y2032 DAILY SB ASSN	Y2032 DAILY NB+SB	Y2032 DAILY NB ASSN	Y2032 DAILY SB ASSN	Y2032 DAILY NB+SB
1	EB I-10	NB I-110	21,800	21,300	19,500	40,800	15,800	12,800	28,600
2		M/L @ Florida Blvd	n/a	50,200	56,200	106,400	48,900	55,400	104,300
3		M/L @ Spanish Town Rd	87,300	47,600	52,500	100,100	48,200	51,500	99,700
4		M/L before off-ramp to Fuqua St	n/a	49,100	53,000	102,100	50,200	52,900	103,100
5		M/L @ Plank Rd	83,400	49,400	38,400	87,800	51,100	39,200	90,300
6		M/L @ Windbourne Ave	88,800	48,900	51,500	100,400	52,800	53,300	106,100
7		M/L @Evangeline St	n/a	46,100	47,700	93,800	52,000	51,300	103,300
8		M/L@Hollywood St	72,600	45,200	46,100	91,300	54,000	51,100	105,100
9		M/L@Airline Highway	43,600	40,500	43,100	83,600	35,900	39,400	75,300
10		M/L @ 72nd Ave	43,600	40,500	43,100	83,600	35,900	39,400	75,300
11		M/L @ Harding Blvd	n/a	37,400	47,500	84,900	38,000	41,700	79,700
12		M/L @ Rosenwald Rd	49,700	38,500	38,600	77,100	40,400	39,400	79,800
13		M/L @ Baker Rd.	25,700	19,600	19,100	38,700	18,300	19,500	37,800
14		M/L@Scenic Highway	25,700	19,600	19,100	38,700	18,300	19,500	37,800

APPENDIX E

Year 2032 Inner Loop SE Alt 3 - Toll Free Model Volumes


BR SE ALT 3 LOOP
INTERCHANGE LOCATIONS
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SE ALT 3 LOOP INTERCHANGES AND SEGMENT NUMBERS

INT. POINT NUMBER	LOCATION OF POINT		LOOP SEGMENT	LOOP SEGMENT #
1	I-10			
2	LA 1		I-10 --> LA 1	1
3	River Road		LA 1 --> River Road	2
4	Gardere Lane		River Road --> Gardere Lane	3
5	Bluebonnett Road		Gardere Lane --> Bluebonnet Road	4
6	Bayou Paul Lane		Bluebonnett Road --> Bayou Paul Lane	5
7	Nicholson Drive		Bayou Paul Lane --> Nicholson Drive	6
8	I-10		Nicholson Drive --> I-10	7
9	Airline Highway		I-10 --> Airline Highway	8
10	LA 935		Airline Highway --> LA 935	9
11	Lake Martin Road		LA 935 --> Lake Martin Road	10
12	State Rt. 16		Lake Martin Road -- > State Rt. 16	11
13	Hood Road		State Rt. 16 --> Hood Road	12
14	I-12		Hood Road --> I-12	13
15	Florida Avenue		I-12 --> Florida Avenue	14
16	Walker Road North		Florida Avenue --> Walker Road North	15
17	Arnold Road		Walker Road North --> Arnold Road	16
18	LA 16		Arnold Road --> LA 16	17
19	Hooper Road		LA 16 --> Hooper Road	18
20	Joor Road		Hooper Road --> Joor Road	19
21	Blackwater Road		Joor Road --> Blackwater Road	20
22	Plank Road		Blackwater Road --> Plank Road	21
23	I-110		Plank Road --> I-110	22
24	Scenic Highway		I-110 --> Scenic Highway	23
25	LA 1		Scenic Highway --> LA 1	24
26	Lobdell Highway		LA 1 -->Lobdell Highway	25
27	US 190		Lobdell Highway --> US 190	26
			US 190 --> I-10	27

Table 1: Y2032 Daily Assigned Volumes on Toll-Free SE ALT 3 Loop Segments

SEGMENT	FROM	TO	SE ALT 2 LOOP Y2032 DAILY Anticlockwise ASSN	SE ALT 2 LOOP Y2032 DAILY Clockwise ASSN	SE ALT 2 LOOP Y2032 DAILY Both Directions
1	I-10	LA 1	28,100	28,100	56,200
2	LA 1	River Road	30,300	31,400	61,700
3	River Road	Gardere Lane	24,700	25,700	50,400
4	Gardere Lane	Bluebonnett Road	20,100	20,900	41,000
5	Bluebonnett Road	Bayou Paul Lane	25,400	25,800	51,200
6	Bayou Paul Lane	Nicholson Drive	23,700	23,400	47,100
7	Nicholson Drive	I-10	16,600	15,800	32,400
8	I-10	Airline Highway	9,000	11,100	20,100
9	Airline Highway	LA 935	19,300	19,600	38,900
10	LA 935	Lake Martin Road	21,100	21,600	42,700
11	Lake Martin Road	State Rt. 16	27,600	28,500	56,100
12	State Rt. 16	Hood Road	28,300	28,500	56,800
13	Hood Road	I-12	31,100	30,200	61,300
14	I-12	Florida Avenue	38,600	38,200	76,800
15	Florida Avenue	Walker Road North	35,600	33,400	69,000
16	Walker Road North	Arnold Road	34,100	34,000	68,100
17	Arnold Road	LA 16	34,600	35,600	70,200
18	LA 16	Hooper Road	49,700	50,000	99,700
19	Hooper Road	Joor Road	40,900	40,800	81,700
20	Joor Road	Blackwater Road	38,400	38,400	76,800
21	Blackwater Road	Plank Road	35,800	35,900	71,700
22	Plank Road	I-110	23,700	33,800	57,500
23	I-110	Scenic Highway	32,000	37,900	69,900
24	Scenic Highway	LA 1	41,800	35,700	77,500
25	LA 1	Lobdell Highway	19,400	19,000	38,400
26	Lobdell Highway	US 190	20,500	20,000	40,500
27	US 190	I-10	30,500	29,200	59,700

Table 2 : Y2032 Daily Assigned Volumes on I-10 Segments

SEGMENT	FROM	TO	Y2004 DAILY BOTH DIRECTIONS	NO LOOP Y2032 DAILY SB ASSN	NO LOOP Y2032 DAILY NB ASSN	NO LOOP Y2032 DAILY SB+NB	SE ALT 3 LOOP TOLL-FREE Y2032 DAILY SB ASSN	SE ALT 3 LOOP TOLL-FREE Y2032 DAILY NB ASSN	SE ALT 3 LOOP TOLL-FREE Y2032 DAILY SB+NB
1	West of SE ALT 3 Loop		n/a				28,500	28,500	57,000
2	SE ALT 3 Loop	Lobdell Highway	37,200	28,500	28,500	57,000	15,600	14,300	29,900
3	Lobdell Highway	LA 1	53,900	37,700	47,400	85,100	24,200	24,400	48,600
4	LA 1	Highland Rd (on I-10 Bridge)	107,000	80,600	81,500	162,100	46,400	45,800	92,200
5	Highland Rd	Split to I-110	95,500	63,300	63,700	127,000	37,500	35,300	72,800
6	Split to I-110	Merge with I-110	80,100	41,900	40,200	82,100	21,800	22,500	44,300
7	Merge with I-110	Park Blvd/Dalrymple Drive	144,900	79,000	74,500	153,500	67,100	61,300	128,400
8	Park Blvd/Dalrymple Drive	Perkins Rd.	135,400	74,800	79,800	154,600	62,900	67,100	130,000
9	Perkins Rd.	Acadian Thruway	134,900	66,500	71,200	137,700	55,200	59,000	114,200
10	Acadian Thruway	College Drive	164,300	86,300	87,800	174,100	74,200	75,800	150,000
11	College Drive	Split to EB I-12	164,900	99,800	102,500	202,300	86,700	89,300	176,000
12	Split to I-12	Merge with I-12	n/a	45,300	52,700	98,000	39,200	46,500	85,700
13	Merge with I-12	Essen Lane	96,900	59,900	52,500	112,400	54,700	47,200	101,900
14	Essen Lane	Bluebonnett Blvd	95,000	52,200	56,600	108,800	47,300	51,100	98,400
15	Bluebonnett Blvd	Siegen Lane	88,800	46,200	48,500	94,700	41,000	43,100	84,100
16	Siegen Lane	Highland Road	67,200	47,600	48,300	95,900	40,700	41,600	82,300
17	Highland Road	**SE ALT 3 Loop**	59,900	46,100	46,400	92,500	34,900	35,000	69,900
18	**SE ALT 3 Loop**	LA 73	59,900	46,100	46,400	92,500	50,700	50,100	100,800
19	LA 73	Nicholson Drive	44,900	41,500	41,500	83,000	42,400	42,000	84,400
20	Nicholson Drive	Burnside Ave (LA 44)	38,700	41,300	41,500	82,800	42,800	42,900	85,700
21	Burnside Ave (LA 44)	**SE ALT 3 Loop**	36,800	34,500	35,100	69,600	38,500	40,000	78,500
22	**SE ALT 3 Loop**	LA 22	36,800	34,500	35,100	69,600	35,700	35,100	70,800
23	LA 22	Airline Hwy (US 61)	32,100	27,400	27,700	55,100	26,500	26,800	53,300
24	Airline Hwy (US 61)	LA 641	29,500	27,300	27,300	54,600	27,300	27,300	54,600

Table 3: Y2032 Daily Assigned Volumes on I-12 Segments

				NO LOOP	NO LOOP	NO LOOP	SE ALT 3 LOOP	SE ALT 3 LOOP	SE ALT 3 LOOP
							TOLL-FREE	TOLL-FREE	TOLL-FREE
			Y2004 DAILY	Y2032 DAILY	Y2032 DAILY	Y2032 DAILY	Y2032 DAILY	Y2032 DAILY	Y2032 DAILY
SEGMENT	FROM	TO	BOTH DIRECTIONS	EB ASSN	WB ASSN	EB+WB	EB ASSN	WB ASSN	EB+WB
1	From SB I-10	Merge with NB I-10	n/a	54,500	49,800	104,300	47,400	42,700	90,100
2	Merge with NB I-10	Essen Lane	116,300	54,700	64,500	119,200	48,100	58,100	106,200
3	Essen Lane	Jefferson Highway (LA 73)	n/a	64,100	58,700	122,800	57,000	52,200	109,200
4	Jefferson Highway (LA 73)	Airline Highway (US 61)	106,000	68,100	66,500	134,600	61,400	59,700	121,100
5	Airline Highway (US 61)	Sherwood Forest Blvd	99,000	70,800	72,700	143,500	64,800	64,900	129,700
6	Sherwood Forest Blvd	Millerville Rd	91,600	68,400	68,600	137,000	60,200	60,200	120,400
7	Millerville Rd	O'Neal Lane	84,400	59,600	60,100	119,700	49,000	49,900	98,900
8	O'Neal Lane	S. Range Road	77,600	56,300	57,400	113,700	44,200	45,000	89,200
9	S. Range Road	Juban Rd	50,100	47,000	47,300	94,300	38,900	39,400	78,300
10	Juban Rd	Walker South Rd	n/a	46,700	46,400	93,100	39,800	40,200	80,000
11	Walker South Rd	**SE ALT 3 Loop**	42,900	41,400	41,100	82,500	35,500	36,000	71,500
12	**SE ALT 3 Loop**	Satsuma Rd	42,900	41,400	41,100	82,500	41,500	41,500	83,000
13	Satsuma Rd	S. Frost Rd (SR 63)	43,900	36,200	36,300	72,500	36,200	36,300	72,500

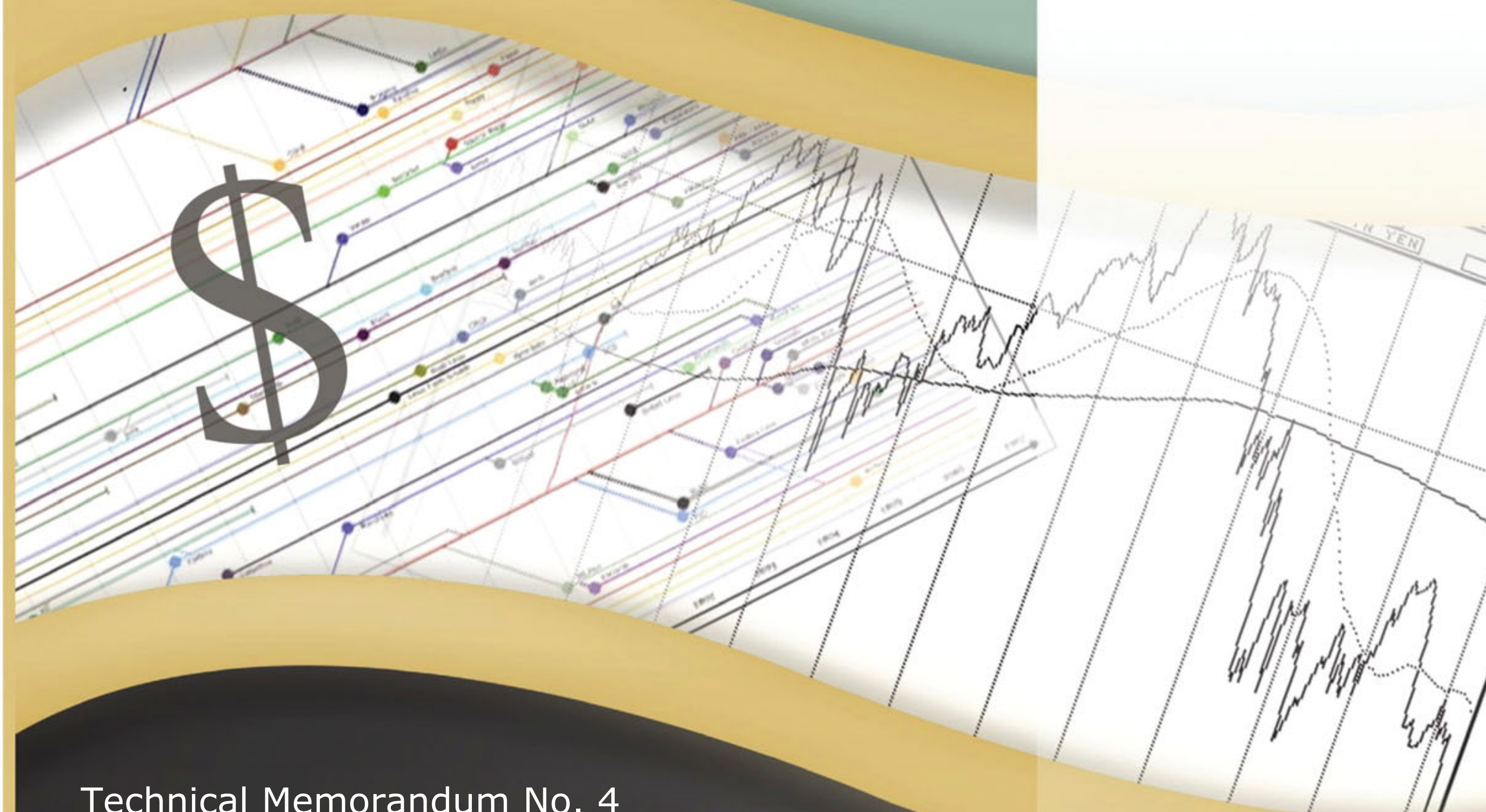
Table 4: Y2032 Daily Assigned Volumes on I-110 Segments

SEGMENT	FROM	TO	Y2004 DAILY BOTH DIRECTIONS	NO LOOP Y2032 DAILY NB ASSN	NO LOOP Y2032 DAILY SB ASSN	NO LOOP Y2032 DAILY NB+SB	SE ALT 3 LOOP TOLL-FREE Y2032 DAILY NB ASSN	SE ALT 3 LOOP TOLL-FREE Y2032 DAILY SB ASSN	SE ALT 3 LOOP TOLL-FREE Y2032 DAILY NB+SB
1	EB I-10	NB I-110	21,800	21,300	19,500	40,800	15,700	12,800	28,500
2		M/L @ Florida Blvd	n/a	50,200	56,200	106,400	49,000	55,100	104,100
3		M/L @ Spanish Town Rd	87,300	47,600	52,500	100,100	48,000	52,000	100,000
4		M/L before off-ramp to Fuqua St	n/a	49,100	53,000	102,100	49,700	53,400	103,100
5		M/L @ Plank Rd	83,400	49,400	38,400	87,800	50,500	38,800	89,300
6		M/L @ Windbourne Ave	88,800	48,900	51,500	100,400	52,200	52,200	104,400
7		M/L @Evangeline St	n/a	46,100	47,700	93,800	51,400	50,300	101,700
8		M/L@Hollywood St	72,600	45,200	46,100	91,300	53,300	50,000	103,300
9		M/L@Airline Highway	43,600	40,500	43,100	83,600	36,400	39,400	75,800
10		M/L @ 72nd Ave	43,600	40,500	43,100	83,600	36,400	39,400	75,800
11		M/L @ Harding Blvd	n/a	37,400	47,500	84,900	37,000	41,500	78,500
12		M/L @ Rosenwald Rd	49,700	38,500	38,600	77,100	39,900	39,900	79,800
13		M/L @ Baker Rd.	25,700	19,600	19,100	38,700	19,000	19,500	38,500
14		M/L@Scenic Highway	25,700	19,600	19,100	38,700	19,000	19,500	38,500

Baton Rouge Loop
Implementation Plan

Baton Rouge Loop

www.brloop.com



Technical Memorandum No. 4
Preliminary Finance Assessment

July 2008

East Baton Rouge | West Baton Rouge | Livingston Parish | Ascension Parish | Iberville Parish

Baton Rouge Loop
Implementation Plan

Baton Rouge Loop

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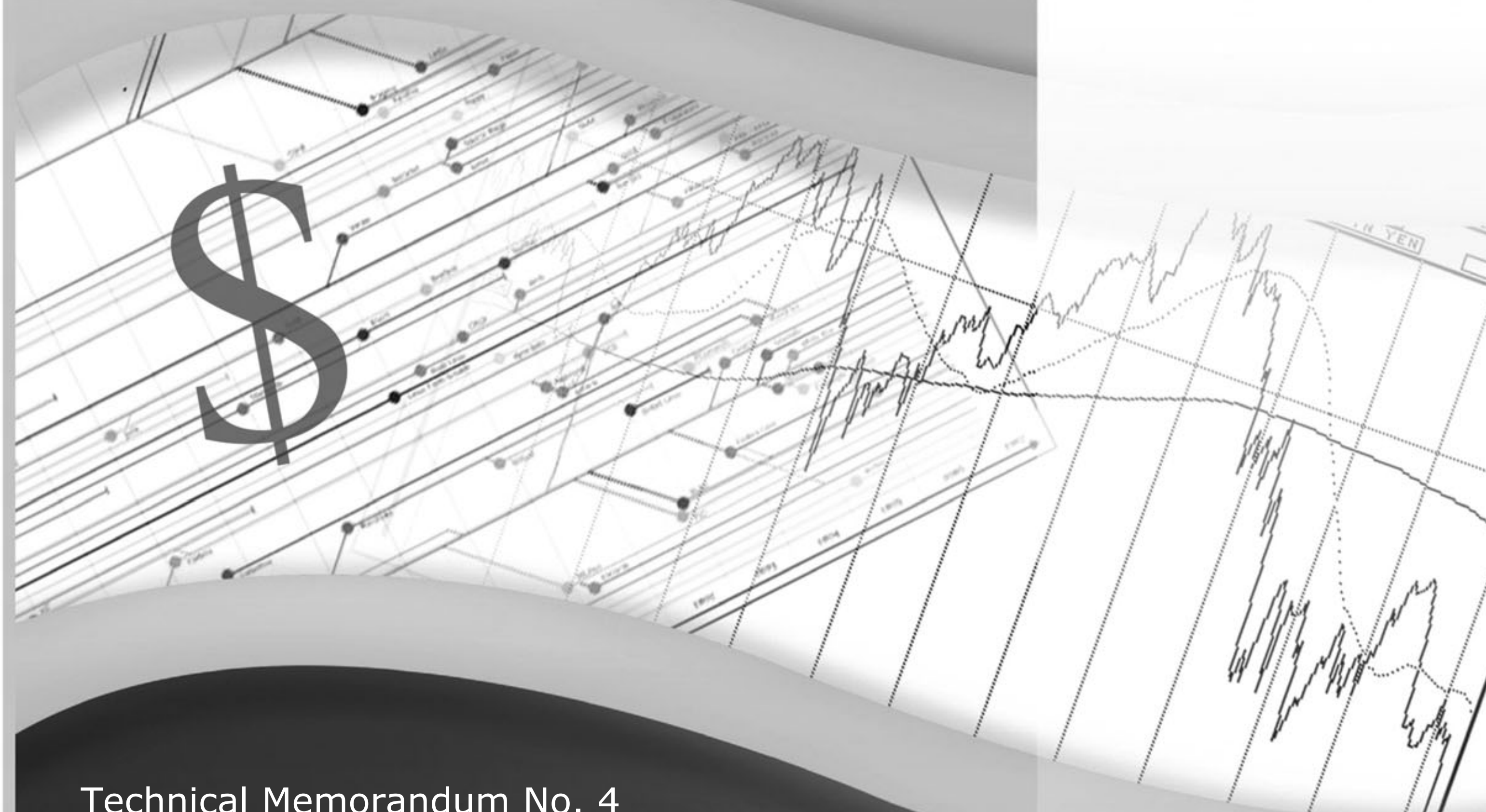

Technical Memorandum No. 4
Preliminary Finance Assessment

July 2008

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FOREWORD

The Baton Rouge Loop will be a free flow toll road around the Baton Rouge metropolitan area. The Implementation Plan phase of project development is the initial part of the process in planning, design, construction, and operations of the new roadway. The Implementation Plan phase is to analyze engineering, environmental, and financial feasibility of the proposed loop as well as solicit public, agency, and political involvement in initial planning for the project. The end result of the Implementation Plan phase is to identify and lay out the process for activities going forward that will lead to opening and operations of the loop.

A series of six technical memorandums have been developed to document the analysis and other activities during the Implementation Plan phase. These technical memorandums present and document work in the areas of engineering, environmental, traffic & revenue, financial feasibility, community involvement, and implementation planning. This technical memorandum is one of the series of six.

The team of planners, engineers, and other specialists developing the Implementation Plan are indicated below:

HNTB

ABMB ENGINEERS, INC.

URS

KPMG

MARMILLION/GRAY/SABISTON

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Important Notice

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1. INTRODUCTION

1.1 Project Background

The Baton Rouge Loop ("the Loop") or ("the Project") is a proposed corridor that will surround the city of Baton Rouge and provide needed relief for general and commercial traffic in the region. More information related to the technical specifications of the project can be found in Technical Memorandum No. 1 (Corridors, Design Features & Cost Estimates), Technical Memorandum No. 2 (Environmental Overview), Technical Memorandum No. 3 (Preliminary Traffic & Revenue), Technical Memorandum No. 5 (Processes and Mechanisms), and Technical Memorandum No. 6 (Public and Agency Outreach). Figure 1-1 below is a map of a representative corridor that illustrates the concept of a circumferential loop that is broken into three segments (north, south, and east) for the purpose of analysis in this memorandum.

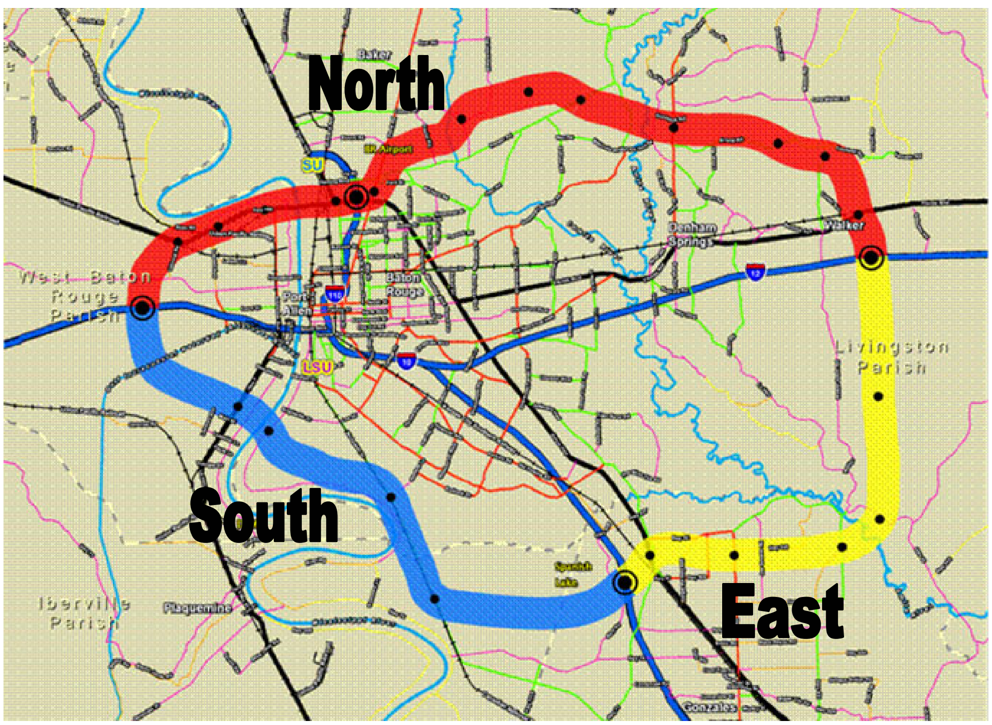


Figure 1-1. Representative Corridor

1.2 Scope and Methodology

KPMG is currently acting as a member of the Loop team to assist with the analysis of the initial financial feasibility of the proposed Baton Rouge Loop. KPMG is a nationally and internationally recognized adviser in the field of infrastructure finance and has brought its experiences in innovative finance from Texas, Virginia, Florida, the UK and Europe to this task.

KPMG's role is two-fold:

1. To lay out the most likely financing options available to the Loop team
2. For the two most likely options, perform an initial financial feasibility analysis of the Project as a whole and then each of the North, East and South sections of the Loop. Specifically, two financing options have been studied from a financial feasibility point of view:

    a. Traditional Finance Case (Tax-Exempt, primary historical financing method in U.S. and Louisiana)
    b. Public Private Partnerships Case ("PPP", emerging new finance option in U.S. and Louisiana)

This Memorandum's methodology is to determine financial feasibility as a function of whether or not an up-front public sector contribution is required to enable the project. Additionally, this Memorandum contemplates high-level considerations to help determine best value for the project delivery model. The analysis is based on input data from a number of sources:

- Traffic and revenue
- Tolling transactions
- Construction costs
- Operating costs
- Renewal and replacement costs

Due to the preliminary nature of the data, two scenarios have been prepared for each of the traditional and PPP cases. These scenarios are labeled Conservative and Optimistic.

A **Conservative Scenario** is where base line traffic and revenue, cost and financing assumptions are developed to provide a conservative estimate for financial feasibility purposes.

An **Optimistic Scenario** is where base line traffic and revenue, cost and financing assumptions are developed to provide a more optimistic estimate for financial feasibility purposes.

These cases and scenarios will serve as the bookends in determining the financial feasibility of this Project, effectively providing a range of outcomes.

Using traditional and PPP cases with the conservative and optimistic analyses, a number of financing scenarios were contemplated. They are as follows:

1. Traditional Finance – Conservative
2. Traditional Finance – Optimistic
3. PPP – Conservative
4. PPP – Optimistic
5. PPP – A long-term patient equity investor perspective

Each scenario covers the financial feasibility of the whole Loop as well as the three individual segments that make up the Loop. The above scenarios are discussed more fully in Section 4.2.

Items that fall outside of the scope of this Memorandum include:

- analysis of the technical feasibility
- determination of enabling legislation
- appraisal of the public and private acceptability of the proposed road
- consideration of the likelihood of receiving environmental approvals
- assessment of the market interest

1.3 Structure of the Memorandum

The following Sections in this Memorandum are described as follows:

Section 2 provides a list of the key data and assumptions upon which the analysis has been based and describes the risk analysis performed on the data and assumptions.

Section 3 provides a list of the financing options available to the Loop team with a short description and a summary of the two most likely options.

Section 4 presents the results of the preliminary financial feasibility analysis for each of the five scenarios described above.

Section 5 provides a summary of the analyses.

2. DATA AND ASSUMPTIONS

The following preliminary financial analysis inputs were provided by the Baton Rouge Loop team member noted in the parenthesis:

- Traffic and revenue (URS)
- Tolling transactions (URS)
- Construction costs (ABMB/HNTB)
- Operating costs (HNTB)
- Renewal and replacement costs (HNTB)
- Financing (KPMG with additional feedback from Citigroup on municipal bond structures)

No material changes have been made to the input data received except for formatting to ensure consistency with the financial models.

Since the inputs are preliminary in nature, there is a great deal of uncertainty in any outcome produced from these inputs.

2.1 Timing

The timing of a typical transportation project has two primary components: a construction period and an operations period. To ensure that the first four scenarios are directly comparable it is assumed the same timing for both operating and construction periods across all four scenarios.

It should be noted also that the debt facilities in both the Traditional and PPP finance Scenarios 1 through 4 have been assumed outstanding for 40 years from the beginning of the construction period. This leaves fourteen years at the back of the operational period in both the Traditional and PPP cases where there is no debt to be repaid. Again, this is to ensure that Scenarios 1 through 4 are compared on a like for like basis.

A fifth scenario has been developed, more fully explained in Section 4.2, to estimate the public funds required under a longer-term PPP agreement with a patient private equity investor. In typical PPP concession agreements, operational contract lengths range from 50 to 99 years. In Louisiana, 75 years is the maximum term of a PPP contract and this is the timeframe utilized for Scenario 5.

The total analysis periods assumed are summarized in Table 2-1.

Table 2-1. Project Analysis Periods

Scenario	Construction Period	Operating Period	Total Analysis Period
1. Traditional Finance – Conservative	4 years	50 years	54 years
2. Traditional Finance – Optimistic	4 years	50 years	54 years
3. PPP – Conservative	4 years	50 years	54 years
4. PPP – Optimistic	4 years	50 years	54 years
5. PPP – A long-term equity perspective	4 years	71 years	75 years

To correspond with the analyses periods contemplated, key Project milestones have been developed. Key Project milestones for the 54-year case are presented in Table 2-2:

Table 2-2. Key Project Milestones for 54-year Case

Contract Start Date	January 1st, 2012
Contract End Date	December 31st, 2065
Construction Start Date	January 1st, 2012
Construction End Date	December 31st, 2015
Operations Start Date	January 1st, 2016
Operations End Date	December 31st, 2065

Key Project milestones for the 75-year case are presented in Table 2-3:

Table 2-3. Key Project Milestones for 75-year Case

Contract Start Date	January 1st, 2012
Contract End Date	December 31st, 2086
Construction Start Date	January 1st, 2012
Construction End Date	December 31st, 2015
Operations Start Date	January 1st, 2016
Operations End Date	December 31st, 2086

2.2 Traffic and Revenue

URS has provided a Level 1 Traffic and Revenue (T&R) study for the whole Loop and each segment of the Project. Please see Technical Memorandum 3 for more information and detail regarding the Traffic and Revenue study.

The base toll rate used in the study is $0.15/mile (2007 $) which has been inflated at an assumed Consumer Price Index ("CPI") of 2.5% per year. URS has also assumed a traffic ramp-up reduction factor of 30% in year 1, 20% in year 2 and 10% in year 3. Ramp-up reduction represents the amount of traffic that initially would avoid the road due to tolls. URS has applied an assumption of 330 operational toll revenue days per year. 330 operational days does not mean that the road will only be used for 330 days, but since weekend traffic is lower than weekday, 330 days is an approximation for the equivalent utilization of the road for the entire year.

URS calculated the traffic numbers by computing the traffic based on a $16 and $18 per hour Value of Time ("VOT"). The conservative financial cases have assumed a $16 VOT and a lower usage by truck traffic. The optimistic cases have assumed an $18 VOT and a higher usage by truck traffic. See Table 4-1 for a summary of assumptions used for T&R in the Conservative and Optimistic analyses.

2.3 Project Development Costs

ABMB and HNTB provided a base preliminary development cost estimate for the implementation of the total loop and each segment of the Loop. The real (uninflated) total loop preliminary cost estimates range from $3.6 billion - $4.5 billion (2008 dollars). Conservative and Optimistic estimates were developed for finance modeling. The Optimistic (low) estimate recognizes a cost reduction of approximately 12% from the base estimate while the Conservative (high) estimate recognizes a cost increase of approximately 11% from the base estimate. These variations are due to potential variations in the length of the project, design features, unit prices, etc.. The preliminary estimates have not been subject to any additional value engineering exercise nor adjusted for strategies that could be employed by a private sector partner to reduce lifecycle costs over the term of the Project. The financial model assumes nominal costs (inflated to year of expenditure) by inflating the real costs at 3.5% per year. Refer to Technical Memorandum No. 1 (Corridors, Design Features, & Cost Estimates) for additional information on preliminary cost estimates. See Table 4-1 for a summary of the assumptions used for development costs in the Conservative and Optimistic scenarios.

Table 2-4. Preliminary Development Cost Estimates by Segment

Preliminary Development Costs ($ billions – 2008)				
	Whole	North	South	East
Conservative	$ 4.5	$ 1.7	$ 1.6	$ 1.3
Optimistic	$ 3.6	$ 1.5	$ 1.4	$ 0.6

2.4 Operating and Routine Maintenance Costs

Operating costs have been assumed at $0.20 per transaction uninflated over the term of the Project for the Conservative scenarios. Operating costs were assumed at $0.05 (2008 dollars) per transaction, inflated at 2.5% per year for the Optimistic scenarios. Operating cost assumptions were based on benchmarks provided by HNTB from actual costs incurred from various toll projects around the United States. These assumptions encompass toll operations, back office costs and enforcement, but do not include the additional costs associated with video tolling. Please note that incremental video toll revenue will be collected that will in whole or part offset the incremental costs associated with video tolling. This is not accounted for in the financial analysis.

Annual routine maintenance costs were provided by HNTB based on various toll projects around the United States. These costs were escalated at 2.5% per annum throughout the analysis period for each scenario. See Table 4-1 for a summary of the assumptions used for O&M in the Conservative and Optimistic scenarios.

2.5 Renewal and Replacement Costs

Annual Renewal and Replacement ("R&R") costs were provided by HNTB to correspond to the 54-year and 75-year terms analyzed. The program includes assumptions based on industry experience regarding the preventative and rehabilitative schedules and costs associated with major portions of the overall asset including pavement (such as joints and surface restoration), bridge (such as joints and decks), major equipment such as toll and ITS components, as well as approximate allocations for more minor items such as signage and guardrail. In addition, the design life of these components was accounted for and major replacements such as overall pavement reconstruction and bridge deck replacement were included. HNTB assumed that these major R&R costs were spread over 10 years to replicate staging of the major R&R over the whole Loop.

For the Conservative financial analyses, the R&R estimates were inflated at 7.0% in year one with inflation decreasing by 0.5% per year until reaching a plateau of 3.5% for the remainder of the term.

For the Optimistic financial analyses, the R&R estimates were inflated at 3.5% over the term of the Project. Additionally, the Optimistic scenarios recognize R&R cost reductions which correspond to the assumed reduced upfront construction costs. See Table 4-1 for a summary of the assumptions used for Renewal and Replacement Costs in the Conservative and Optimistic scenarios.

2.6 Financing Assumptions

KPMG has assumed normalized market conditions for the financial analyses. All financing assumptions can be categorized as traditional or PPP financial structures.

Finance assumptions

The traditional or tax-exempt finance model uses assumptions that are customary in municipal bond transactions. The analysis is based on a net pledge where it is assumed that the Project is funded in part by tax-free municipal bonds, Current Interest Bonds ("CIBs") and Capital Appreciation Bonds ("CABs") with a 40-year duration. The debt is sized based on the available cashflow after paying all R&R and operating and maintenance costs. To supplement bonding capacity, it has been assumed that Transportation Infrastructure Finance and Investment Act (TIFIA) financing (See Section 3) could be made available to the procuring authority. It is assumed that a net pledge of project cash flows after operations, routine maintenance and R&R expenses will be available to service debt repayment.

Based on additional input provided to KPMG by Citigroup, it has been assumed that the average interest rate for the CIBs is 5.0% and 5.75% for the CABs. The interest rate assumption is based on the estimated cost of capital for a procuring authority based on Municipal Market Data ("MMD"). For TIFIA interest rate assumptions, the 30-year State and Local Government Securities ("SLGS") rate plus 1 basis point was assumed. In addition, it is assumed a minimum 1.75x Debt Service Coverage Ratio ("DSCR") must be maintained during the duration of the bond in all Conservative analyses. A more aggressive DSCR assumption of 1.50x coverage is assumed in all Optimistic analyses. A global DSCR requirement including sub-liens for TIFIA debt service of 1.25x must be maintained for Conservative scenarios and a 1.20x global DSCR must be maintained for all Optimistic scenarios. See Table 4-1 for a summary of the assumptions used for Finance Assumptions in the Conservative and Optimistic scenarios.

A Debt Service Reserve Account ("DSRA") is also maintained in the traditional finance structure. In addition, a provision has been made to fund upfront fees and interest during construction, consistent across the Conservative and Optimistic scenarios.

Table 2-5 below demonstrates the key assumptions for the noted facilities in the Traditional finance model:

Table 2-5. Traditional Finance Debt Facility Comparison

Traditional Finance Debt Facility Comparison - Baton Rouge Loop						
Debt Facility	Benchmark	Term	Annual Margin	Wrap Fee	Arrangement Fee	Additional Comments
TIFIA	SLGS Rate	40 years	0.01% during construction and operations	N/A	$500,000 up front fee	No principal and interest payment during construction and the first five years of operations. Interest only payments during operations years 6 - 10. Level Debt service for the remainder of the facility term. If a refinance gain occurs, TIFIA prepayment equal to 50% of the refinance gain must go toward paying the principal balance of the TIFIA facility. Global DSCR 1.20x Optimistic, 1.25x Conservative
Current Interest Bonds (CIB)	Municipal Market Data (Average Rate with margin is assumed 5%)	40 Years	N/A	2% for both issuance and underwriting fees	2% for both issuance and underwriting fees	Interest Payments for first 33 years of term. Principal and Interest during the last 7 years. DSCR 1.50x Optimistic, 1.75x Conservative
Capital Appreciation Bonds (CAB)	Municipal Market Data (Average Rate with margin is assumed 5.75%)	40 years	N/A	2% for both issuance and underwriting fees	2% for both issuance and underwriting fees	Principal and Interest Payments are made as cash flows of the project. Unpaid interest is added to the principal balance in periods project cash flows can not pay current interest that is due. DSCR 1.50x Optimistic, 1.75x Conservative

PPP finance

In the PPP financial analyses, the Project is deemed feasible it if produces a targeted nominal, post-tax, equity return to the investor as well as covering all other Project costs, including:

- Operations and Routine Maintenance costs
- Renewal and replacement costs
- Debt repayment and interest expense
- Taxes

Based on experience with PPP projects across the United States and the globe, a targeted nominal, post-tax, equity return of 12% is assumed for the preliminary analyses. A 12% IRR was selected to properly demonstrate the risk and reward relationship that a private developer would assume when they construct the Project. Note that the actual IRR will be a function of the negotiated contract with the state agency at the time of closing and will be subject to public review prior to execution.

For this Project, PPP financing structures have been incorporated that reflect recent comparable transactions in the United States market. It has been assumed that multiple debt sources will be available to finance the Project, including: Private Activity Bonds (“PABs”), a TIFIA loan, a Bank Facility and a Liquidity Facility. A debt/equity ratio of 80/20 is assumed. The cost of debt is a function of the appropriate swap rate (the cost of funds over a given term) and the applicable margin and any swap credit spread assumed. All fees that are associated with underwriting and financing of the debt and all interest during construction are assumed to be funded at financial close of Project agreement.

Both 54-year term PPP analyses assume that all debt is repaid 14 years prior to the end of the concession term. These scenarios also assume that no refinancings will occur during the term of the Project.

The patient private equity long-term financial scenario assumes a 75-year term and a refinancing in 2020. The refinancing allows for the Project Company to obtain a cheaper cost of debt due to an improved risk profile of the Project over time (i.e. once construction is complete and operations have commenced past the ramp-up period). The refinancing assumption includes the use of a combination of Current Interest Bonds ("CIB") and Capital Appreciation Bonds ("CAB") as noted above. It has been assumed that all debt is repaid 26 years prior to the end of the 75-year concession term.

Table 2-6 below demonstrates the key assumptions for the noted facilities in the PPP finance model:

Table 2-6. PPP Finance Debt Facility Comparison

PPP Debt Facility Comparison - Baton Rouge Loop							
Debt Facility	Benchmark	Term	Annual Margin	Wrap Fee	Arrangement Fee	Agency Fee	Additional Comments
TIFIA	SLGS Rate	40 years	0.01% during construction and operations	N/A	$500,000 up front fee	$11,000 per year	No principal and interest payment during construction and the first five years of operations. Interest only payments during operations years 6 - 10. Level Debt service for the remainder of the facility term. If a refinance gain occurs, TIFIA prepayment equal to 50% of the refinance gain must go toward paying the principal balance of the TIFIA facility 1.1x min Global DSCR.
PAB (Private Activity Bonds)	Revenue Bond Index	40 years	N/A	1.5% up front fee	1.5% upfront fee	$100,000 per year	Usually based off of 30 year MMD rate, but due to market conditions we have assumed a normalized revenue bond index rate, 1.45x min DSCR
Liquidity Facility	LIBOR (5 Year)	Life of the project	1.3% during construction and operations	N/A	1.5% upfront fee	N/A	Commitment fee is 30% of annual margin
Current Interest Bonds (CIB)	LIBOR (20 Year forward rate in 10 years)	40 years	0.95% during construction and operations	1.5% up front fee, 0.3% per year	1.5% upfront fee	$100,000 per year	Interest Payments for first 33 years of term. Principal and Interest during the last 7 years. 1.50x min DSCR.
Capital Appreciation Bonds (CAB)	LIBOR (20 Year forward rate in 10 years)	40 years	1.2% during construction and operations	1.5% up front fee, .3% per year	1.5% upfront fee	N/A	Principal and Interest Payments are made as cash flows of the project maintain 1.50x min DSCR. Unpaid interest is added to the principal balance in periods project cash flows can not pay current interest that is due.

2.7 Accounting and Tax Assumptions

The accounting and tax assumptions have been assumed using examples from other transactions that have been delivered through a PPP or tax-exempt finance approach. An allowance has been made for Louisiana State corporate income taxes, but no property or sales taxes have been assumed. The analysis does not contemplate any future changes of accounting rules or tax laws.

3. SOURCES OF FUNDS

A number of possible funding sources have been identified to pay for the costs that will be required for the Loop's construction. Below is a table that describes the various funds that may be available to help fund the Project:

Table 3-1. Sources of Funds

Source of Funds	Description	Traditional or PPP Case Compatible
Tax-Exempt Debt	Revenue bonds issued by a municipal entity that are secured off the back of the toll revenues of the project. Debt interest is exempt from paying federal, state and municipal tax.	Traditional
Private Equity	Capital infusion by a private developer for part ownership of a lease to concession in a project. Investors are repaid with dividends from the cash flows of the project.	PPP
Commercial Bank Debt	Debt issued by a commercial bank based off of existing assets or future revenues.	PPP
Private Activity Bonds (PABs)	A tax-exempt municipal security that is issued by a municipal entity for the benefit of one or more private entities. There are numerous conditions that must be met prior to being able to issue PABs.	PPP
TIFIA Loan	A TIFIA loan is a subordinated loan issued by the United States Department of Transportation for large scale infrastructure projects. TIFIA interest rates are indexed at the 30-year State and Local Government Securities rate.	PPP or Traditional
Current Interest Bonds	A bond where the debt holder must stay current on their interest payments. Can be taxable or tax-exempt bonds.	Traditional or PPP
Capital Appreciation Bonds	A bond where the principal is issued at a specific rate each year for a set term. Investor receives a maturity value at the conclusion. Bonds can be taxable or tax-exempt.	Traditional or PPP
Transportation Mobility Fund	A fund provided by the State of Louisiana that provides a revenue stream to bridge the gap between projected toll revenue collections for a toll project and the estimated costs of a toll project.	Traditional or PPP
Tax Increment Financing	A bond will be issued based off of anticipated future tax revenues associated from the appreciation in tax assessed value of the surrounding area affected by the Project.	Traditional or PPP
Other State Funds	Louisiana State legislature or Louisiana State Department of Transportation and Development provide allocation of funds for all projects that they deem necessary for the state.	Traditional or PPP
Federal Earmarks	Funds allocated by Congress for projects with a specific purpose and an assigned district. Federal funds may be distributed by the Louisiana Department of Transportation and Development and Development or the State legislature.	Traditional or PPP

The two most likely financing cases are:

- A Traditional tax-exempt debt combined with TIFIA financing and construction performed through a design-build ("DB") contract and O&M being the responsibility of the public authority; and
- A PPP financing solution with risk of design, construction, operations, maintenance and financing passed to a private sector partner. A PPP financing solution combines the use of patient private equity and various forms of available private sector debt facilities to fund the upfront capital expenditures and the ongoing project costs required during the term of the Project.

4. ANALYSIS

To address the question of how the Project could be financially feasible, a series of financial analyses have been performed comparing Traditional tax-exempt finance with PPP project delivery and finance based on the conservative and optimistic inputs received. The following scenarios were contemplated:

1. Traditional Finance – Conservative
2. Traditional Finance – Optimistic
3. PPP – Conservative
4. PPP – Optimistic
5. PPP – A long-term patient equity investor perspective

As discussed in Section 2, there are a number of differences in the assumptions when comparing Conservative and Optimistic cases: The table below summarizes where different approaches were used on key inputs for all Conservative and Optimistic cases:

Table 4-1. Key Assumptions for Conservative & Optimistic Cases

Input	Conservative	Optimistic
T&R	$16 Value of Time. Lower contribution to revenue due to truck traffic assumptions.	$18 Value of Time. Higher contribution to revenue due to truck traffic assumptions.
Development Cost Estimates	11 % increase for total loop above the base estimate due to potential variations in the length of the project, design features, unit prices, etc.	13 % decrease for total loop below the base estimate due to potential variations in the length of the project, design features, unit prices, etc.
Operating Costs	$0.20 per transaction uninflated over the term of the Project.	$0.05 cents (2008 $) per transaction escalated 2.5% per annum.
Renewal and replacement costs	R&R expenses are assumed to meet the requirements of the more expensive construction costs.	R&R expenses are assumed to meet the less expensive option assumed for upfront construction.
Debt Service Coverage Ratio (DSCR) (Municipal Models Only)	Senior DSCR: 1.75x Global DSCR: 1.25x	Senior DSCR: 1.50x Global DSCR: 1.20x

It should be highlighted that in Scenarios 1 through 4 both the Traditional and PPP analyses use the same key assumptions relating to timing, T&R, O&M and construction costs. They differ only in the financing assumptions. This is in order to demonstrate a pure like for like comparison of the two financing structures. This does not take into account a number of potential realities, namely:

- After the bonds are repaid in the Traditional case the public sector may want to re-leverage the facility or receive the excess revenues;
- Under the PPP case, value engineering by the private sector is not taken into account and nor is a traditionally more aggressive "equity view" of the financing structure and T&R.

The first point is dealt with in table 4-2 and 4-3 below and the second point is picked up in more detail in Scenario 5 - a case that simulates additional value that the private sector may be able to bring to the Project's feasibility. Scenario 5 was developed to demonstrate the view of the Project if a long-term equity investor were to develop and operate the Project up to a maximum of 75 years, as allowed in the State legislation. The assumptions related to Scenario 5 are more fully developed in Section 4.2.

In each case, an analysis has been performed on the entire Loop Project and individual segments of the Project (North, East and South). These analyses were conducted in the context of the preliminary nature and potential variability of the input data and assumptions used in the study.

All results provided in Sections 4.1 and 4.2 are in terms of public funds required to advance the Project in the delivery and finance scheme identified.

4.1 Traditional Finance

By leveraging traditional tax-exempt bonds to deliver high-priority roadway projects, government entities can bond against the anticipated future toll revenue, which historically has allowed procuring authorities to free up other revenue and general obligation bond allocations to be used on other public infrastructure and services. Tax-exempt finance typically offers a low cost of debt due to the "tax-free" nature of the returns to the investors for these bonds. The maximum size of the toll revenue bond is heavily dependent on the T&R study completed. Other considerations for project bond capacity are project operations and maintenance requirements, demand characteristics of a project, reserve account requirements and lenders coverage requirements.

In addition to traditional tax-exempt bonds, flexible and low interest rate TIFIA financing can also be leveraged by the procuring authority, which has been assumed in the following cases.

An additional consideration for the public sector is the ability to use the surplus cash flows after all other Project obligations (such as O&M, debt service payments, etc.) are fulfilled. These surplus cash flows may be used by the public sector to help deliver other important infrastructure-related projects (such as other segments of the loop) or retire Project-related debt. It should be noted that the excess project cash flows are not bondable cash flows and will not increase the overall ability of the public sector to finance the Project and therefore do not reduce the up-front subsidy requirement.

Scenario 1 - Conservative Traditional Finance results

The first scenario performed was a conservative view of the traditional design-bid-build project delivery with tax-exempt and TIFIA financing structure. The conservative traditional finance scenario implements assumptions as noted in Section 2 of this Memorandum.The results of this scenario are shown following:

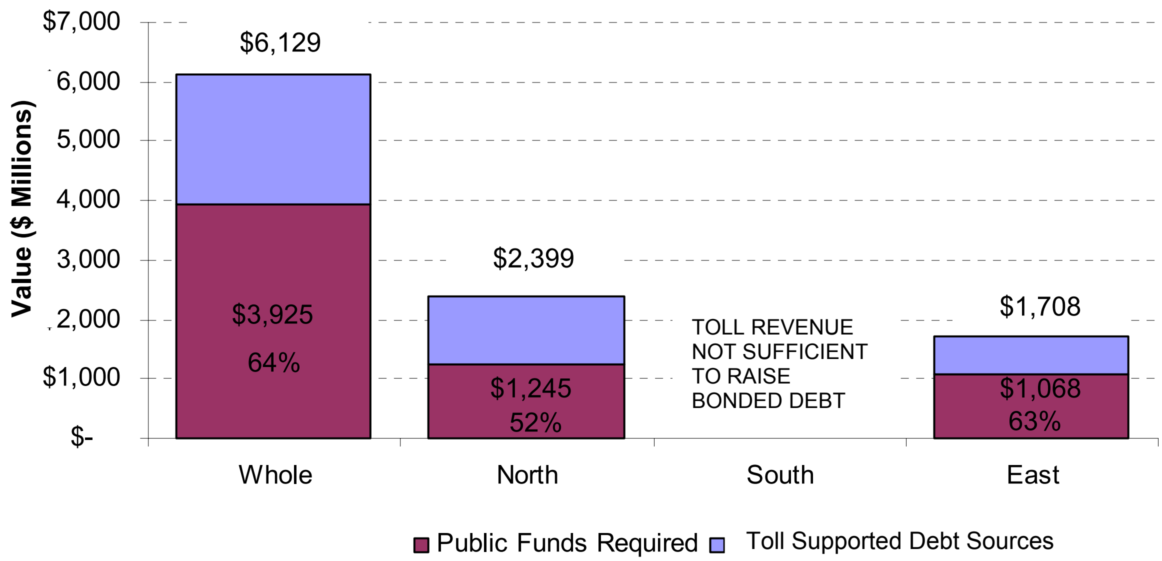


Figure 4-1. Conservative Traditional Finance Scenario

The public funds required in this scenario are approximately $3.9 billion for the entire Loop. The $6.1 billion is the total funding required which includes the municipal bond proceeds, TIFIA debt and public funds required. The North and East segments as stand-alone projects require significantly less public funding.

It should be noted that in this scenario the South segment taken on its own cannot support the debt obligations with the inputs provided. There is potential that the South segment can be supported in part by incremental revenues from other segments, if these are realized.

Additionally, the procuring agency is estimated to receive the following excess Project cash flows after O&M, R&R and debt service payments over the 54-year period analyzed.

Table 4-2. Excess Cash Flows (Conservative Traditional Finance Scenario)

Conservative Excess Project Cash Flows		
Case		Net Present Value (NPV) ($ billions)
Whole Conservative	$	1.1
North Conservative	$	0.7
South Conservative	$	N/A
East Conservative	$	0.3

*NPV is in 2012 dollars and discounted at 5%

It should be noted that these excess revenues do not reduce the amount of upfront public financing for the Project. However, as the excess cash flows are accrued over the term of project operations, this excess can be used for public purpose, including investment in and expansion of other segments of the Baton Rouge Loop system.

Scenario 2 - Optimistic Traditional Finance results

The second traditional scenario performed was a more optimistic view of the traditional design-bid-build project delivery utilizing the assumptions noted in Section 2 with municipal bond financial structure. The results of this scenario are shown following:

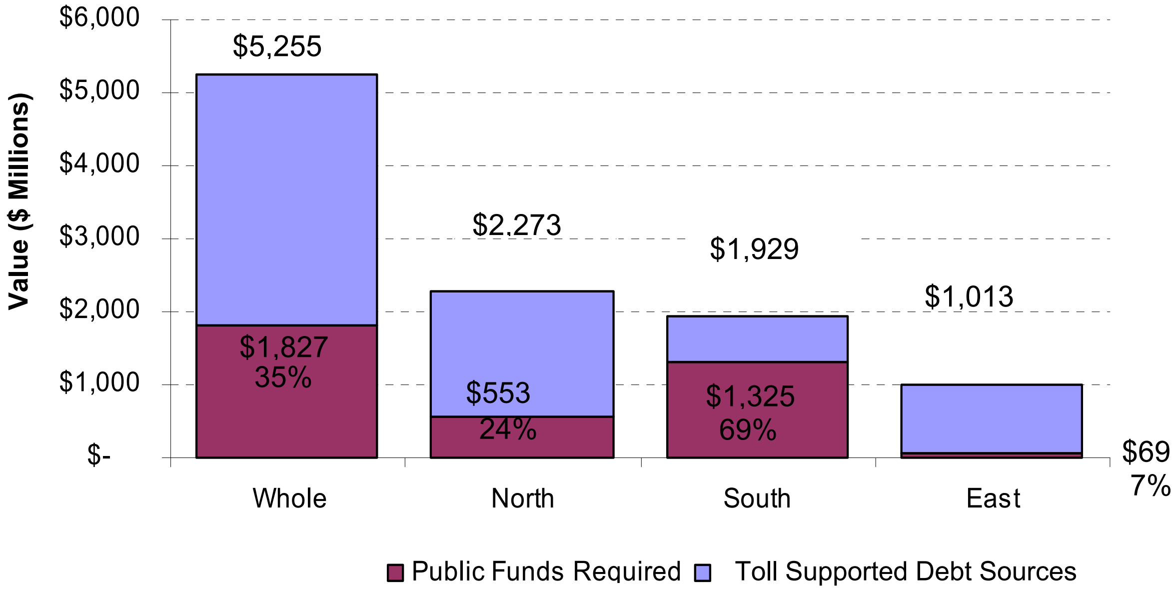


Figure 4-2. Optimistic Traditional Finance Scenario

The public funds required in this scenario are $1.8 billion for the entire Loop. The total funding requirement for the entire Loop in this scenario is $5.3 billion, which includes the municipal bond proceeds. The North and East segments of the Loop require significantly less public funding. In this instance the East segment of the Loop is more cash generative than the North and South due to a greater reduction in construction costs in the East than in the North and South.

Additionally, the procuring agency is estimated to receive the following excess cash flows after O&M, R&R and debt service payments over the 54-year period analyzed.

Table 4-3. Excess Cash Flows (Optimistic Traditional Finance Scenario)

Conservative Excess Project Cash Flows		
Case		Net Present Value (NPV) ($ billions)
Whole Conservative	$	1.6
North Conservative	$	0.8
South Conservative	$	0.2
East Conservative	$	0.5

*NPV is in 2012 dollars and Discounted at 5%

It should be noted that these excess revenues do not reduce the amount of upfront public financing for the Project. However, as the excess cash flows are accrued over the term of project operations, this excess can be used for public purpose, including investment in and expansion of other segments of the Baton Rouge Loop system.

4.2 PPP Finance

As mentioned in Section 2, financial feasibility in all PPP finance scenarios has been deemed to have been achieved if a concessionaire's equity investment receives a target, annual, nominal Internal Rate of Return ("IRR") of 12% after payment of applicable taxes. Although there are other hurdles and tests that must be satisfied to finalize the financing under a public-private delivery and financial structure, given the preliminary nature of the data in this Study, it is reasonable that the achievement of the target equity IRR is a sufficient test of financial feasibility at this time.

Comparatively speaking, the cost of debt in a PPP finance solution is typically higher than the cost of debt for a tax-exempt finance structure. However, the cost of debt playing field has been leveled for the private sector if innovative finance tools such as TIFIA and tax-exempt PABs are used in the PPP finance plans.

<u>Scenario 3 - Conservative PPP finance results</u>

The third scenario contemplated was a conservative PPP concession delivery model over 50 years using private sector finance.

No individual segments nor the whole Loop reached a result that would be financeable utilizing private sector finance. The primary reason this scenario was not financeable is due to the large R&R costs related to the scope of the project in the last 10-15 years of the project term. The available cash flows during this time are not able to effectively service debt and the other requirements related to the project.

Scenario 4 - Optimistic PPP finance results

The fourth scenario performed was a more optimistic view of the PPP project delivery utilizing the assumptions noted in Section 2 with a 50-year PPP financial structure.

The results of this scenario are shown following:

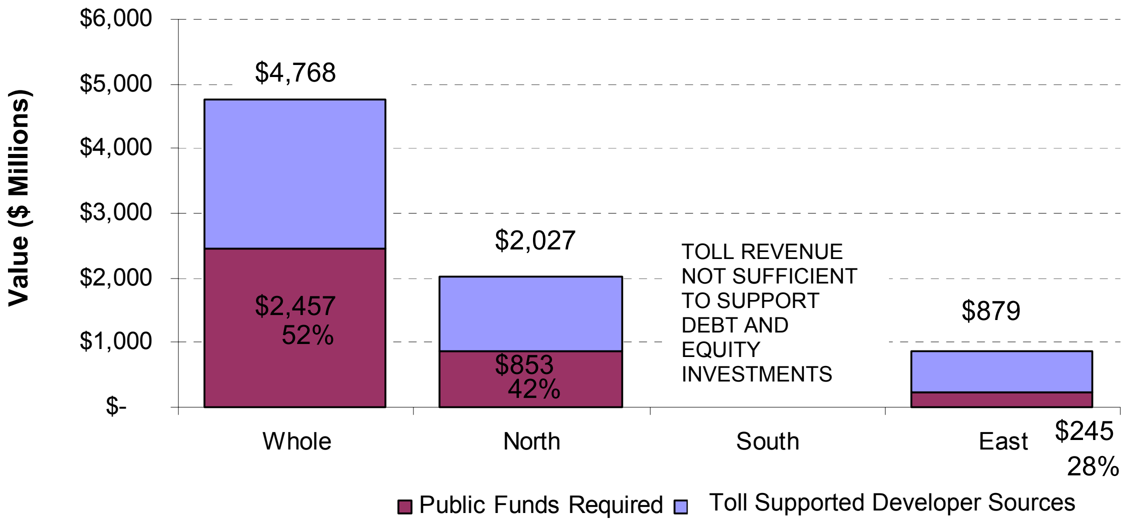


Figure 4-3. Optimistic PPP Finance Scenario

The total public funds required in this scenario are $2.5 billion for the entire Loop. The North and East segments as stand alone projects would require significantly less public funding. It should be noted that the South segment alone is not financeable in this model due to the relatively low traffic assignments as compared to the high construction costs and maintenance over time.

Scenario 5 - Private equity long-term PPP finance results

As discussed earlier, the PPP results above (Scenarios 3 and 4) do not include the private sector's ability to deliver common value propositions associated with the PPP delivery model. In order to include these, a 75-year PPP concession delivery model using patient private sector equity has been developed.

Rather than focusing on the cost of debt or any one cost or revenue element of a project, the comparison between the tax-exempt and PPP finance methods should be measured according to the whole life value that an asset can provide to the public.

The long-term equity PPP finance model integrates some key differences compared to the tax-exempt finance models. These differentiators include:

- Traffic and revenue;
- Operating and maintenance (O&M) costs (including R&R reserve funding);
- Leverage and finance;
- Tax and accounting assumptions.

These differentiators are explained in more detail in the following sections.

Traffic and Revenue

Forecast traffic and toll revenue are the variables that have proven historically to be the most volatile on any given infrastructure financing. This makes the traffic and revenue forecast all the more important in determining the value of the project. There are fundamental differences in the approach to forecasting these two elements between a tax-exempt financing and a private financing.

The first key difference relates to traffic volumes. In a traditional Finance, revenue bondholders and the rating agencies will require a T&R study based purely on a debt recovery basis, as there is no equity provided in the overall project capital structure. As a result, this yields a comparatively conservative forecast against a privately financed scenario. The T&R study that has been developed for this Project utilizes this conservative forecast bias.

Under PPP finance, the T&R forecast is based on a typically more optimistic “equity” view of traffic. This is a forecast based on a private sector partner’s “upside” view of traffic volumes.

Another key difference relates to tolling policy. A private entity as an equity investor is a revenue maximizer and, as such, is highly incentivized to increase tolls to their utility maximizing point, while keeping within the caps imposed by the related government partner in the PPP contract.

The same incentive does not usually exist for the public sector, which is more focused on providing a service in accordance with standards and recovery of costs. The public sector is also subject to greater political pressure to maintain “reasonable” toll rates with limited frequency and magnitude of toll rate increases. The private sector partner can be significantly more aggressive in their revenue forecasting, thus allowing them to borrow more against the revenue stream to raise a higher concession fee or reduce the public funds subsidy at financial close.

In a recent survey performed by KPMG that compares the public and private sector views of traffic on toll roads in the US, it was found that on average the private sector forecasts can be 30-40% higher than the Traditional bonding capacity T&R forecasts developed.

For the purposes of this analysis, the optimistic case T&R utilizing $18 VOT was increased by 30% to approximate this phenomenon.

Operating and Maintenance ("O&M") Costs

In many PPP procurements, it is typical for the private sector partner to experience lower operating and maintenance costs compared to the public sector in a traditional design-bid-build agreement. In a PPP agreement, the private sector partners often construct projects to minimize long-term maintenance costs over the term of the contract. Additionally, many private sector contractors have lower operations costs due to better cost efficiencies, application of innovation and technology and operational economies of scale.

For analysis of Scenario 5, there have been no modifications to this scenario to simulate cost efficiencies to be achieved by a private sector entity. Toll operations costs have been increased by 30% to match the increase in traffic that is estimated in this scenario.

Leverage and Finance

A traditional tax-exempt debt scenario is funded with 100% debt. In order to gain comfort with the risks in the project, such as fluctuating traffic volumes or higher-than-expected costs, bond insurers require a rigorous credit analysis be performed by the rating agencies in order to obtain at least an investment grade rating.

To achieve such a rating, the rating agencies require significant protection to be built into the financing structure to ensure contingency in a time of need. These protections include debt service coverage hurdles and the funding of reserves for maintenance, ramp-up and debt service. These protections have the effect of trapping surplus cash flows as they are locked up as contingency and therefore cannot be leveraged into an upfront concession fee or to serve as reduction in government funding for a given project.

The inclusion of private equity in a concession-based financing structure facilitates the release of a portion of this trapped capital by injecting equity financing, which acts as a cushion and allows the protections for debt holders to be reduced. This has a direct impact on reducing a funding gap or enhancing an upfront concession fee as cash flows that previously were locked up as contingency can now be used to increase the borrowing by the Project Company.

In this scenario, it is assumed that the Project Company will incur initial Project leverage of 80 percent debt to 20 percent equity. In addition, it is assumed that the Project company will be able to increase it's leverage to 85 percent debt and 15 percent equity in 2020 due to a reduction in the risk profile of the project post construction and traffic ramp up. This ability of the Project Company to increase it's leverage translates into a refinancing gain for the Project Company which typically enhances the return to the equity investors.

Tax and Accounting

As mentioned previously, a key taxation benefit to municipal finance is that interest earned by the investor is exempt from federal tax and, as a result, the effective cost of debt is reduced. In addition, there is no income tax payable by the procuring authority on cash flows from toll revenues that are surplus to the costs of the project.

This tax exemption does not apply to private sector commercial bank or capital markets debt (except for PABs as mentioned previously) and thus the effective cost of debt is higher.

With regard to income tax, across the life of a project in a PPP financed deal, the Project Company will benefit from the deductibility of both interest and depreciation for tax purposes. The result of this, together with brought forward operating losses, is that the Project Company does not begin paying tax until well into the life of the contract.

This reduction of taxes during the term of the contract lessens the significance of the future tax cost in present day dollars. In fact, there are some tax optimization structures proposed in the market today that result in the Project Company paying no income tax at all over the life of the concession. The net effect of this is that across the life of a project, the after-tax difference between the two financing methods is generally not significant and thus the impact on the amount of finance raised upfront is generally not material.

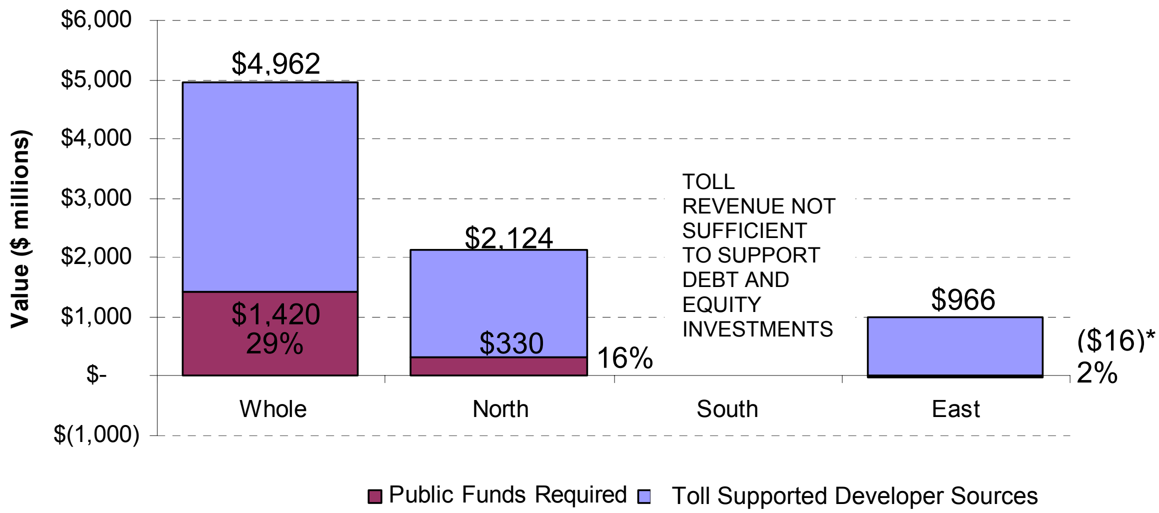
In this scenario, it is assumed that the Project Company will pay taxes and will utilize tax depreciation techniques to minimize the overall tax paid.

Results

The private equity long-term PPP scenario uses all of the primary underlying inputs and finance assumptions of the Optimistic PPP concession based model as noted above with the following differences:

- Longer 75-year PPP concession term (instead of 50 years)
- Increase optimistic T&R revenue by 30%
- Increase transaction-related operating expenses by 30%
- Allows for a debt refinance in 2020

The results of this scenario are shown following:



* ($16) represents an estimated concession that will be paid to the procuring authority.

Figure 4-4. Private Equity 75-Year PPP Finance Case

The public funds required in this scenario are approximately $1.4 billion for the entire Loop Project. The total funding requirements for the entire Loop are approximately $5.0 billion, including debt and equity investments. The North and East segments as stand-alone projects would require significantly less public funding. The East segment as a stand-alone project is represented as ($16) million in the graphic above because it represents negative funds required from the public sector, or in other words a concession payment to the procuring authority. Conversely, the South segment would not be able to secure private-sector financing as a stand-alone project.

5. SUMMARY

Table 5-1 and 5-2 summarize the financial results across the various scenarios analyzed in this Memorandum:

Table 5-1. Summary Table of Funds Required (Scenarios 1 through 4))

Scenario	Description	Conservative Public Funds Required ($Millions)	Optimistic Public Funds Required ($Millions)
1 and 2	Traditional Finance (Whole)	$3,925	$1,827
1 and 2	Traditional Finance(North)	$1,245	$553
1 and 2	Traditional Finance(South)	NA	$1,325
1 and 2	Traditional Finance(East)	$1,068	$ 69
3 and 4	PPP 54-year (Whole)	NA	$2,457
3 and 4	PPP 54-year (North)	NA	$ 853
3 and 4	PPP 54-year (South)	NA	NA
3 and 4	PPP 54-year (East)	NA	$ 245

Table 5-2. Summary Table of Funds Required (Scenario 5)

Scenario	Description	Public Funds Required / Concession Payment ($Millions)
5	PPP 75-year Private Equity (Whole)	$1,420
5	PPP 75-year Private Equity (North)	$ 330
5	PPP 75-year Private Equity South)	NA
5	PPP 75-year Private Equity (East)	($ 16)

This Memorandum presents an overview of the range of financing structures available to the Loop Team based on the preliminary inputs provided by HNTB, ABMB and URS.

The key outputs presented in Section 4 are a range of the estimated contributions required from the public sector to enable the financial feasibility of the Project under both traditional finance and PPP cases.

Baton Rouge Loop
Implementation Plan

Baton Rouge Loop

www.brloop.com

Technical Memorandum No. 5
Processes & Mechanisms for Implementation

July 2008

East Baton Rouge | West Baton Rouge | Livingston Parish | Ascension Parish | Iberville Parish

Baton Rouge Loop
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FOREWORD

The Baton Rouge Loop will be a free flow toll road around the Baton Rouge metropolitan area. The Implementation Plan phase of project development is the initial part of the process in planning, design, construction, and operations of the new roadway. The Implementation Plan phase is to analyze engineering, environmental, and financial feasibility of the proposed loop as well as solicit public, agency, and political involvement in initial planning for the project. The end result of the Implementation Plan phase is to identify and lay out the process for activities going forward that will lead to opening and operations of the loop.

A series of six technical memorandums have been developed to document the analysis and other activities during the Implementation Plan phase. These technical memorandums present and document work in the areas of engineering, environmental, traffic & revenue, financial feasibility, community involvement, and implementation planning. This technical memorandum is one of the series of six.

The team of planners, engineers, and other specialists developing the Implementation Plan are indicated below:

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1. INTRODUCTION

The Implementation Plan phase of the Baton Rouge Loop began in May 2007. Technical Memorandum No. 5 is one of a series of six technical memorandums prepared as a result of the Implementation Plan phase of the project. The intent of TM 5 is to identify and summarize succinctly the processes, mechanisms, and other factors that are important to the successful opening and operations of the project. It considers the engineering, environmental, community, agency, political, finance, and policy inputs that are in play.

2. DESCRIPTION OF BATON ROUGE LOOP SYSTEM

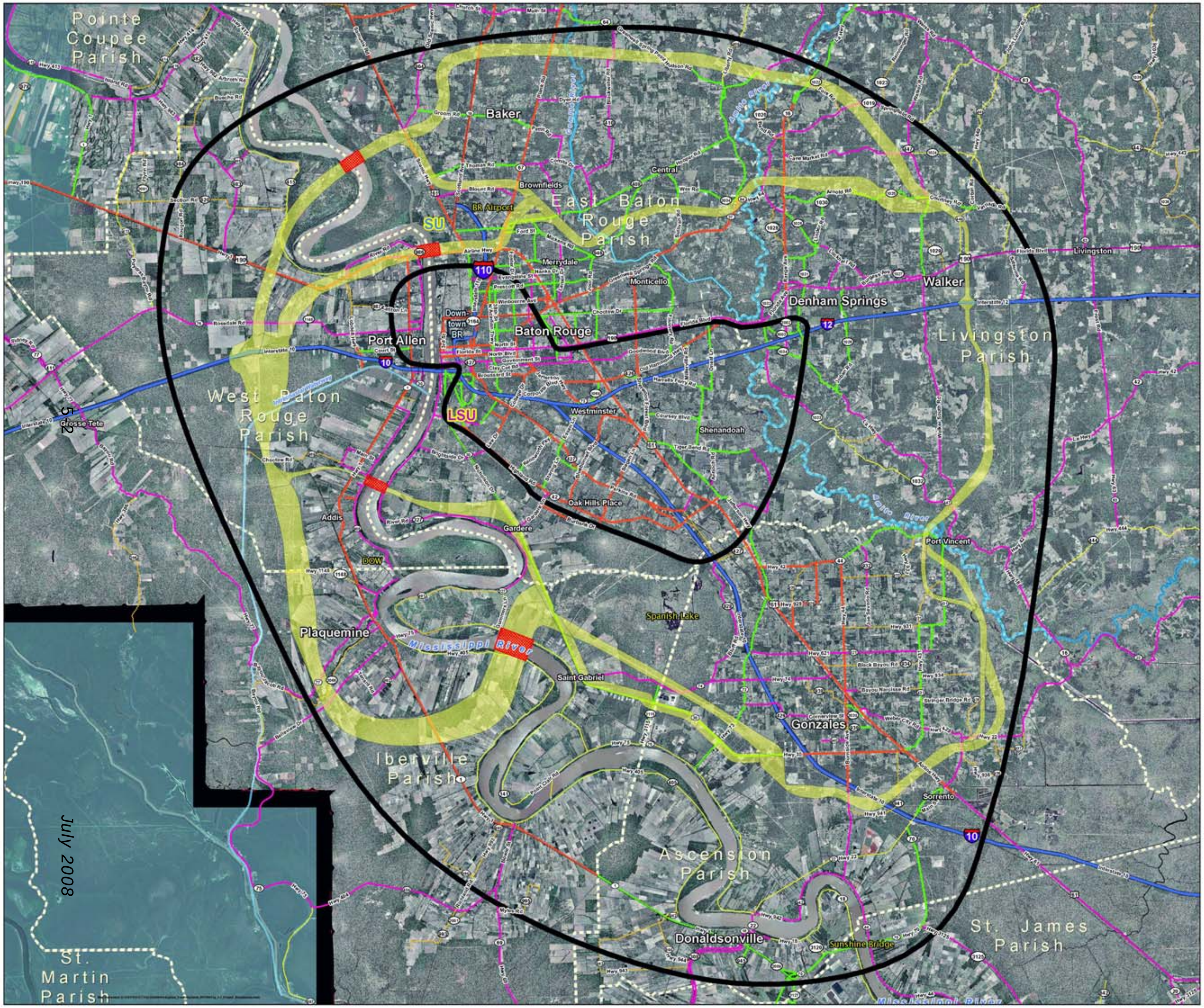
The Baton Rouge Loop is a proposed 85 to 90 mile long circumferential free-flow toll roadway around Baton Rouge. The total Loop is composed of three individual components: 1) a north bypass linking I-10 west of the Mississippi River to I-12 in Livingston Parish; 2) a south bypass linking I-10 west of the Mississippi River with I-10 in Ascension Parish; and 3) an east bypass linking I-10 in Ascension Parish with I-12 in Livingston Parish.

The Loop corridor traverses five parishes in the Baton Rouge region: East Baton Rouge, West Baton Rouge, Livingston, Ascension, and Iberville. The Loop crosses the Mississippi River in two locations – one new crossing location south of the existing I-10 bridge at downtown Baton Rouge and one location north of downtown, either in the existing US 190 bridge corridor or just north of Southern University. Where the Loop crosses I-10, I-110, and I-12 (and perhaps other major US and state highways), the Loop is planned to have system-to-system directional 4-level interchanges. Other interchanges will vary and will most commonly be diamond-type interchanges.

Numerous corridors were identified by the Loop planning team early in the Implementation Plan process. Over the course of the analyses and based on engineering, environmental, agency, community, and finance inputs, these early corridors have been refined to a narrow set of locally preferred alternatives that are being reported out of the Implementation Plan and will move forward into subsequent phases of the project. These locally preferred alternatives, which emerged late in the Implementation Plan phase, are presented on Figure 2-1.

The estimated implementation cost of the project in 2008 ranges from $3.6 billion to $4.5 billion. The actual implementation cost ultimately will depend on which single corridor is selected for the Loop and the design features that are adopted (such as detailed alignment, number of lanes, interchange locations, and Mississippi River bridges).

Locally Preferred Corridors



Legend

- Project Boundaries
- Rail
- Functional Roads
  - Principal Arterial Interstate
  - Principal Arterial
  - Minor Arterial
  - Major Collector
  - Minor Collector
  - Local
- Potential Mississippi River Crossings
- Potential Corridor
- Parish Boundary

Figure 2-1
Locally Preferred Corridors

Image Source: USGS, 2006

Location Map

The project is being planned as a toll road as a means to provide the needed financing, taking advantage of Louisiana's toll enabling legislation from 1997 and more recent legislation in 2006 that improves the prospects for total financing.

While the Baton Rouge Loop is stand alone in its purpose and need, the Implementation Plan process has identified that several feeder facilities into and out of the Loop may have merit in order to serve local traffic needs and gain the full value of the Loop system. These potential "spurs" have not been evaluated in detail in the Implementation Plan, but are recognized for further evaluation during upcoming phases of project development.

Technical Memorandum No. 1 presents more detail on the corridors, design features, and costs of the Loop.

3. MASTER PLAN APPROACH WITH PHASED IMPLEMENTATION

Master Plan of Total System

The Baton Rouge Loop is being planned as a total circumferential roadway around the Baton Rouge metropolitan area, to satisfy the congestion relief and safety needs of today and to plan for Baton Rouge's future. The analyses have shown that some sections of the Loop will provide more immediate congestion relief, may be more readily financed, and/or may meet other elements of purpose and need than other sections of the Loop. To recognize a total Loop concept yet also recognize the greater potential of some segments over others, a Master Plan approach has been adopted for the total project. This will ensure that the total loop system is formally recognized and planned, yet provides the flexibility to implement the project in a logical sequence that recognizes traffic needs, logistics, finance, and other factors.

Discussion is provided below on traffic, toll revenues, and finance potentials. These are important factors that will help determine how the project moves forward. The preliminary analyses that have been conducted in these areas are based on a "representative loop corridor" that was a reasonable starting point based on the status of the corridor development process as it had evolved in the 4th quarter 2007 at the time the traffic and toll analyses were initiated. While the representative corridor does not match precisely the ultimate locally preferred corridors that were presented previously in this technical memorandum (Figure 2-1), it is sufficient to determine the high level preliminary estimates of traffic and revenue for the Implementation Plan phase of the project. As the Baton Rouge Loop evolves throughout upcoming phases, these analyses will continue to be refined to represent the adjustments in corridors and other project features that will occur as a result of the project development process.

The "representative corridor" used in the Implementation Plan analyses is shown on Figure 3-1.

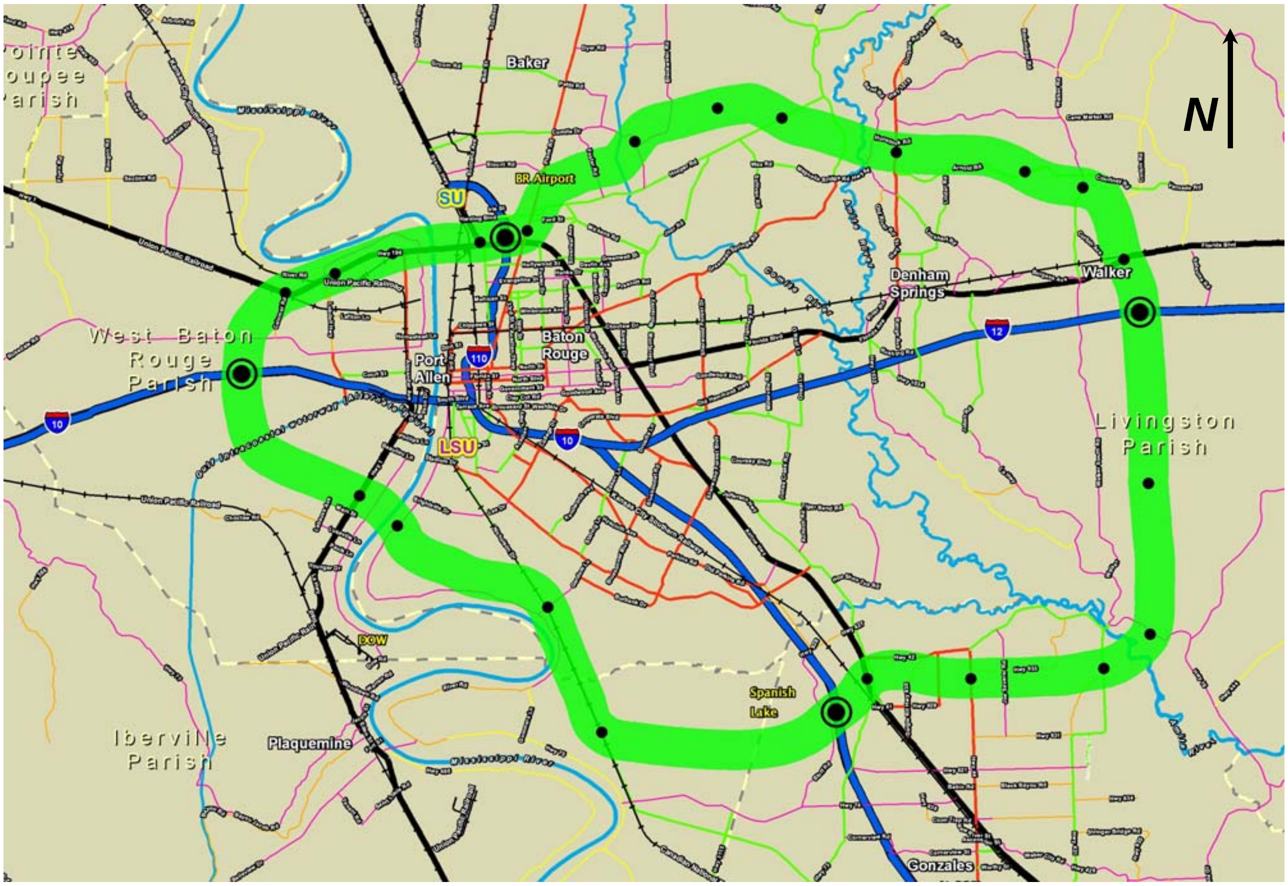


Figure 3-1. Representative Corridor

Initial Traffic Analyses

Preliminary traffic and toll revenue estimates performed during this phase of the Loop project represent the early stages of a four-stage process of evolution and refinement of the revenue analyses throughout the total duration of the planning/design stages of the project. This process is shown on Figure 3-2.

The existing Baton Rouge regional transportation model, originally prepared by the Louisiana Department of Transportation and Development (DOTD) and Metropolitan Planning Organization (MPO), has been utilized to perform preliminary estimates of the traffic that would use the new Baton Rouge Loop. These traffic assignments were made first by modeling the Loop as a toll-free facility (like I-10 and I-12) and then re-running the model as a toll road (to account for a reduction in traffic because some motorists will not want to pay a toll). Opening year of the facility was established as 2016.

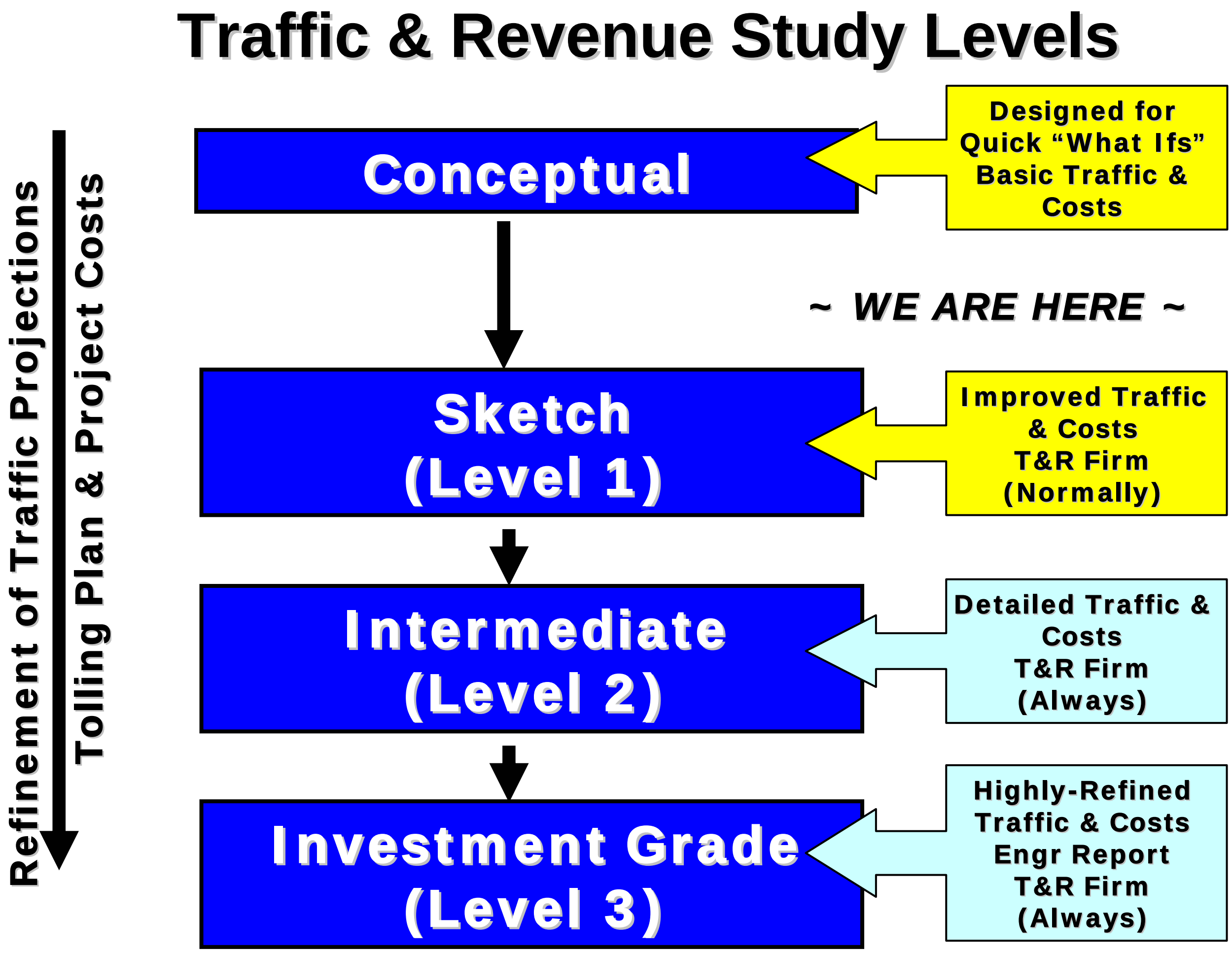


Figure 3-2. Progression of Traffic and Revenue Analyses Over Course of Baton Rouge Loop

The traffic model outputs indicate that the north portion of the Loop, from I-110 in East Baton Rouge Parish to I-12 in Livingston Parish, will be the most heavily traveled in the opening year. The second most heavily traveled sections are from I-10 in Ascension Parish to I-12 in Livingston Parish.

Figures 3-3a and 3-3b graphically present a generalized description of average daily traffic (ADT) assignments throughout the toll Loop corridor in years 2016 and 2032. Since traffic translates directly to toll revenues, one can use this graphic to get a feel for the highest revenue producing sections of the Loop.

Additional more detailed information on traffic modeling, traffic assignments, and toll revenues is provided in Technical Memorandum No. 3.

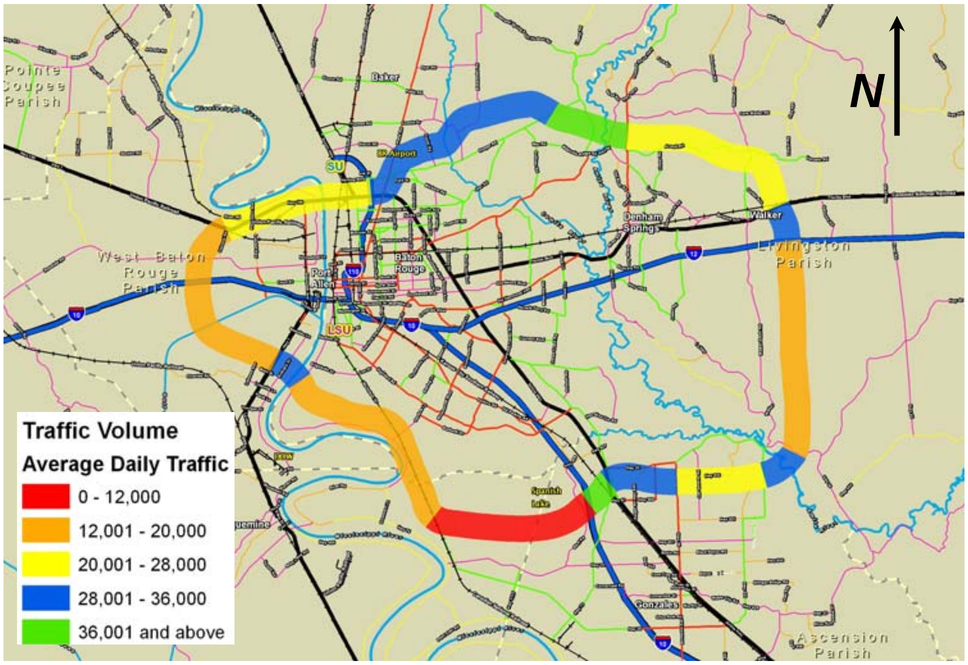


Figure 3-3a. Average Daily Traffic (ADT) Assignments in Year 2016

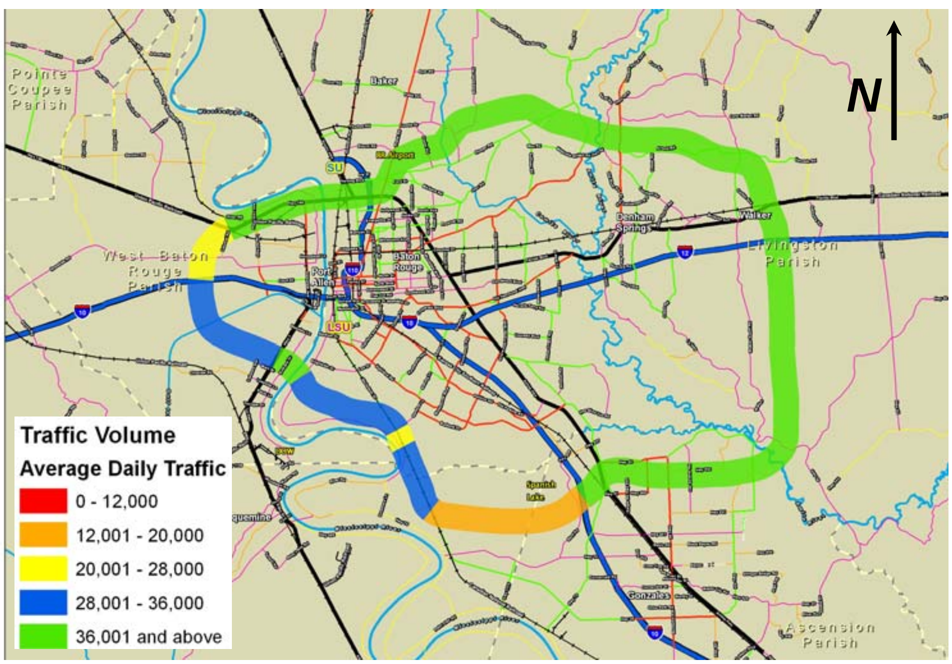


Figure 3-3b. Average Daily Traffic (ADT) Assignments in Year 2032

Toll Revenues and Finance Considerations

Toll revenue, when compared to the implementation cost, is the most important determinant of the financial viability of the Baton Rouge Loop project. In order to gauge the preliminary finance potentials of different segments of the Loop, and begin to set the stage for additional and more detailed analyses as the project moves forward, preliminary toll revenue and cost estimates were developed not only for the total Loop but also for each of the three bypass segments that form the entire Loop (north bypass, south bypass, and east bypass), as if they were stand alone projects. The revenue estimates were made for an open road tolling system, as illustrated on Figure 3-4, which means 100% electronic toll collection and no stopping to pay the tolls.

These inputs (and others) were then run through the finance models to determine the best ratios of revenue vs. cost for different segments of the Loop.

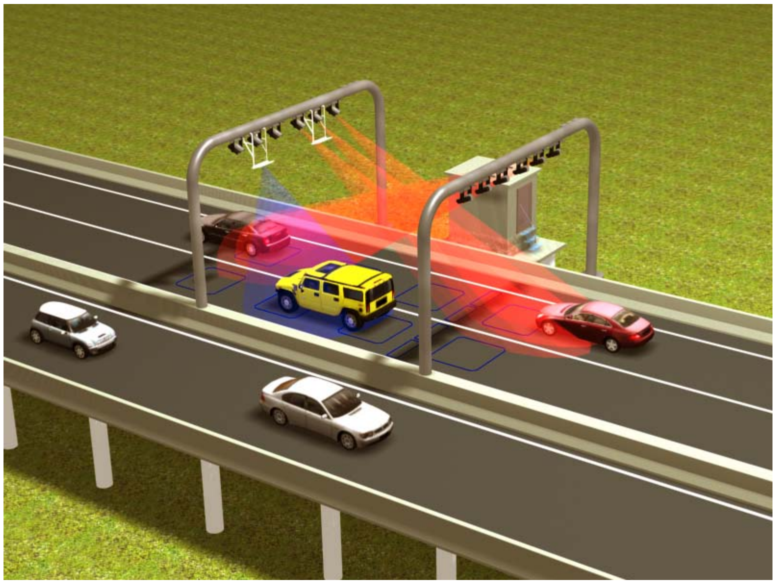


Figure 3-4. Baton Rouge Loop Open Road Tolling

Technical Memorandum No. 4 presents more detail on the results of the preliminary finance modeling for the total loop and each of the three bypass segments that was performed during the Implementation Plan phase of the project.

Potential Sequence of Implementation

Based on the preliminary results of the finance models (including implementation costs, traffic needs, and toll revenues) the Loop team has begun to look at logical segments of the project that may be staged within a potential phased implementation plan. When all phases are constructed, Baton Rouge will have a total loop. One must recognize that actual phasing of the project will be a function of several variables which are unknown at this time, and thus the actual phasing cannot be specified or predicted with certainty. These variables include the way the project is delivered (public toll agency or public-private partnership), the specifics of various financing packages, changing traffic needs, agency inputs, and other local factors. Final sequencing will be determined during subsequent phases of the project over the next two to four years.

The potential sequencing plan is shown on Figures 3-5 through 3-8.

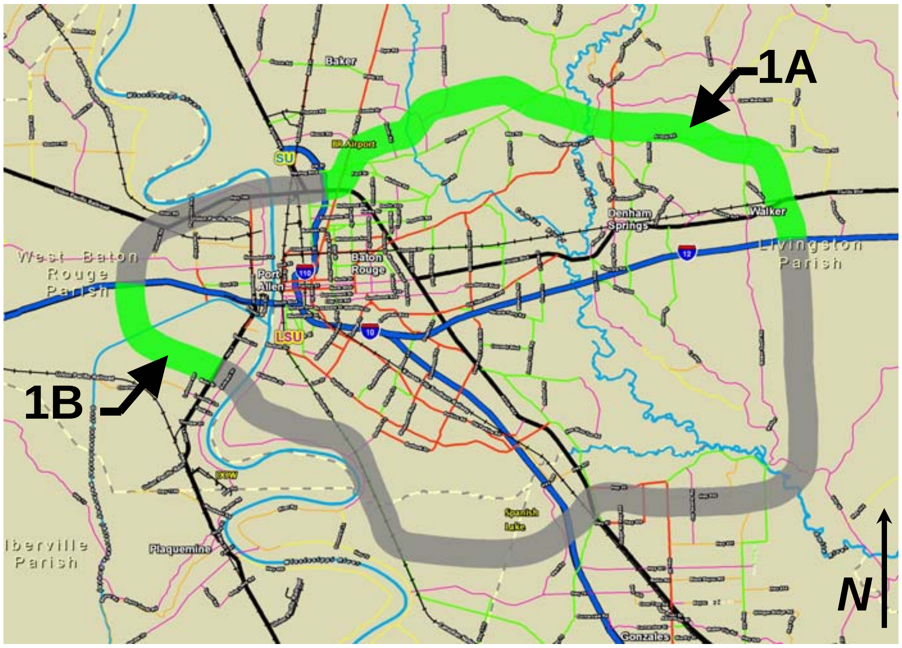


Figure 3-5. Potential Sequencing Plan – Phase 1

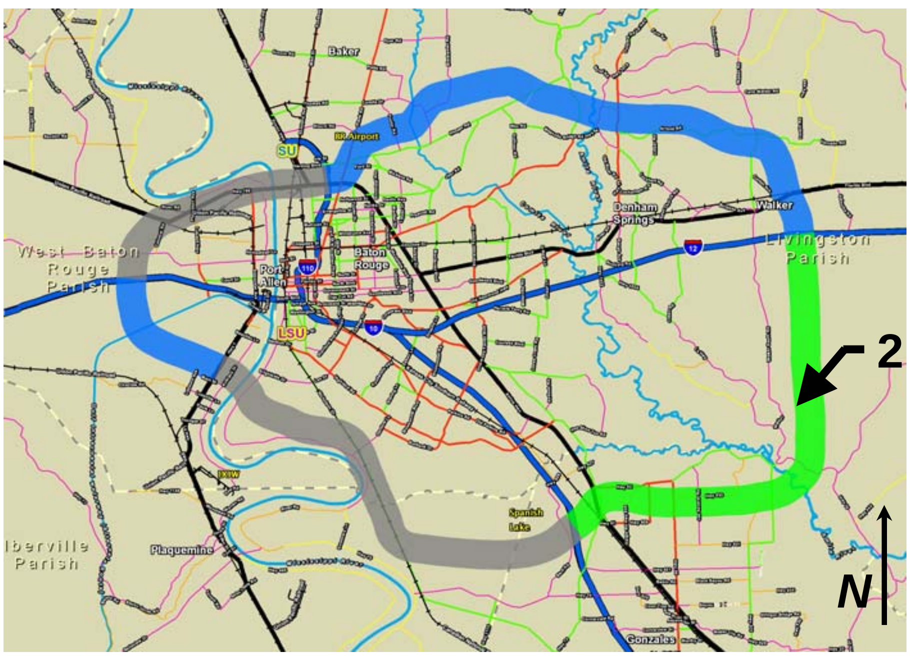


Figure 3-6. Potential Sequencing Plan – Phase 2

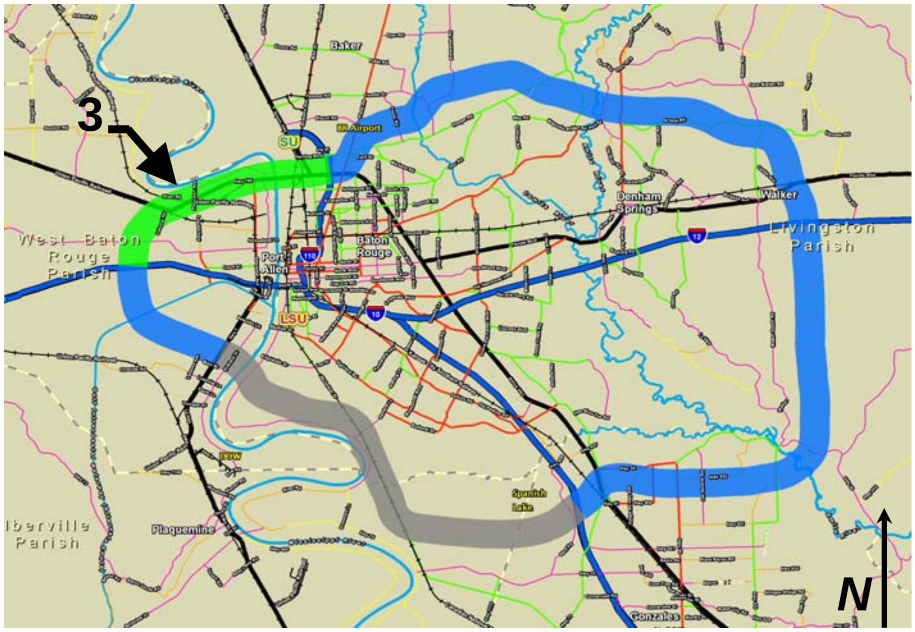


Figure 3-7. Potential Sequencing Plan – Phase 3

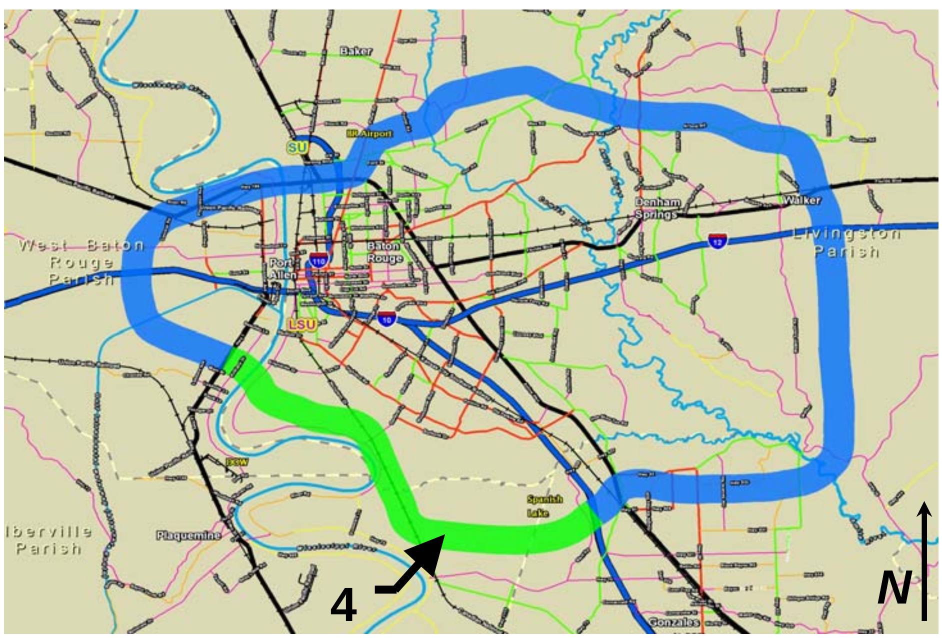


Figure 3-8. Potential Sequencing Plan – Phase 4

4. CORRIDOR PRESERVATION APPROACH

Even under the aggressive project development scenario that is being advanced for the Baton Rouge Loop, it will be approximately three years or more until right-of-way acquisition begins. Also, once it begins, it is unlikely that all of the Baton Rouge Loop will commence development simultaneously, so the right-of-way acquisition will continue for several years. For these two reasons, it is important to develop and adopt a corridor preservation approach for the project. A corridor preservation plan will facilitate the project development in several ways: 1) it will be a means to ensure that the undeveloped portions of the route(s) that have been selected for the Loop will have the best chance to remain undeveloped; 2) for developed properties already in place which may be affected by the Loop, it will provide information and processes that allow for orderly planning and adjustments; and 3) it will be an important element of the Record of Decision that is issued by the FHWA and enables the project to move forward.

For the first two items, a corridor-level framework and goals for corridor preservation will be needed. Once this is accomplished, the responsibility for implementation of the corridor-level preservation approach will fall to the individual parishes and municipalities along the route. These local governments will be able to use information campaigns, zoning, and permitting functions as a means to educate potential land developers and maintain the corridors free from development until such time as rights-of-way are purchased in an orderly manner.

The corridor preservation approach for the Baton Rouge Loop that ultimately is adopted should be developed hand-in-hand with the land use planning component of the project that is envisioned in the next phase of the project.

5. PROJECT DELIVERY

5.1 Delivery Steps

It is targeted that one or more segments of the Baton Rouge Loop will be constructed by the end of 2016, pending all the necessary steps are achieved for successful delivery. This is an aggressive timetable considering the magnitude of the project and the collaboration required among various agencies. The fast pace of the project is spurred by the need for congestion relief in the Baton Rouge metropolitan region, a desire to minimize impacts to expanding development, and financial feasibility considerations. Delaying the project two or three years from this overall schedule could substantially increase the number of impacts (due to the rapidly growing region), escalate construction costs, and delay the opportunity to collect toll revenue to offset costs, thus making it less appealing for public and private investors.

The general process overview and timeline for the project is shown in Figure 5-1.

Figure 5-1. Baton Rouge Loop Total Process Overview and Timeline

Implementation Plan Phase

Currently, the project is at the end of its initial phase, the Implementation Plan. Components of the Implementation Plan include corridor location(s), assessment of traffic and revenue potentials, development of financing plan, phasing plan for construction, and public outreach and community involvement. These analyses are documented in a series of six technical memorandums.

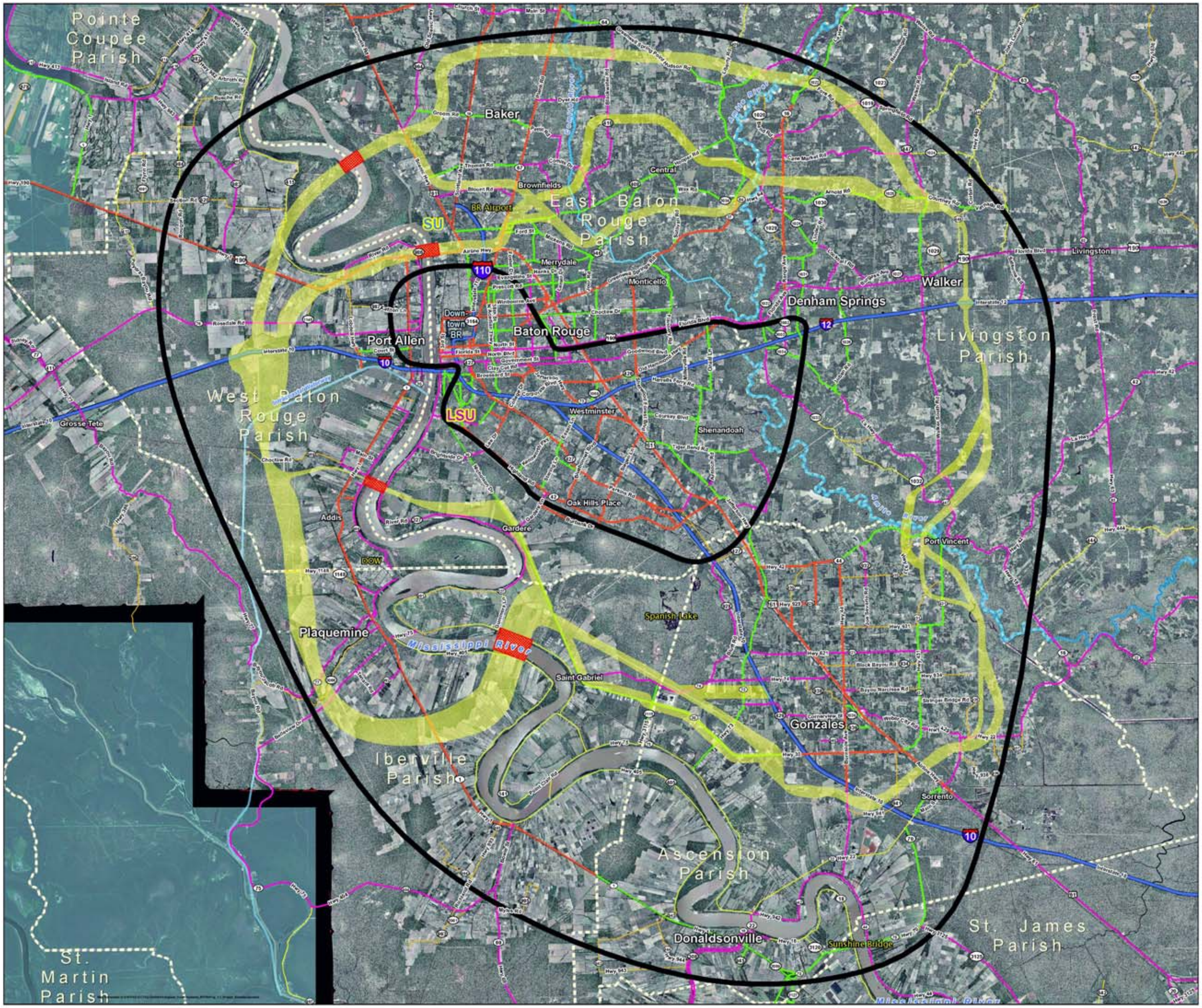
NEPA Phase

The next step towards project delivery is the NEPA Phase. NEPA (National Environmental Policy Act) is a federally proscribed process that is required for major public infrastructure projects such as the Baton Rouge Loop that may be funded at least in part by federal sources. The purpose of NEPA is to make sure that all reasonable alternatives are considered to meet purpose and need and that the public is involved in the decision-making process. Components of the NEPA process include Draft Environmental Impact Statement (EIS) document(s), Public hearing(s), Final EIS document(s), and Records of Decision. For the Baton Rouge Loop project, the Federal Highway Administration will be the lead federal agency sponsoring the project with ultimate responsibility for the results of the NEPA process. Leadership by the FHWA at this phase of the project will keep open the potentials for federal funding participation in future phases of the project. For the Baton Rouge Loop, a two-tiered Environmental Impact Statement (EIS) process has been identified.

Tier 1 EIS -- First, the Tier 1 EIS will continue to evaluate the corridor alternatives that move forward from the Implementation Plan for environmental, socioeconomic and other impacts. Figure 2-1 presented the locally preferred corridor (two alternatives for some segments) that emerged from the Implementation Plan phase of the project. Entering the NEPA phase, Figure 5-2 presents the locally preferred corridors (to date) plus additional corridors that are recommended to be evaluated further within the Tier 1 EIS process.

The public involvement program that began in the Implementation Plan phase will continue throughout the Tier 1 EIS. It is likely that additional adjustments and refinements will be made to the Loop corridors throughout the Tier 1 process, and ultimately a single Baton Rouge Loop corridor will be selected and identified within a Tier 1 Record of Decision issued by FHWA. The Tier 1 EIS/ROD is scheduled to be completed by late 2009.

Corridors Recommended for Tier 1 EIS



Legend

- Project Boundaries
- Rail
- Functional Roads
  - Principal Arterial Interstate
  - Principal Arterial
  - Minor Arterial
  - Major Collector
  - Minor Collector
  - Local
- Potential Mississippi River Crossings
- Potential Corridor
- Parish Boundary

Figure 5-2
Recommended Corridors to Begin Tier 1 EIS

Image Source: USGS, 2006

Location Map

Baton Rouge Loop

Tier 2 EIS -- Within the selected Tier 1 EIS corridor for the total Loop, one or more Tier 2 EISs will be prepared to identify and evaluate alternatives for detailed alignments, design features, costs, right–of-way footprint requirements, and impacts of individual sections of the Loop. The public involvement program that began in the Implementation Plan and Tier 1 EIS phases will continue throughout the Tier 2 EISs. Tier 2 Records of Decision will be issued for each logical segment of the Loop. The Tier 2 EIS (initial segment or multiple segments of the Loop) is targeted to be complete by the beginning of year 2011.

The overall development plan through the EIS phase for the Baton Rouge Loop is shown on Figure 5-3.

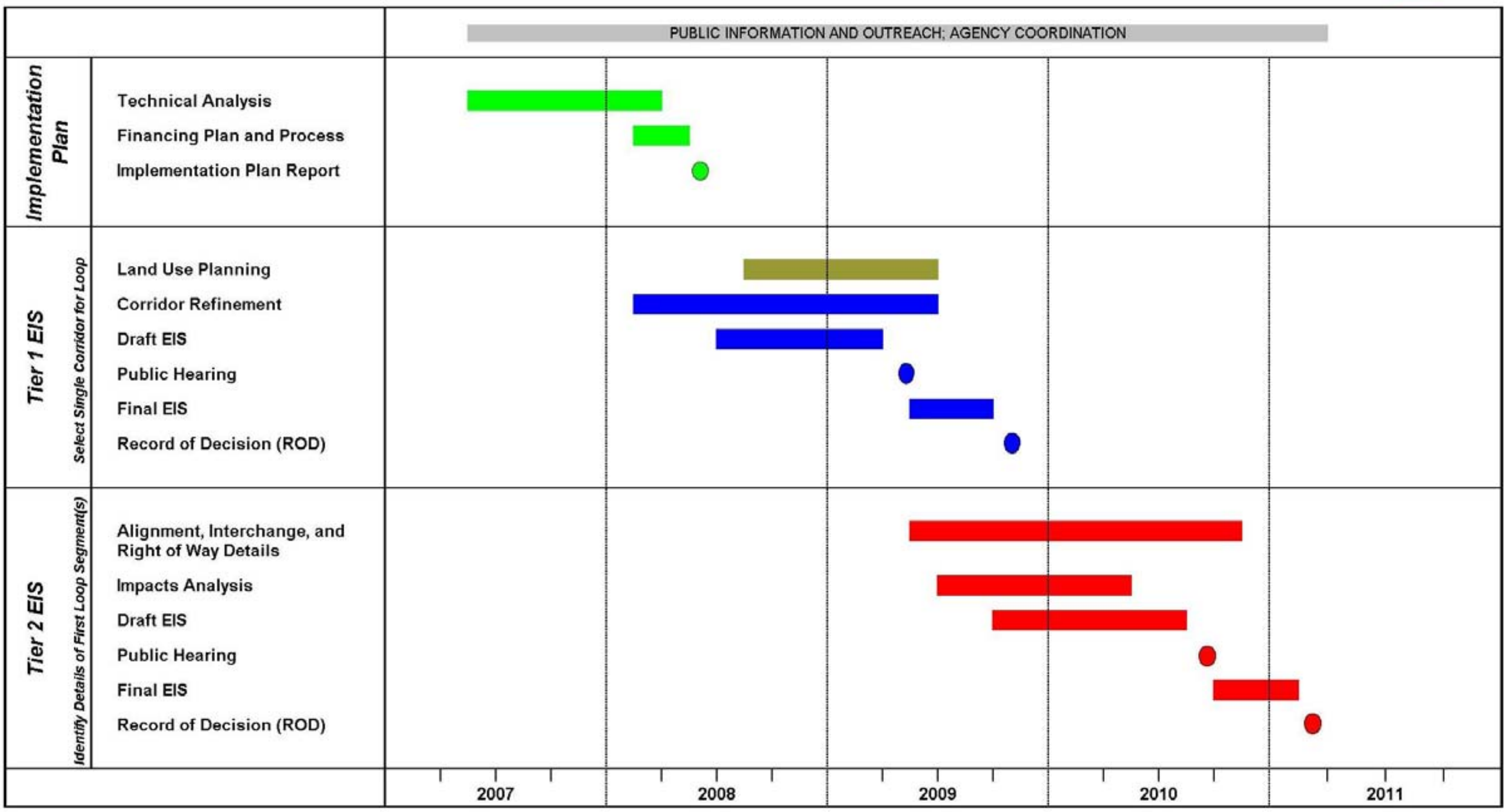


Figure 5-3. Baton Rouge Loop Project Development Plan

Project Delivery Methods and Finance

It is critical that the project financial design, packaging, and delivery methods continually evolve. Finance planning is critical to provide confidence that funds are available to progress the project forward in a timely manner after completion of the planning/design phases. In addition to finance, the delivery methods will continue to be explored by the toll authority. It is uncertain at this time whether this delivery will take place through traditional public toll agency processes or through a public-private partnership approach (see Section 5.2). This will be determined by the toll authority as the project progresses through the process.

Project delivery and finance methods will continue to evolve and should be timed for completion concurrently with the NEPA phase of the project.

Right-of-Way Acquisition, Design, and Construction Phase

Once the proper environmental clearances are issued by the lead and cooperating agencies, right-of-way acquisition, design, and construction will begin for one or more of the BR Loop segments. It is likely that the segments not selected for initial construction could undergo advanced right-of-way acquisition as outlined in a corridor preservation plan. It is estimated that this phase, the final step of the delivery process, would take 4 to 5 years to complete.

5.2 Delivery Methods

Two methods of delivering the project are being considered and have been authorized by enabling legislation in Louisiana. These methods will continue to be explored throughout the continued planning phases of the project and ultimately the most effective way of financing and delivering the project will be chosen.

Traditional Toll Road

In the United States, toll roads traditionally have been developed and operated by local or state toll authorities. These toll authorities, which operate as quasi-government agencies, are typically empowered like state Departments of Transportation to plan, design, acquire rights-of-way, build, and operate the facilities. The toll authority normally is administered by a board of directors that has responsibility for all administrative and operational requirements of the toll road or toll system.

Finance to construct the roads is provided in large part by tax-exempt municipal bonds backed by the anticipated toll revenues generated by the highway facility. For new start toll roads, it is common that the toll-backed bonds are not sufficient to fully cover the cost of a project and supplemental funding from other sources is required. In many cases, the toll revenues on a project, once it is opened, will exceed the annual bond debt service or bonds will be retired and unencumbered revenues will be available that can be reinvested by the toll authority into expanded or new transportation facilities in a region.

Public-Private Partnership (PPP)

The PPP delivery method is becoming more popular as transportation infrastructure funds become scarcer.

PPP refers to contractual agreements formed between a public agency and private sector entity that allow for greater private sector participation in the delivery of transportation projects. The term "public-private partnership" is used for any scenario under which the private sector assumes a greater role in the planning, financing, design, construction, operation, and maintenance of a transportation facility compared to traditional procurement methods.

Traditionally, private sector participation has been limited to separate planning, design or construction contracts on a fee-for-service basis – based on the public agency's specifications.

Expanding the private sector role allows the public agencies to tap private sector technical, management and financial resources in new ways to achieve certain public agency objectives such as greater cost and schedule certainty, supplementing in-house staff, innovative technology applications, specialized expertise or access to private capital.

The private partner can expand its business opportunities in return for assuming the new or expanded responsibilities and risks.

Some of the primary reasons for public agencies to enter into public-private partnerships include:

- Private ventures can share some of the risk, while making a profit appropriate to that risk
- Public agencies can build desired projects now rather than later
- Public agencies can save on maintenance costs by extending the private sector role not just through design and construction, but also through operations and maintenance

These two delivery structures, traditional and PPP, many times will overlap with each individual project requiring different approaches. This is illustrated on Figure 5-4.

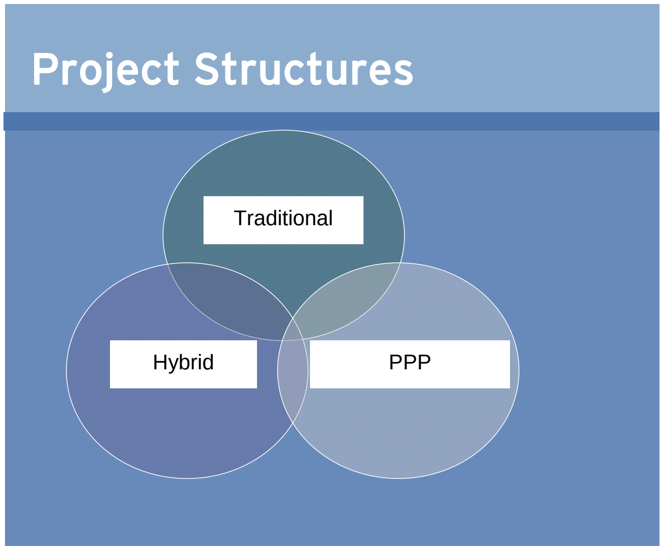


Figure 5-4. Delivery Structures for the Baton Rouge Loop

5.3 Enabling Legislation

There has been a series of toll enabling legislation enacted by the Louisiana Legislature beginning in 1997. These actions indicate the recognition by the Legislature of the need for new and innovative ways to finance and deliver Louisiana's needed transportation infrastructure. The key legislation is discussed below.

Enabling Legislation

1997 - The Louisiana Legislature passed toll enabling legislation that permits the development of traditional toll roads across the state. This legislation enables any city, parish, or contiguous subdivisions across the state to form a toll authority for the purpose of implementing toll road(s) within its geographic boundaries. The local toll authorities are empowered with similar authority of the DOTD to develop projects.

2001 - The Louisiana Legislature passed legislation creating the Louisiana Transportation Authority (LTA). This legislation gives the LTA statewide jurisdiction to develop traditional toll roads with empowerment similar to the DOTD.

2006 - The Louisiana Legislature passed public-private partnership (PPP) legislation that permits private sector participation in financing, constructing, and operating toll roads across the state. Under this legislation the LTA's authority was expanded to include not only traditional toll facilities but also administration responsibility for PPP project development. A key component of the PPP legislation is the requirement that any potential PPP project must be vetted publicly in House and Senate Transportation Committee hearings prior to execution of the negotiated contract between the LTA and the private entity.

2006 - The Louisiana Legislature passed Transportation Mobility Fund (TMF) legislation targeted at toll road mega-projects such as the Baton Rouge Loop. The TMF is designed to help provide funding to fill the gap between the toll revenues generated by a project and the cost of the project, thereby enabling project development. Any toll agency in the state is eligible to apply for a loan or grant from the TMF to assist in crafting a total finance plan for its project. The LTA is tasked with administering the TMF under guidelines contained within the legislation.

Louisiana Transportation Mobility Fund Description

Act 685 of the 2006 Louisiana Legislature created the Transportation Mobility Fund (TMF). The TMF's sole purpose is to provide funding to fill the gap and provide 100% financing packages for toll mega-projects across Louisiana.

For projects like the Loop, it is intended that local governments and toll authorities generate as much toll revenue as possible from their local projects. Then, the state has the ability to contribute toward the gap funding that is needed to make a project 100% financially viable. Projects that are eligible for TMF funding must be on the Statewide Transportation Plan of mega-projects established and maintained by the DOTD. The TMF can fund up to 50% of the cost of a toll project, with the remainder of the funding required from project level revenues. The Louisiana Transportation Authority administers the evaluation of funding applications from the local toll agencies.

Under this approach, the state will begin to implement its needed mega-projects in a manner where its funding contribution is leveraged with project level toll revenues or other project level funding to create a larger total program than what normally could be delivered with the same level of state investment.

2008 - The Louisiana Legislature began to provide a revenue stream to the TMF by shifting 7% of the sales tax revenues on vehicles from the general fund (where these sales taxes have traditionally accrued) to the TMF. This level of funding is not sufficient for total loop implementation but can serve as a component of the funding that will be needed for continued planning of the project and delivery of the first section of the Loop. The Baton Rouge Loop potentially will compete with other toll projects across the state to access the TMF funds that are expected to be available.

5.4 Delivery Agencies

Currently there are two toll road delivery agencies in Louisiana that have the authority to develop the Baton Rouge Loop toll road.

Capital Area Expressway Authority (CAEA)

Under the 1997 enabling legislation, the Parishes of East Baton Rouge, West Baton Rouge, Livingston, Ascension, and Iberville have incorporated to form the Capital Area Expressway Authority (CAEA) for the purpose of delivering the Baton Rouge Loop toll road. The CAEA board of commissioners consists of the Parish Presidents (or an appointed designee) from each of these parishes, plus the Secretary of DOTD.

The Implementation Plan phase of the Baton Rogue Loop project has been administered under the guidance of the five Parish Presidents functioning as a formal Loop Executive Committee. Future phases of the project will continue to be administered by the five Parish Presidents in their role as board members of the CAEA. The board is currently chaired by East Baton Rouge Mayor-President Kip Holden.

As the Baton Rouge Loop project continues to evolve, the CAEA will need to develop an organizational structure and staff. This will start with a CAEA Executive Director reporting to the board and include organizational components such as engineering, finance, and legal. To assist in the implementation of the Baton Rouge Loop, it is recommended that the CAEA retain an Executive Director by mid-2009 who will report to and work with the board to develop an expanded organizational structure and staff. Continued funding during the Loop planning stages prior to development of the comprehensive financing plan for implementation will be important to the process of creating a staff capability that will guide the Baton Rouge Loop to successful implementation.

If the Baton Rouge Loop is advanced as a traditional toll road, the CAEA is empowered as a state agency to conduct all business necessary to deliver the project.

Louisiana Transportation Authority (LTA)

The LTA is governed by a 9-member board of commissioners consisting of the following members (or their designee):

- Governor
- Secretary of DOTD
- Secretary of Louisiana Economic Development (LED)
- President of Senate
- Speaker of House
- Chairman of House Transportation Committee
- Chairman of Senate Transportation Committee
- Louisiana Statewide Planning Council designee (appointed by Governor)
- At-large business and industry representative (appointed by Governor)

The Secretary of DOTD has traditionally served to chair the LTA.

The LTA is currently the only agency in the state empowered to execute PPP delivery of toll projects such as the Baton Rouge Loop. If the PPP delivery method is chosen for the Baton Rouge Loop, it is expected that the CAEA and the LTA will enter a cooperative endeavor agreement to execute the project development. The agreement should be structured to enable the project to move forward within the state statutes governing PPP delivery, yet also provide ultimate decision-making authority for the Baton Rouge Loop to the CAEA. Details of these arrangements, including potential adjustments to the state statutes, if required, will need to be developed as appropriate.

5.5 Agency Collaboration

In addition to the inter-agency collaboration between the CAEA and the LTA (for TMF funding and if the project is developed as a PPP), other agencies are critical to the successful development of the Baton Rouge Loop. These include the following:

DOTD – The DOTD will not be directly responsible for the Baton Rouge Loop but is a critical partner to achieve successful implementation. DOTD's input will be important with regard to planning the project (NEPA phase), design (the Loop crosses numerous DOTD roadways), construction, and operations (potential operational support). Additionally, the DOTD is an integral part of the LTA, which will be an important collaborative agency regarding project funding and possibly with regard to PPP delivery. It is recommended that a partnering working relationship between CAEA and DOTD be adopted that carries throughout all project phases.

FHWA – The FHWA is the lead federal agency responsible for execution of the Records of Decision that will be developed in the NEPA phase of the project. The FHWA is the agency through which potential federal finance that could come in later phases of the project would be channeled. The FHWA and DOTD work very closely on important mega-projects such as the Baton Rouge Loop. The FHWA will be important throughout all phases of project development.

US Coast Guard – The Coast Guard has navigation jurisdiction over the Mississippi River, and ultimately the crossing locations and navigation design features of the two Mississippi River bridges which are a required part of the Baton Rouge Loop. They will be especially important throughout the NEPA and design phases of the project.

US Army Corps of Engineers – The Baton Rouge Loop corridor will pass through numerous wetlands and cross Mississippi River levees which fall under the jurisdiction of the Corps. It will be important to work collaboratively with the Corps to ensure that potential Loop corridors can be adopted and permitted in compliance with the Corps' regulations for wetlands encroachment and flood protection.

In addition to these four key agencies, there will be numerous other state and federal agencies that are involved throughout the EIS and other phases of the project.

6. FINANCE

6.1 Closing the Gap

Experience from across the U.S. has shown that most new toll roads will not completely pay for their upfront construction and ongoing operations and maintenance costs strictly from the revenue generated from tolls.

Many times, supplemental sources of funding are required to craft comprehensive finance plans to construct and operate new toll projects. To demonstrate the supplemental sources required, a representative example is shown in Figure 6-1:

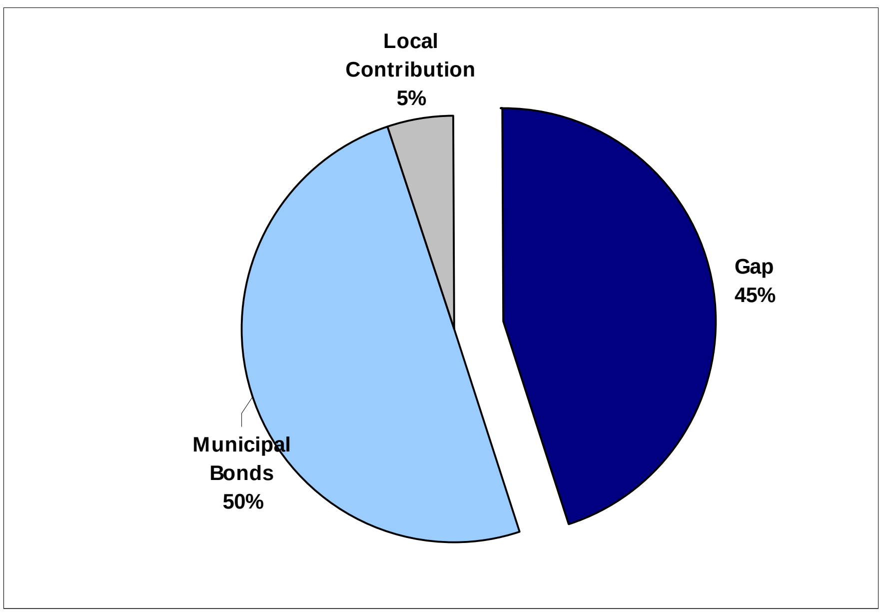


Figure 6-1. Representative New Start Toll Project – Anywhere, USA

Therefore, it is common for various strategies to be implemented to achieve financial viability. Three common strategies to improve project financial viability include: reduce cost of finance, change or reduce project scope, and allow private investment in the project through a Public Private Partnership. To arrive at a lower project gap, one or a combination of any of the above methods could be employed. These methods are discussed more fully in the following section.

6.2 Gap Funding Potential Sources

To supplement traditional toll revenue bond financing, there are several sources that may be contemplated to help lower the overall gap coverage (the difference between costs that are supported by toll revenues and the total cost of a project) that will generate 100%-covered finance plans. These sources include:

TIFIA Loans – The Transportation Infrastructure Finance and Investment Act (TIFIA) was enacted by Congress to assist eligible infrastructure projects by providing federal loans that are backed by the project revenues and user fees. TIFIA provides a way to generate more up-front finance because TIFIA loans supplement the normal municipal bond finance supported by the toll revenues. The TIFIA program is administered by the US Department of Transportation, with the maximum loan permitted under this program being 1/3 of the eligible project costs. Typically, TIFIA financing has a lower average interest rate and greater repayment flexibility than traditional municipal bond finance. All TIFIA financings are subject to TIFIA credit board approvals.

Federal earmarks – Federal earmarks are funds allocated by Congress to specific projects. There is currently an ongoing debate in Congress about limiting future federal earmarks in the next federal highway bill re-authorization (anticipated 2009) so this potential funding source bears watching. If one or more earmarks for the Baton Rouge Loop are to be sought in the 2009 re-authorization, the process of working with legislators and transportation officials should begin now.

State funding: Transportation Mobility Fund – The Transportation Mobility Fund (TMF) was created by the legislature in 2006 as a specific tool targeted at toll mega-projects such as the Baton Rouge Loop. Its sole purpose is to provide the gap funding needed to enable 100% financing plans, thus taking advantage of Louisiana's toll enabling legislation previously enacted. The TMF leverages state funding into a larger total highway program by combining the state funds with locally generated toll revenues and other project-level funding sources.

In the second special legislative session of 2008, the Legislature enacted a law creating a revenue stream for the TMF. This law specifies that 7% of vehicle sales taxes that formerly accrued in the general fund instead would accrue to the TMF. This will create an annual revenue stream estimated to be $18 million per year when fully phased in over seven years. This revenue is available for the Baton Rouge Loop (and other toll projects across the state) and can be utilized to assist with continued planning and design. However, a greater dedicated revenue stream would be required for completion of the design, right-of-way, and construction phases of the entirety of the Baton Rouge Loop.

Figure 6-2 below is a representative example of this funding leverage that is provided under the TMF approach. The example shown is for a $400 million capital cost project with operations and maintenance costs included over 30 years for a total of $1 billlion. Under the traditional funding approach, all of these costs would be born by the state (DOTD funds). Under the toll/leverage approach, only $160 million would be funded by the state (TMF).

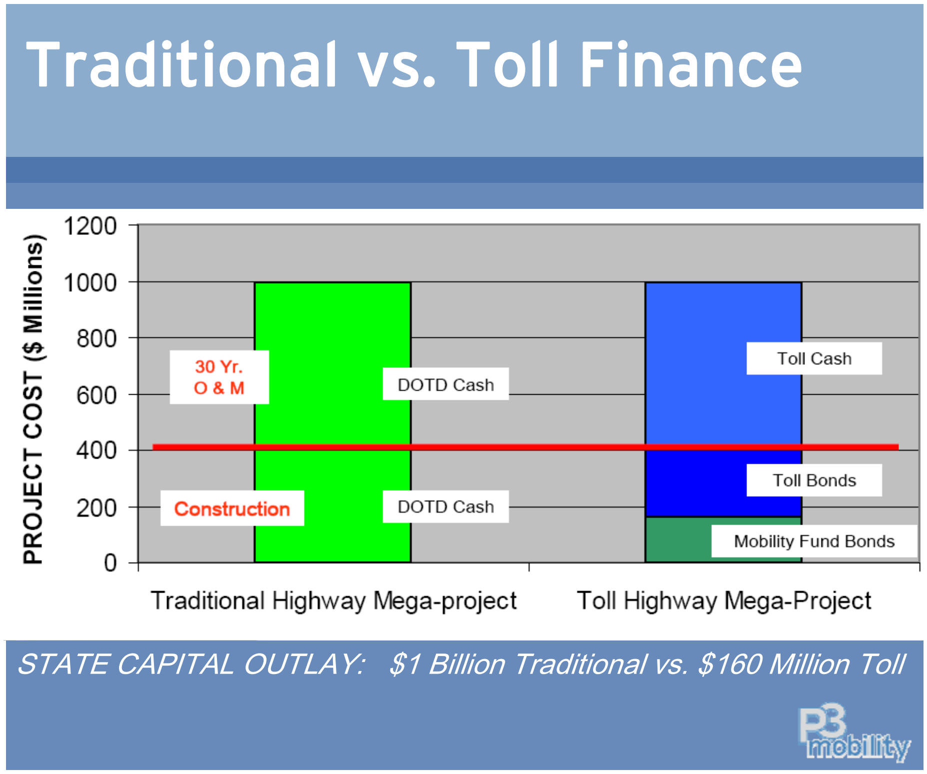


Figure 6-2. Funding Leverage Provided by Transportation Mobility Fund

State Funding: Other Sources – Aside from the TMF, sources of state funding could be the general fund or a share of dedicated transportation funds. In the 2007 legislative session, state general fund money from a budget surplus was dedicated to the Baton Rouge Loop to move the project forward into the EIS phase. Additional surpluses have occurred in 2008 and are expected in coming years that can provide the source of continued general funding through the planning stages of the project.

The state Transportation Trust Fund (TTF) currently receives a dedicated $0.16 per gallon of gasoline sales, which is not sufficient to fund the DOTD's normal programs and is not a likely source of funding for the Baton Rouge Loop. Additional transportation funding for DOTD to supplement the TTF was provided by new legislation passed in the second special legislative session in 2008. This new legislation is estimated to provide approximately $260 million per year in additional transportation funding when fully phased in over seven years. While this still will not be sufficient for Louisiana's entire backlog of needed highway projects, the Baton Rouge Loop can compete for funding from these new resources.

Additional state funding opportunity exists through the Capital Outlay process.

Local Funding – The East Baton Rouge City-Parish already has provided the funding for the Implementation Plan phase of the Baton Rouge Loop. In researching finance models in other regions on projects similar to the Loop, it is observed that local governments sometimes have contributed (in widely varying degrees) for items like planning services (such as for corridor preservation), rights-of-way acquisition, and design. Also, the idea of a corridor-level Tax Incremental Financing (TIF) (where a portion of sales and/or property tax revenues from new developments adjacent to the corridor that are stimulated by the Loop would be used to help offset the cost of the Loop) may be explored.

Tax Increment Financing (TIF) –Tax Increment Financing is a tool to use future gains in taxes to finance the current improvements that will create those gains. When a new transportation project is built, there is typically an increase in the value of surrounding real estate, and often new investment (in the form of new or rehabilitated buildings for example). The increase in site values and investment creates more taxable property, which increases tax revenues. The increased tax revenues are the "tax increment". Tax Increment Financing dedicates that increased revenue to finance debt issued to pay for the project. TIF was originally designed to channel funding toward improvements in distressed or underdeveloped areas where development would not otherwise occur and creates funding for public projects that may otherwise be unaffordable to localities. A TIF designation is typically recognized for 20-25 years.

6.3 Reducing the Scope of the Project

To achieve financial viability, another common approach is to "value engineer" or change or reduce the project scope. Typically, activities include investigating the suitability of constructing all phases of a project, reducing the project scope (e.g. limit more unprofitable segments to lower number of lane-miles), or delaying construction of certain segments to later dates. Other activities that might be pursued include a comprehensive value engineering process to identify opportunities for reductions in project costs.

6.4 Allow for Private Sector Participation

A third option to achieve financial viability is to include the injection of private sector capital through the introduction of Public-Private Partnerships (PPP). Due to recent enabling legislation in the State of Louisiana, PPP is now an option for procuring authorities in the State of Louisiana to meet their infrastructure challenges. Even though the project will have a higher overall cost of finance under a PPP, with the inclusion of an “equity view” of traffic, pushing the debt tenor out past 40 years and maximizing leverage, a successful PPP project may allow for additional value to be released from projects to help lower the overall public funds required.

One key difference is that equity in a long term concession can afford to be more patient than debt. This can lead to an equity player in a PPP model being more aggressive in terms of forecast traffic and revenue and the debt holders being more relaxed in their covenants due to the equity cushion than municipal bondholders would be in a 100% debt financed tax exempt deal. Another key difference in the traffic and revenue (T&R) relates to tolling policy. A private entity as an equity investor is highly incentivized to increase tolls to their utility maximizing point, while keeping within the caps imposed by the related government partner in the PPP contract. This preference as a revenue maximizer allows for a higher revenue forecast. This higher forecast can allow the private sector to reduce a financing gap.

PPP financial structures can also benefit from using TIFIA (as described above) and Private Activity Bonds (“PABs”) as noted below to help lower the overall cost of capital for the private sector.

> **Private Activity Bonds** – The Private Activity Bond (PAB) program, providing access to tax-exempt bonds for private sector developers, was enacted by Congress to encourage private equity investment in and public-private partnership development of toll road projects. The PAB program has the effect of leveling the playing field with respect to the tax-exempt municipal bond market traditionally open to government toll agencies. The PAB program is administered by the US Department of Transportation with up to $15 billion in bonds available in the current federal highway bill.

6.5 Finance and Development Process

Section 5.2 discussed the two delivery methods available for the Baton Rouge Loop. One of these methods will need to be chosen to advance the project to completion. Factors that will influence this decision are finance, statutory, and political climate (federal, state, and local).

Figure 6-3 illustrates the process and general timelines for the finance and development process. It shows that the decision for a traditional toll road or PPP approach should be made in approximately one to two years to meet total project delivery timelines. Technical Memorandum No. 4 presents more detail on the finance models prepared for this stage of the Baton Rouge loop development process.

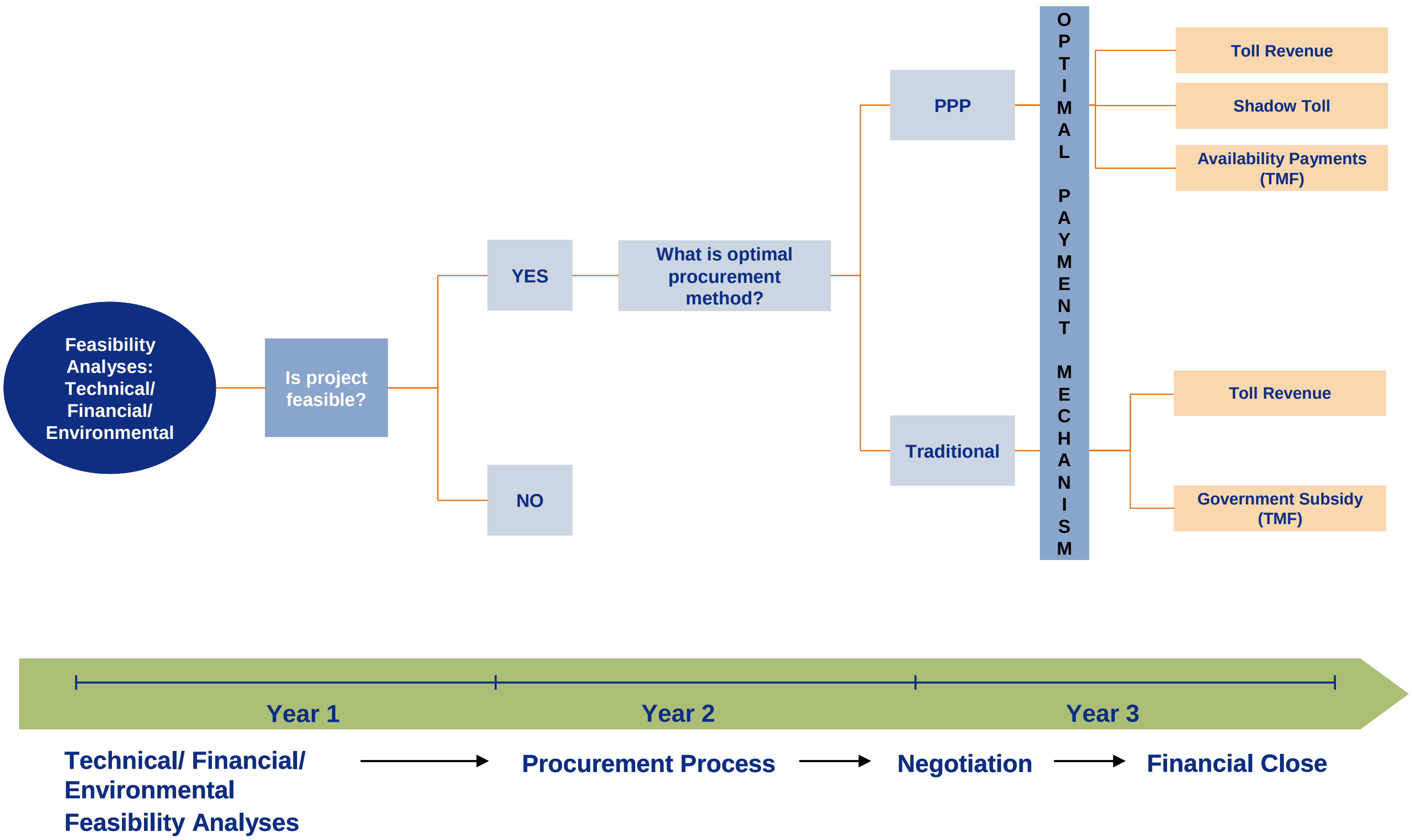


Figure 6-3. Finance and Development Process

7. IMPORTANCE OF LEADERSHIP

The Baton Rouge Loop is a high profile, complex, and costly public works transportation project that affects each of the roughly 800,000 residents of the Baton Rouge region as well as much of the country, with Interstate 10 being an important highway in the southern U.S. running from California to Florida. In today's environment, these types of projects require special attention throughout all levels of the project development process to achieve successful results. This is true with regard to the community outreach efforts to include the affected citizens in the process, engineering concepts development, and environmental analyses and mitigations, and financing. Equally important is the vision and leadership needed at all levels of government, including political and agency leadership, to shepherd the project through the process. This includes the following:

Parish Presidents and Municipal Leaders - The full support and advocacy of each of the five Parish Presidents will be critical in the continuation of what has begun in the Implementation Plan phase with regard to the vision for the Baton Rouge Loop - that it is a long overdue project for the greater good of the community, and that it will bring significant value to the region. In addition to the administrative roles and responsibilities as Parish executives, the Parish Presidents are members of the CAEA and thus have the ultimate enabling authority to continue working in a teamwork manner with constituents and other political and agency leaders in the region to realize the vision.

Louisiana Governor and Administration - The state administration (including the Governor's office and DOTD) has a critical role in the project in several ways. Helping to promote the vision for the Loop will be important in a broad sense. Also, the Administration can set the tone to help move the project through the process, including agency reviews for engineering and environmental. With regard to finance, gap funding will be an important component of the overall finance plan. The Transportation Mobility Fund (TMF) is established in existing law and will require additional dedicated funding to reach its full potential. The Governor (or his appointee) is a member of the Louisiana Transportation Authority (LTA) that administers the TMF. In his role on the LTA, the Governor also will have ultimate responsibility for the PPP process should that process be chosen for project delivery. PPP project development will require active and open stewardship to attain public acceptance. The Secretary of DOTD (or his appointee) and the Secretary of LED (or his appointee) are also members of the LTA and thus have the same roles as the Governor in leading the TMF and PPPs.

US Senators and Representatives - Louisiana's congressional delegation will be important leaders both in Washington, in passing the new federal highway reauthorization in 2009 in a way that is conducive to innovative financing, and in Louisiana, by championing the project in ways that will help facilitate movement of the project through the federal processes (NEPA).

State Legislators - Baton Rouge region legislators are an important component along with Parish Presidents in openly supporting the Loop to their constituents and leading activities and developments within their regions of influence. Certainly the Baton Rouge Loop is a profound project that will affect most citizens. For the vast majority of citizens, the Loop will provide quality of life, mobility, and enhanced economic development benefits. A small minority of citizens will experience direct negative impacts. Regional state legislators will be important to providing the information and leadership to the public in their districts.

From a broader perspective, the Legislature has the ultimate responsibility for the funding streams that are needed within the Transportation Mobility Fund that assist in providing the supplemental funding needed to plug the gap between the project level revenues (mostly tolls) and the cost of the project. Every legislator in the state can have an impact in this area.

Federal Highway Administration – The FHWA is active in other regions of the country in helping to develop innovative funding approaches to critical transportation infrastructure. In Louisiana, there has been only limited experience with tolls, PPPs, and other non-traditional finance models. It will be important for the FHWA to be a partner with other Louisiana agencies in learning and leading the innovative funding model, especially with regard to how federal innovative finance programs can be applied to the Baton Rouge Loop.

Also, the FHWA has a key leadership role in helping to shepherd the project successfully and expediently through the NEPA process.

8. THINGS TO WATCH

As the Baton Rouge Loop project continues to move through the development process, numerous factors will be important to the ultimate implementation. Several of the most important are listed and discussed briefly below.

Statutory Considerations

Below is a list of federal, state, and local statutory matters that could have a bearing on the implementation of the Baton Rouge Loop.

Federal

- Comprehensive federal highway bill reauthorization (expected 2009)
- Transportation earmarks (potentially phased out or scaled back in next highway bill reauthorization)
- Toll, PPP, and other innovative finance enabling programs (expected to be similar to current highway bill or more aggressive in next highway bill reauthorization)
- Consideration of an interstate designation and high priority status for the Baton Rouge Loop in the next highway bill reauthorization could enable access to greater federal funding programs

State

- Amount of revenue stream ultimately provided to the Transportation Mobility Fund
- General or Capital Outlay funds for continued planning
- Corridor-wide TIF legislation to cover new developments adjacent to the corridor stimulated by the Loop

Local

- Corridor preservation actions including zoning and permitting processes on a corridor-level basis
- Potential finance and/or in-kind contributions to maintain project momentum through the pre-construction processes

Public sentiment

Continued recognition by the public of the value of the Loop and its need is critical. Developing a broad public consensus behind an adopted alternative, and being able to demonstrate that consensus, will be important input to the political leadership that will ultimately be responsible for the implementation of the project.

Traffic and Revenue Refinements

As the Loop evolves through the development process, traffic and revenue estimates will continue to be refined based on the progressive increased level of detail and effort that is invested in this area of the project. The traffic and revenue estimates could go up or down based on factors such as updated population estimates, updated average incomes of area residents, other projects which may be programmed to improve streets within the existing network, and other factors. Traffic and revenue estimates are the single most important component of overall financial planning for the Loop project.

Gap funding potentials

New start toll projects almost always need supplemental funding to cover the difference between the cost of the project and the amount that will be supported by toll revenues. Several opportunities are available, including federal, state and local. Especially helpful may be the Louisiana Transportation Mobility Fund (TMF), which is intended specifically to provide the gap funding for projects such as the Baton Rouge Loop. A dedicated and sustained funding approach for the TMF is needed.

Bond markets and developer interest

What will bond interest rates be when it is time to sell the bonds? How much private sector investment interest and equity investment potential will evolve as the project moves forward through the planning stages?

Construction increases

Will the construction cost increase spikes seen in Louisiana immediately post-Katrina continue or will the spike return to a normal growth curve?

Agency collaboration

How well will the most critical state and federal agencies (DOTD, FHWA, Coast Guard, and Corps of Engineers) continue to work with local governments (five parishes), the CAEA, and others for a mutual and collaborative approach to successful implementation?

Maritime industry

There are two potential new Mississippi River Bridge crossings. The maritime interests along the river have expressed concern about any new crossings of the river that may affect their operations. The Loop planners and designers will need to work closely with these interests to attain a consensus on location and design of new river crossings.

MPO Processes, TIP, Air Quality Conformity

The Baton Rouge Metropolitan Planning Organization (MPO) will need to take actions to enable the Baton Rouge Loop to move forward. The most prominent actions include 1) perform air quality conformity analyses in coordination with EPA standards to demonstrate conformance of the Loop; 2) adopt the Loop into the regional Transportation Improvement Program (TIP); and 3) coordinate with DOTD to adopt the Loop into the Statewide Transportation Improvement Program (STIP) and LTA so that the Loop will be included within the eligible projects that can receive funding from the TMF (either include the Loop in the DOTD list of mega-projects in the Statewide Transportation Plan or receive special action by the LTA board for inclusion of the Loop as an eligible project).

Political philosophies

As the Loop progresses through additional planning stages, what will emerge as the philosophies and priorities of existing and new federal and state level administrators regarding the idea of toll roads, public-private partnerships, and state level gap funding?