

Grant Application

For USDOT National Infrastructure Investments – RAISE Discretionary Grants, (FY 2022)

“Complete-Street” Revitalization of Dedeaux Road

Safe and Sustainable Improvements to a
crowded arterial in Gulfport, Mississippi

APRIL 2022



Humbly Submitted by Billy Hewes
Mayor of the City of Gulfport, Mississippi



U.S. Department
of Transportation

PROJECT INFORMATION SHEET

Project Summary

Project Title	“Complete-Street” Revitalization of Dedeaux Road; Safe and Sustainable Improvements to a crowded arterial in Gulfport, Mississippi
Project Location	Gulfport, MS; part of Gulfport, MS Urbanized Area (UACE 35920)
Project Description	“Complete Street” improvements along Dedeaux Road; widening an existing arterial road from 2 lanes to a 4 lane boulevard with bike lanes and pedestrian sidewalks
Project Website	www.gulfport-ms.gov/Dedeauxroadwidening
Project Length	1.40 miles; from Dede Drive (west) to Jessica Lane (east)
Total Remaining Project Budget	\$21.10 Million
RAISE Funding Requested	\$16.88 Million (80% of total remaining project budget)
Anticipated Pre-construction Completion Date (Segment 2)	September 2023
Anticipated Construction Completion Date (Segment 2)	September 2025
Anticipated Pre-construction Completion Date (Segment 3)	September 2024
Anticipated Construction Completion Date (Segment 2)	June 2026

Applicant

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1. PROJECT DESCRIPTION

Background

In December, 1994, the City of Gulfport doubled its size with an annexation of 33 square miles north of its then City limits. It is now the State of Mississippi's second largest City and the corner stone of the State's second largest census Urbanized Area (Gulfport, MS, Population 208,948).

Despite its size, the City of Gulfport has only (3) local roads that directly connect the City's two (2) north-south arterial highways (Mississippi Highway 605 and U.S. Highway 49). Supplementing the east-to-west mobility offered by Interstate-10 and U.S. Highway 90, these three local roads include both O'Neal Road and Dedeaux Road on the north side of Interstate-10 and Pass Road to the south.

Dedeaux Road is an approximately four (4) mile long minor arterial located between Highway 49 and 605. The westernmost 2.0 mile section, between Highway 49 and Three



Fig. 1.2 - Source: <http://www.wlox.com/story/11818200/gulfport-woman-killed-in-dedeaux-road-accident>

Rivers Road, is a four (4) lane roadway, with a center turn-lane and sidewalks on each side. The next 0.5 miles of roadway is a four (4) lane roadway with a boulevard and sidewalks on both sides. The remaining two (2) miles between Dede Drive and Highway 605 is only two (2) lanes with no sidewalk and generally no shoulder. With a 2018 measured Average Annual Daily Traffic (AADT) of 16,000 vehicles, this small roadway section makes for dangerous roadway conditions; accident reports along Dedeaux Road between Highway 49 and Highway 605 for the calendar year 2021 were cataloged. In total there were 186 separate accidents along this corridor, involving approximately 372 passenger vehicles and 57 total injuries (21 classified as "possible", 18 classified as "minor", and 3 classified as "serious").

Proposed Improvements

Requesting FY 2022 RAISE Grant Funding, this shovel-ready project (with route location and environmental review complete) will provide an environmentally sustainable



Fig. 1.1 - Source: <http://www.wlox.com/story/17242545/update-girl-hit-on-dedeaux-rd-close-to-coming-home>

infrastructure solution founded on the tenets of the “Ladders of Opportunity.” It will increase connectivity to places of employment, as well as places for education, services and other opportunities. The project

as primary neighborhood or town center areas for commercial growth in the latest Comprehensive Plan for the City of Gulfport. It connects thousands of residents to a nearby hospital (Garden Park Medical Center), to

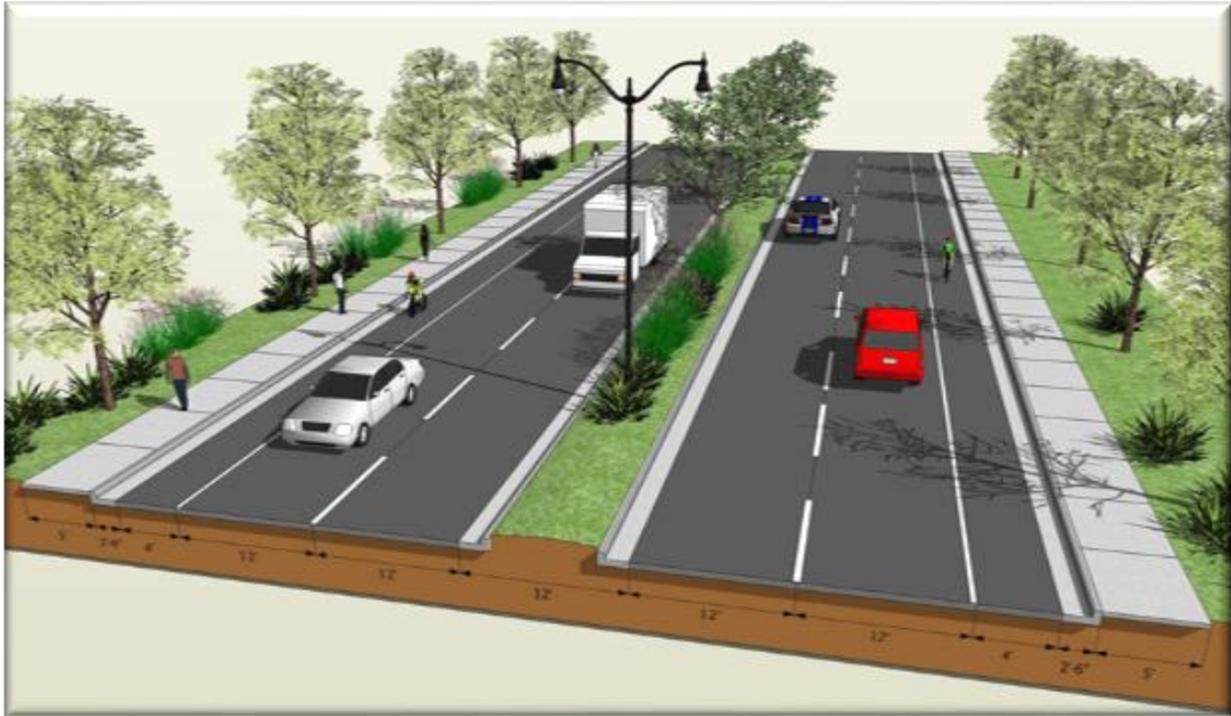


Fig 1.3 - Rendering of Proposed Improvements to Dedeaux Road

will support workforce development and revitalize an existing community, undoing the ongoing damage felt since the devastation of Hurricane Katrina in 2005. It will create jobs by paving the way for new business, will connect Americans with a safe and reliable multi-modal transportation system, and will revitalize a dangerous eye-sore to further attract new opportunities, more jobs, and better housing.

This portion of Dedeaux Road exists immediately north of Interstate 10 and west of Highway 605. It is primarily zoned residential with a few lower business tier districts. Its intersections with Three Rivers Road and Highway 605 have been identified

shopping opportunities at nearby commercial uses (such as Cross Roads Shopping Center) and to places of employment (such as Bernard Bayou Industrial Park). Concerning its proximity to schools, this section of Dedeaux Road is within two (2) miles of: Harrison County Alternative School, Orange Grove Elementary School, Harrison Central Elementary School, Bel-Aire Elementary School, Crossroad Elementary School, Temple Christian Academy, Christian Collegiate Academy, Blue Cliff College, and Mississippi Gulf Coast Community College; the lack of pedestrian access on this road makes for hazardous conditions for children attending these schools.

Proposed improvements include widening the approximately 1.4 mile stretch of Dedeaux Road, east of Dede Drive to Jessica Lane to four lanes with sidewalks, bike paths, and a center turn lane / raised median in a 100' Right-of-Way. This “complete-street” boulevard concept will utilize the raised median in areas needed to alleviate conflict points created by the 18 local roads that



intersect this section of Dedeaux Road; the proposed road width will remain constant throughout the project. Sidewalks will be designed to meet the standards set forth by both the Access Board and the Americans with Disabilities Act and will provide much needed safe pedestrian access to residents and commuters along this bustling corridor as well as safe refuge on this established bus route. The grass strips along the median and in the Right-of-ways will provide environmentally-beneficial filtering of surface pollutants and piped storm water conveyances will better handle surface drainage eliminating ponding on the roadways. Finally, in addition to the multi-modal safety improvements of the sidewalks and

bike lanes, the addition of street lighting will further create a safe atmosphere for pedestrians and commuters alike.

This project will decongest clogged traffic routes north of I-10, will improve a critical link between two designated hurricane evacuation routes, and supply an economic development stimulus for this section of the City. The economic benefits of this infrastructure project were identified by Scott Delano with the development firm, DDR during an interview. DDR owns 90 acres of property that sits on the north and south sides of Dedeaux Road west of MS 605. In this interview, Delano said “Anytime you have an increase in traffic flow it is a great seed for new development and a higher demand for businesses to locate in the area.” Delano pointed out this leads to “increase tax base for the area [and] sales taxes for the area.” Ward Six Councilman R. Lee Flowers also commented “there is no doubt in anyone’s mind that Dedeaux Road will be a business corridor.” The jobs and tax revenues generated by additional businesses in the area will benefit the coastal economy, particularly this growing portion of Gulfport.



Figure 1.4 – City of Gulfport Comprehensive Plan

2. PROJECT LOCATION

This project is located in Gulfport, Harrison County, Mississippi; it is within the limits of the “Gulfport, MS” Urbanized Area (UACE: 35920, population 208,948).

Portions of the project are in Census tracts 32.07 and 32.08. These tracts have 2010 populations of 5,068 and 4,059 and percent minority of 43.1% of 53.0% respectively. The project is wholly located in the 39503 zip code; greater than 10% of this zip code’s over 36,000 residents are below the poverty level.

The western point of beginning, at the intersection of Dedeaux Road and Dede Drive, is located at 30°26’58”N, 89°03’57”W; the eastern terminus, at the

intersection of Dedeaux Road and Jessica Lane is located at 30°26’59”N, 89°02”W. The project is approximately ½ mile north of Interstate 10, 1-½ mile east of Highway 49, and immediately adjacent to Highway 605. Bernard Bayou Industrial Park is approximately ½ mile to the South. A rail spur off Kansas City Southern Railway Company’s (KCS) railroad is approximately one (1) mile to the south and Industrial Seaway (navigable waterway) is approximately 1-½ mile south of the project. The project is approximately 2-½ mile north of the Gulfport-Biloxi International Airport (GPT) and within six (6) miles of the Port of Gulfport.

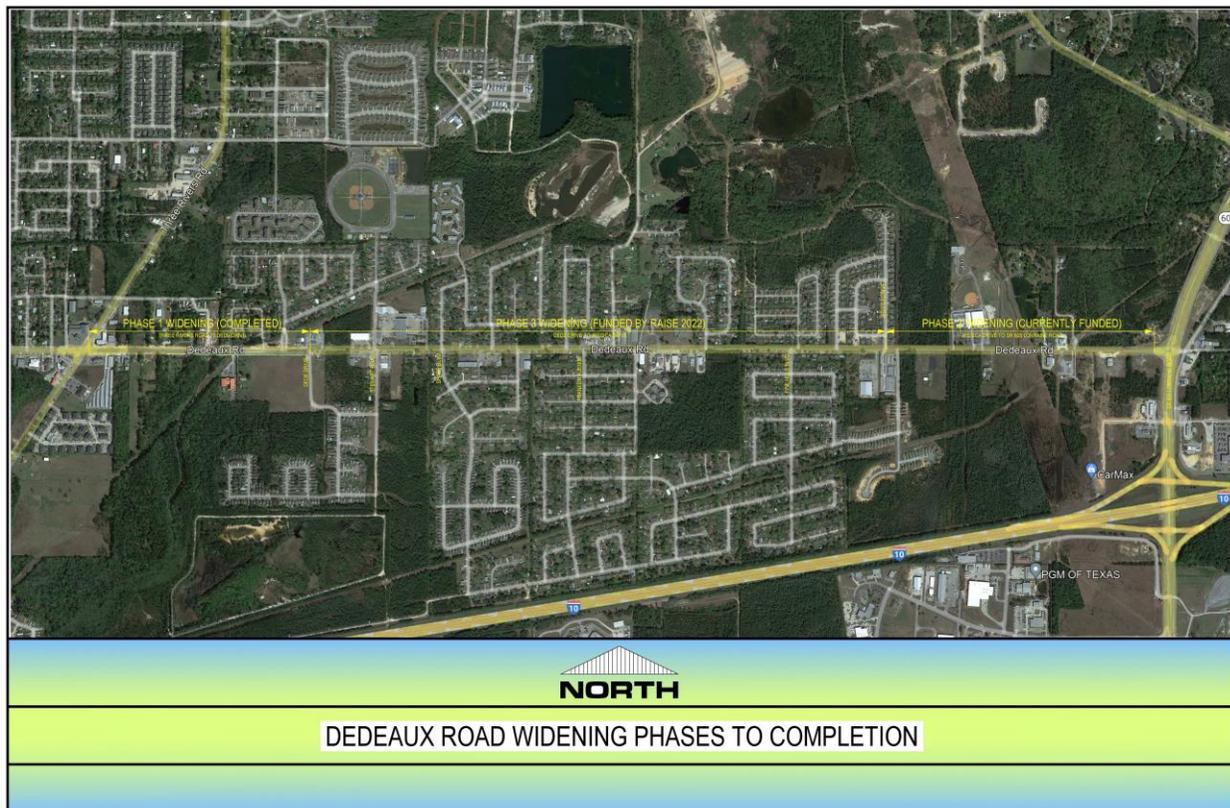


Figure 2.1 - Project Location Map

3. PROJECT PARTIES

The City of Gulfport is the sole applicant and will be the owner and be responsible for all maintenance of this project following its completion. However, the City's residents, Port of Gulfport, the Harrison County Development Commission (owner of Bernard Bayou Industrial Park), and the Gulfport-Biloxi International Airport should all benefit from the more efficient traffic movement created by this project. Additionally, local workforce showed tremendous support of this project; during public meetings in April 2008 and September 2009, of the 42 public comments received, only one was classified as negative.

The local Metropolitan Planning Organization (MPO), Gulf Regional Planning Commission has proved their ongoing support by including this project on their TIP for nearly 15 years. Furthermore, the City of Gulfport has engaged a wide variety of Stakeholders and has amassed a great deal of support for this project; letters of support from multiple agencies can be found in Attachment "B" and include:

- ❖ Roger Wicker, Senator, US Senate
- ❖ Cindy Hyde-Smith, Senator, US Senate
- ❖ Steven Palazzo, Congressman, US House of Representatives
- ❖ Tate Reeves, Governor, Mississippi
- ❖ Tom King, Southern District Transportation Commissioner, MDOT
- ❖ Lt. Col. Stephen C. McCraney, Executive Director, MEMA
- ❖ Kevin Coggin, Executive Director, Coast Transit Authority
- ❖ Rusty Walker, Council President, City of Gulfport
- ❖ R. Lee Flowers, Councilman, Ward 6, City of Gulfport
- ❖ Myles Sharp, Councilman, Ward 5, City of Gulfport
- ❖ Wayne Miller, Director of Public Works and Engineering, City of Gulfport
- ❖ Melody Moody Thortis, Bike Walk Mississippi



4. GRANT FUNDS AND SOURCES / USES OF PROJECT FUNDS

The Tables below present the amount of grant funding requested, the availability / commitment of fund sources and uses of all project funds, total project costs, percentage of project costs that would be paid with RAISE Discretionary Grant funds, and the identity of all parties providing funds for the project and their percentage shares.

Table 4.1 – Breakdown of Remaining Project Budget

Activity	Project Budget	Percent of Project Budget
Segment III Engineering / Inspection Fees	\$2,100,000	10.0%
Segment III R.O.W.	\$5,000,000	23.7%
Segment III Construction	\$14,000,000	66.4%
Total	\$21,100,000	100.0%

Table 4.2 – Project Funding Breakdown

Funding Source	Total	Percent Share
Unencumbered Funds		
FY 2022 RAISE Funds (80% of remaining)	\$16,880,000	80%
City of Gulfport Funds (20% match against RAISE funds)	\$4,220,000	20%
Total of All Benefits	\$21,100,000	100.0%

Of separate note, having been under consideration for several years, this project has incurred nearly \$7.5 million to date. These costs have included:

- Phase I Construction – \$5,400,000
- PS&E / Preliminary Engineering fees - \$ 1,315,000
- R.O.W. - Appraisal Fees - \$ 52,000
- R.O.W. - Purchased - \$620,000
- Title Search fees – \$6,300
- Recording Fees - \$600
- Wells Fargo Processing Fee - \$350

Please note, the local MPO is shifting focus away from capacity projects to sidewalk, bike lanes, and lighting projects. The City of Gulfport feels Federal assistance, like that provided through the RAISE grant, is the last viable funding source for this much needed project.

5. SELECTION CRITERIA

5.1 PRIMARY SELECTION CRITERIA

5.1.1 STATE OF GOOD REPAIR

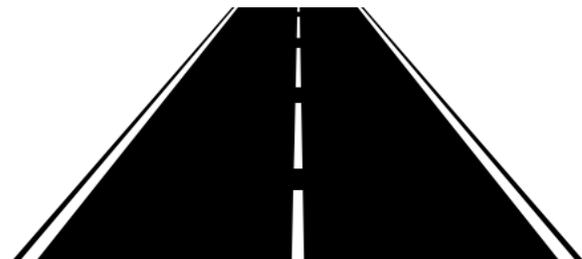
The Federal Transit Administration's June 2010 "National State of Good Repair Assessments" postulates that around one-third of the United States' transit assets are in marginal to poor condition with over \$80 billion needed to bring these assets to a State of Good Repair; the Transit Cooperative Research Program claims an asset to be "in a state of good repair if it is safe, reliable, and keeps the customer satisfied.

In its current state, Dedeaux Rd has a patchwork of asphalt that is riddled with potholes, little to no shoulders along the length of the project area, no turn lane(s), and an AADT that severely stresses its two-lanes. Narrow 11' lanes make freight and bus movements difficult, further slowing vehicle speeds on this vital east to west corridor. Its poor condition threatens safe and reliable movement of goods and transportation options for commuters; particularly impeding access to evacuation routes for hurricanes / tropical storms common to the Mississippi Gulf Coast. The roadway's existing condition also escalates normal wear and tear, increasing maintenance costs for vehicles.

Improvements proposed under this grant application will help to improve mobility and

safety, reduce congestion, and encourage economic development. New asphalt surface courses will limit the wear and tear on commuter, freight, and municipal vehicles associated with poor roadway conditions. More and wider lanes, curb and gutter, a center turn lane / raised median, and less intersections with local roads will greatly increase traffic flow, whereby reducing congestion and promoting safety. Drainage improvements will also encourage traffic flow and will protect the road's surface and base course(s) making this a sustainable project.

With a positive benefit-to-cost ratio, funding these improvements are justified and will address long-term needs, improve Dedeaux Road's level of service, and encourage economic growth. An initial investment in this amount will greatly reduce short-term maintenance costs that will be incurred by the City of Gulfport's Public Works.



5.1.2 ECONOMIC COMPETITIVENESS

In excess of 2,000 tax parcels, primarily residential lots, rely solely on this segment of Dedeaux Road as their only means of access. Improvements to Dedeaux Road will enhance

access to the nearby hospital (1.25 miles southwest), Mississippi Department of Employment Security job center (1.5 miles southeast), community college (1.25 miles

south), and other municipal / private services for residents on these lots, as well as other commuters.

Revitalizing this corridor will improve economic productivity by providing commuters and workers more efficient and more reliable transportation to and from the nearby large commercial shopping center, Crossroads, as well as the nearby industrial center, Bernard Bayou Industrial District. Improvements to Dedeaux Road can also help facilitate freight movement to and from these adjacent uses, whereby increasing economic opportunity and enabling the United States to continue to compete in a global economy.

Finally, this project will result in short-, medium-, and long-term job creation through direct, indirect, and induced employment opportunities. Direct jobs, generally construction / labor jobs, include those created specifically for the government-sponsored project. Indirect jobs are created

because of, but not directly for the government funding; these may include manufacturing jobs required to create supplies for construction. Finally induced jobs are created outside of the government-sponsored project, but as a direct-result; this can be attributed to increases in local spending by workers of the aforementioned direct and indirect jobs. In September 2011, the Council of Economic Advisers (CEA) determined, based on analysis of actual job-creation from transportation projects under the Recovery Act, that a job-year is created by every \$76,923 in transportation infrastructure spending. As shown on the Benefit-Cost Analysis, this project would involve approximately \$11,250,000 in direct construction costs resulting in approximately 191 jobs.



5.1.3 QUALITY OF LIFE

The U.S. Department of Transportation (DOT), the U.S. Department of Housing and Urban Development (HUD), and the U.S. Environmental Protection Agency (EPA) collaborate to form the “Partnership for Sustainable Communities.” To foster livable communities, this partnership developed six principles of livability; these are presented below, each with an explanation as to how the proposed widening of Dedeaux Road furthers these principles:

1) Provide more transportation choices

This project will provide a more convenient corridor that can decrease transportation costs, reduce our dependence on oil, improve air quality

and promote public health by reducing idle and travel time whereby also decreasing fuel consumption and emissions.

2) Expand location- and energy-efficient housing choices

With over 2,000 lots, mostly residential, having Dedeaux Road as their only route to and from their cross street(s), this project will ensure safe and reliable mobility for people of all ages, incomes, races, and ethnicities and assist residents with lowering combined costs of housing and transportation.

3) **Improve economic competitiveness of neighborhoods**

Described in detail in §5.1.2, this project will provide commuters reliable access to employment centers, educational opportunities, services and other basic needs.

4) **Target federal funding toward existing communities**

This transit-oriented community revitalization project will reduce public works maintenance costs and provide safe vehicular, bicycle, and pedestrian access through a well-established neighborhood in the heart of Gulfport.

5) **Align federal policies and funding**

This project will remove barriers to collaboration, leverage funding and increase the effectiveness of programs to plan for future growth by combining local funds, funds through the local MPO, and

federal funds to finalize an ongoing project with significant City, state, and federal funds already invested.



6) **Enhance the unique characters of all communities**

Investing in this complete-street boulevard concept will provide a healthy, safe and walkable neighborhood that further provides bicyclists safe refuge from vehicular traffic in this existing urban area.

5.1.4 ENVIRONMENTAL SUSTAINABILITY

The anticipated social, economic, and environmental impacts were evaluated and presented in a Finding of No Significant Impact (FONSI) under Project Number



STPD-9370-00(004)LPA / 104866, Harrison County. MDOT received approval from FHWA on February 24, 2011 with a reevaluation

completed on December 18, 2014. This document considers impacts of this project to land use, farmland, social, economic, relocations, environmental justice, pedestrian and bike, air quality, noise, water quality, permits, wetlands, water bodies, floodplains, wild and scenic rivers, coastal barriers, coastal zones, threatened and endangered

species, historic, cultural, archaeological, Native American coordination, hazardous waste, visual, energy, and construction; no severe adverse impacts were noted. As noted in this document, four different route alternatives were studied and the one with the least impacts was selected.

Per a review by the EPA in 2013, the transportation sector accounts for 27% of the total greenhouse gas emissions in the United States. In Fall 2009, "Access Magazine" included a study by Matthew Barth and Kanok Boriboonsomsin relating traffic congestion and greenhouse gases; in this article, they illustrate how carbon emissions are often incorrectly only associated with trip distance without accounting for vehicle speed. They go on to explain that emissions

(in grams/mile) are roughly equal when a passenger car is traveling between 40 and 60 mph. This report surmises that, where congestion reduces free-flowing vehicle speed below 45 mph, CO₂ emissions will increase. They conclude that, by even marginally increasing travel speeds, congestion mitigation practices can reduce fuel consumption and greenhouse gas emissions. As a real world example, a one hour time period of Interstate 110 in downtown Los Angeles was found to have an average vehicle speed of 34.3 mph and an estimated 166 metric tons of CO₂ emissions produced. By Barth and Boriboonsomsin's calculations, increasing average traffic speed to 52.7 mph could decrease CO₂ emissions to 146 metric tons, a 12% decrease.

To further reduce greenhouse gas emissions, this project proposes separate bike lanes (on both the north and south sides) as well as ADA accessible sidewalks. Providing these multi-modal transportation options to local users will reduce the dependency on passenger vehicles, whereby reducing emissions.

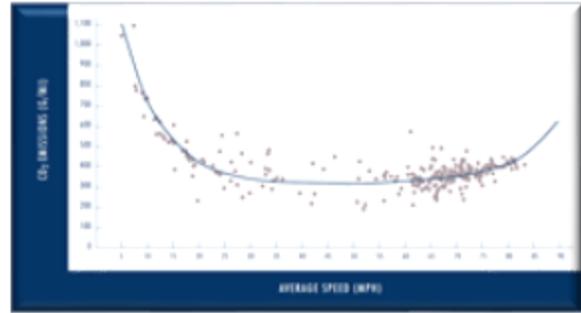


Figure 5.1 - Emission-speed plot of individual trips or trip segments, Barth, Matthew and Boriboonsomsin, Kanok. "Traffic Congestion and Greenhouse Gases." Access Magazine Fall, 2009

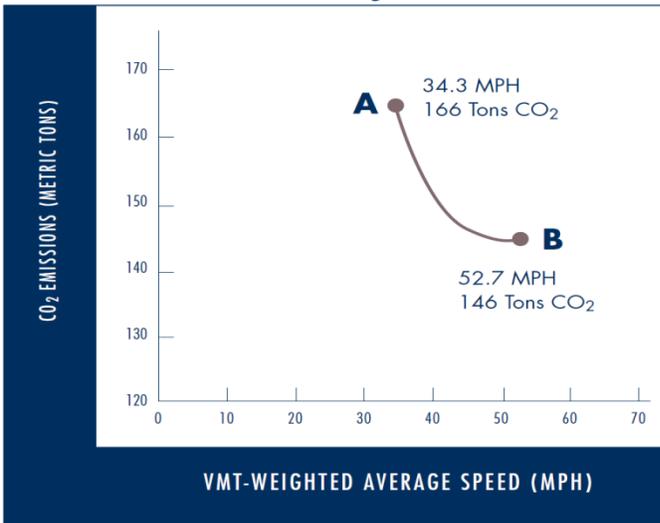


Figure 5.2 – Potential CO₂ emission savings through congestion mitigation on Interstate 110 in downtown Los Angeles, Barth, Matthew and Boriboonsomsin, Kanok, "Traffic Congestion and Greenhouse Gases." Access Magazine Fall, 2009

5.1.5 SAFETY

Perhaps the most profound impact this project will have will be its positive improvements to safety. Developed as a shoulder-less, two-lane rural highway, this section of Dedeaux Road has seen few upgrades as it has transformed into an urban

arterial. Unfortunately, this was illustrated in the calendar year 2021. In total, there were 186 separate accidents along this corridor, involving approximately 372 passenger vehicles and 57 total injuries (21 classified as "possible", 18 classified as "minor", and 3

classified as “serious”). Additionally, fatal accidents occurred in 2010 and 2012 and an 11-year old pedestrian was critically injured in 2012.

The proposed “complete-street” boulevard concept will separate pedestrian, bicycle, and vehicular traffic and provide better access for emergency vehicles, while the installation of sidewalks and bike lanes will promote similar goals of programs such as “Safe Routes to Schools.” In total, the proposed design includes no less than 13 unique countermeasures identified as providing some level of crash reduction in FHWA-SA-08-011, “Desktop Reference for Crash Reduction Factors.” These include:

- ❖ Increasing number of lanes
- ❖ Installing sidewalk
- ❖ Providing bicycle lanes
- ❖ Installing signals
- ❖ Installing left turn lane
- ❖ Installing raised median
- ❖ Converting four-leg intersection to two T-intersections
- ❖ Improving intersection alignment
- ❖ Installing pedestrian crossing
- ❖ Installing pedestrian signals
- ❖ Installing curbing
- ❖ Installing lighting
- ❖ Improving drainage patterns

In August 2005, Hurricane Katrina devastated the Mississippi Gulf Coast. The City of Gulfport saw 8 hours of wind speeds up to 150 mph and a 28-foot storm surge. 9,500 housing units were affected with 3,000 of those completely destroyed. Hurricane Katrina reminded the country that disaster preparedness is critical to reducing property damage and loss of life.

Highway 49 and Highway 605 are classified by MDOT as Gulfport’s only two north-south hurricane evacuation routes. Dedeaux Road is one of only 3 roads maintained by the city that directly connect these two routes. In addition to the direct safety benefits mentioned above, completing the widening of Dedeaux Road for the full length between these two highways will improve access to these evacuation routes in the event of an emergency. This benefit will be felt most directly by the 2,000 tax parcels accessible only from this section of Dedeaux Road; however the proposed improvements will benefit other residents looking for quick access to designated evacuation routes.



5.2 SECONDARY SELECTION CRITERIA

5.2.1 INNOVATION

As defined by the “National Complete Streets Coalition,” complete streets “enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.”

The concept of “complete streets” is still relatively new and only recently has any notable projects come to fruition in the State of Mississippi. Already several years into

project conceptualization, the widening of Dedeaux Road has long been on the forefront of the “complete street” movement. Inclusion of bike lanes and sidewalks separates pedestrian and bicycle traffic from vehicles; this innovative strategy will meet the project’s long-term goals of encouraging safety and mitigating vehicular congestion, thus enhancing the operational performance the roadway.



National Complete Streets Coalition

5.2.2 PARTNERSHIP

The City of Gulfport is committed to ensuring a long term successful project and recognizes the importance of engaging collaboration between a multitude of stakeholders. Gulfport has diligently coordinated this project with a variety of public, private, and non-profit entities to ensure long-term project success. Included in Attachment "B" are several letters of support including:

- ❖ Cindy Hyde-Smith, Senator, US Senate
- ❖ Roger Wicker, Senator, US Senate
- ❖ Steven Palazzo, Congressman, US House of Representatives
- ❖ Tate Reeves, Governor, Mississippi
- ❖ Tom King, Southern District Transportation Commissioner, MDOT
- ❖ Lt. Col. Stephen C. McCraney, Executive Director, MEMA
- ❖ Kevin Coggin, Executive Director, Coast Transit Authority
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- ❖ Myles Sharp, Councilman, Ward 5, City of Gulfport
- ❖ Wayne Miller, Director of Public Works and Engineering, City of Gulfport
- ❖ Melody Moody Thortis, Bike Walk Mississippi

In addition to the overwhelming support, from stakeholders above, a public hearing, relative to the FONSI, was held in April 2008 to encourage input from the commuters that will most directly benefit from this project. At this meeting, 42 public comments were received, of which, only 1 was classified as negative. Since this public hearing, no less than two (2) Ward 6 meetings, specifically targeted towards the Dedeaux Road widening project have been held (9/1/2009 and 9/29/2009) and another open forum public hearing was held in July, 2010.



6. RESULTS OF BENEFIT-COST ANALYSIS

A detailed Benefit-Cost Analysis (BCA) was performed as part of this grant application. The BCA was prepared in accordance with the guidelines described in the “Notice of Funding Opportunity for the Department of Transportation’s National Infrastructure Investments Under the Infrastructure Investment and Jobs Act” and in line with the recommendations of the “RAISE Benefit-Cost Analysis (BCA) Resource Guide” and the “Benefit-Cost Analysis Analyses Guidance for TAISE Applicants.” These worksheets for this BCA are included as Attachment “C.”

The breadth of the BCA mimics the average-size of this funding request. On the Benefits side, in-depth calculations were limited to both Crash Reduction Savings (considering injuries and property damage) and Value of Travel Time.

Regarding the Costs for the BCA, a holistic project cost was represented; this included R.O.W. acquisition, remaining engineering

fees, permit fees, and construction costs. The project costs also included the expected increase in routine maintenance over the next twenty years due to widening the road. The yearly difference in cost was based on expected routine maintenance values for a four (4)-lane urban road vs a two (2)-lane urban road as defined by a 2003 Florida DOT report, “Transportation Costs.”

Per the requirements in the Notice of Funding, both benefits and costs were discounted to the current year, 2022; discount rates of 3% and 7% were both considered (as suggested by the BCA Resource Guide).

As shown in the chart below, considering only the benefits to travel times and to crash reduction savings, a benefit-cost ratio of 3.51 is obtained at the 3% discount rate and a benefit-cost ratio of 2.60 is obtained at the 7% discount rate; a benefit to cost ratio greater than 1.00 supports the worthwhile nature of this project.

	Total	Discounted at 3%	Discounted at 7%
Total Travel Time Cost Savings	\$42,255,102	\$28,531,279	\$17,927,343
Total Crash Reductions Cost Savings	\$67,934,101	\$49,937,606	\$35,155,326
Total of All Benefits	\$110,189,203	\$78,468,885	\$53,082,669
Total Project Costs (20 year)	\$24,084,935	\$22,331,331	\$20,402,592
Benefit / Cost Ratio	4.58	3.51	2.60

Table 6.1 – Benefit-Cost Ratio

Crash Reduction Savings

Gulfport maintains detailed accident reports prepared by officers of the Gulfport Police Department; all accident reports along Dedeaux Road between Highway 49 and Highway 605 for the calendar year 2021 were cataloged. In total there were 186 separate accidents along this corridor, involving approximately 372 passenger vehicles and 57 total injuries (21 classified as “possible”, 18 classified as “minor”, and 3 classified as “serious”).



Figure 6.1 – Example of Gulfport Police Accident Report

Utilizing the latest “RAISE Benefit-Cost Analysis (BCA) Resource Guide” (updated March 2022) a value of \$4,600 (\$2020) per vehicle was determined to represent the property damage portion of vehicle crashes; “minor” injuries were valued at \$151,100 (\$2020) per each, and “serious” injuries were valued at \$554,800 (\$2020) per each.

U.S. DOT’s Report No. FHWA-SA-08-0111 from September 2008, “Desktop Reference for Crash Reduction Factors” provides some insight into potential reductions in vehicular

crashes based on roadway improvements. In 2005, Albert Gan, Ph.D., Joan Shen, P.E., and Adriana Rodriguez prepared a detailed report titled “Update of Florida Crash Reduction Factors and Countermeasures to Improve the Development of District Safety Improvement Projects.” Both documents were referenced in determining a potential reduction in vehicular crashes as a result of this proposed project. As mentioned in §5.1.5, “Safety”, this project proposes no less than 13 unique countermeasures identified as providing some level of crash reduction in the “Desktop Reference for Crash Reduction Factors.” In order to provide a conservative reduction figure, only the 2 primary countermeasures were utilized to determine an overall expected Crash Reduction Factor (CRF): adding lanes (at 22% reduction) and installing a raised median (at 23% reduction). Utilizing the equation $CRF_{total} = CRF_1 + (1 - CRF_1) \times CRF_2$, a composite crash reduction factor of 39.94% was determined.

To determine the total benefits in crash reduction, first the expected yearly crash costs for the no-build scenario were calculated based on 2021 crash data and assuming 2.5% inflation rate per year. These values were reduced by 39.94% each year to determine the crash costs per year in the build scenario. The build scenario was subtracted from the no-build scenario to determine savings. Finally, discount rates of 3% and 7% were applied per the BCA Resource Guide. For this project, the anticipated reduction in crash costs were substantial enough that, alone, they offer a 2.23 benefit-to-cost ratio versus total project costs (discounted at 3%).



Figure 6.2 - Source: <http://www.wlox.com/story/31214542/wreck-in-gulfport-ties-up-traffic-temporarily>

Of final note, the BCA relies on information from 2021 to quantify benefits due to reductions from vehicular crashes. However, this portion of Dedeaux Road has a long standing history of traffic incidents. Of primary note, at least three fatalities have occurred in the last several years (January 2010 and November 2021). Further, in March 2012, a critical injury involving an 11 year girl on foot required the girl to be air-lifted to nearby University of South Alabama’s Medical Center in Mobile, AL to be treated for brain damage, spinal cord damage, and for extensive leg surgery.

Value of Travel Time Savings

Included in the “RAISE Benefit-Cost Analysis (BCA) Resource Guide,” DOT has several categories of “Recommended Hourly Values of Travel Time Savings” based on location, type, and means of travel and on occupation of the traveler. For simplicity, U.S. DOT allows an “all-purpose” value of \$17.80 per person-hour (\$2020) based on Revised Departmental Guidance on Valuation of Travel Time in Economic Analysis (2016). In order to determine this project’s impact on travel time savings, average travel speed (ATS), per vehicle, was

calculated for the existing (no-build) scenario and for the improved (build) scenario. ATS was determined through the next 20 years using equation 15-6 of the 2010 Highway Capacity Manual. Each ATS was multiplied by the project length to determine travel time per vehicle. The build scenario travel time was subtracted from the no-build scenario travel time to get a time savings per vehicle. Total annual time saved for all vehicles was determined by multiplying time per vehicle by each year’s expected AADT and then multiplying by the number of work days in a year (260 days). Note, future years’ AADT is based on a yearly growth rate of 2.94%; this growth rate represents an approximation from (2016-2018) trend on this section of Dedeaux Rd.; these are the latest years that GRPC has performed actual traffic counts.

The \$17.80 person-hour value of travel time was inflated by 2.5% per year to determine a per person-hour value of travel time for subsequent years. These per year unit values were multiplied by the total yearly time saved by all vehicles (as determined above) to estimate a total value for yearly travel time saved. Finally, discount rates of 3% and 7% were applied per the BCA Resource Guide.

Year	AADT	ATS (mph)		Travel Time		Time Saved (HRS)
		Current	Build	Current	Build	
2022	16470	31.92	38.31	0.082	0.069	0.014
2023	16955	31.54	38.12	0.083	0.069	0.014
2024	17453	31.16	37.93	0.085	0.069	0.015
2025	17966	30.76	37.73	0.086	0.070	0.016
2026	18494	30.35	37.52	0.087	0.070	0.017
2027	19038	29.93	37.31	0.088	0.071	0.017
2028	19598	29.49	37.10	0.089	0.071	0.018
2029	20174	29.04	36.87	0.091	0.071	0.019
2030	20767	28.58	36.64	0.092	0.072	0.020
2031	21378	28.11	36.41	0.094	0.072	0.021
2032	22006	27.62	36.16	0.095	0.073	0.023
2033	22653	27.12	35.91	0.097	0.073	0.024
2034	23319	26.60	35.65	0.099	0.074	0.025
2035	24005	26.07	35.39	0.101	0.074	0.027
2036	24711	25.52	35.11	0.103	0.075	0.028
2037	25437	24.96	34.83	0.105	0.076	0.030
2038	26185	24.38	34.54	0.108	0.076	0.032
2039	26955	23.78	34.24	0.111	0.077	0.034

Table 6.2 – Travel Time Reduction

Other Considerations

Perhaps one benefit that requires the reviewer to “read between the lines” on the attached BCA is the delaying of operation and maintenance costs until 2027; this represents a gap from when the first segment of this project is complete. Delayed O & M costs will immediately positively benefit the City of Gulfport’s Public Works Department which spends a considerable amount of resources on Dedeaux Road each year.

Further, while the costs portion of the BCA represents all expected costs associated with this project, the benefits portion could have been supplemented with additional values. For instance, §5.1.4, “Environmental Sustainability” qualifies the expected reduction in greenhouse gas emissions by the proposed project’s increase in average travel speed. Per the “RAISE Benefit-Cost Analysis (BCA) Resource Guide,” reduced emissions such as carbon dioxide, volatile organic compounds, nitrogen oxide, particulate matter and sulfur dioxide can be quantified to significant tangible monetary benefit. Additionally, the poor roadway conditions are expected to adversely affect maintenance costs on private commuter and public service vehicles. Reducing the number of potholes and lowering the roughness coefficients of this section of roadway will reduce these maintenance costs and provide additional benefit to the project.



7. PROJECT READINESS

If there is one section that separates this funding request from the competition, it would be its project readiness. First activated in the Mississippi Statewide Transportation Improvement Program (STIP) in 2007, this project has been in the works for over 15 years and the construction phase is “sitting on go.”

Technical Feasibility

A detailed statement of work would include: widening Dedeaux Road from Dede Drive or 1.40 miles, east, to Jessica Lane. The existing road is two (2) lanes, with no center turn lane, has full-access intersections with approximately 18 side streets, and has a 2018 AADT of 16,000. The proposed project will require acquisition of real property in order to provide a generally 100' Right-of-Way width along this corridor. A 68' wide road section, complete with four (4') bike lanes on either side will contain four (4)-12' travel lanes centered by either a 12' turn lane or raised median. 2.5' wide curb and gutters will abut the outside lanes with five (5') sidewalks extending beyond the tops of the curbs. The

project will include full-access center turn lanes divided into three separate areas with raised medians across the remainder of the project area. Intersection realignment needed to convert two (2) adjacent T- intersections into one (1) 4-leg intersection will accompany traffic signals at three locations: Sunnymead Drive and Stewart Road, Wildwood Drive and Sharp Boulevard, and at Pine Hills Drive and Fairfield Boulevard. A fourth signal will be located at Latimer Road. The intersection with Jackson Street will be eliminated completely and the raised median will restrict traffic movements to right-in / right-out at four (4) other intersections. The resulting project will limit full access to 10 cross streets. The first of three sections of construction is complete. (Three Rivers Road to Dede Drive. The second section will be completed from Jessica Lane East to Highway 605 which has been funded by GRPC in fiscal year 2023. This final section will connect the other sections from Dede Drive to Jessica Lane. More detailed conceptual plans can be found in Attachment “D.”

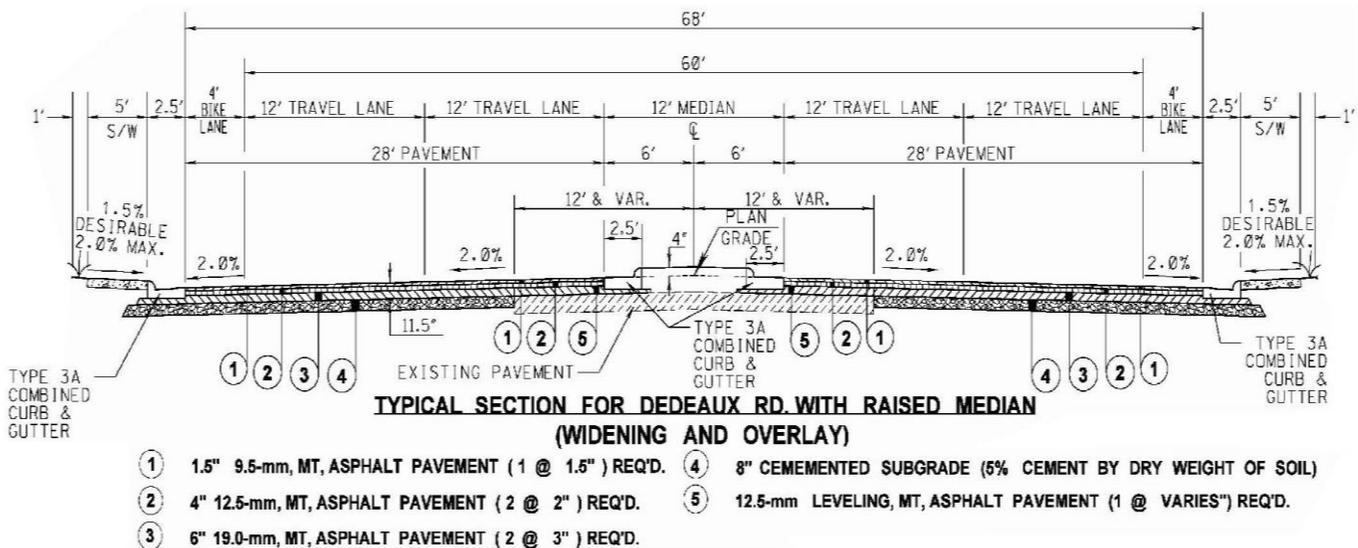


Figure 7.1 – Typical Roadway Section (with Raised Median)

To date, consultants have: determined route locations (considering multiple options), performed an environmental assessment, performed traffic analyses (particularly as related to signal warrants), identified and appraised needed R.O.W., performed conceptual design for the entire project, assisted the City of Gulfport with acquiring R.O.W. needed along Segment 1, and finalized construction for Segment 1 Cost Estimates relative to conceptual plans for segments 2 and 3 have been developed based on similar project bid tabs and relative cost information provided by the Mississippi Department of Transportation. Included as Attachment “A,” cost estimates allot additional funds for construction contingencies. Being so far along in the project process, particularly having a route selection and conceptual plans, greatly reduces many of a project’s scope, schedule, and budgetary risks.

Financial Feasibility

Project financing has single-handedly delayed this project more than any other issue. While quantifiably a beneficial project, the City of Gulfport has yet to assemble enough funds to fully implement this project. While the local MPO supports this project, with an annual allotment of only \$6M, it would take four (4) years of 100% of the MPO’s available funding to fully cover this project’s cost. Gulfport is hopeful that the FY2022 RAISE Discretionary Grant Funds will fill the last remaining gap in funding.

To date, approximately \$7.5 million dollars has been spent on the widening of Dedeaux Road between Three Rivers Road and Highway 605. Broken out in §4, “Grant Funds and Sources,” the bulk of this money has been spent on R.O.W. acquisition and construction along segment 1 and for professional service fees.

Mississippi Gulf Coast MPO Transportation Improvement Program (TIP) FY 2015-2019					
Route/Category:	Dedeaux Road				
Termini:	Three Rivers Road to Hwy 605				
Improvement Type:	Capacity	Responsible Agency:	City of Gulfport		
Project Length:	2.7 miles	County:	Harrison County		
Project Description:	This project is phased. PH 1 goes from Three Rivers Rd east for about 1 mile. Widen road from 2 to 5 lanes, add sidewalks, bike path and median				
Fiscal Year	Fund Source	Phase	Federal Funds	Local Funds	Total Funds
Complete	Earmark	DESIGN			
Complete	Earmark	ROW			
2015	Earmark/STP-MDOT	ROW	\$560,000	\$140,000	\$700,000
2017	STP - TMA	CON	\$750,000	\$187,500	\$937,000
2018	STP - TMA	AC/CONV	\$2,250,000	\$562,500	\$2,812,500
*This project uses Advanced Construction. See the explanation in the introduction for a description of this funding technique.					
Action History	Amend Adjust	Date	Remarks		
Funding Change	Mod	8/30/2007	Move \$239,085 of the \$2,000,000 (earmark) for construction to PE phase.		
Funding Change	Amend	8/2011	2011 Preliminary Engineering (PE) phase to project. \$1,025,871 (Federal Earmark)		
Add Phase	Amend	8/2011	Add 2011 Preliminary Engineering (PE) phase to project. \$1,025,871 (Federal Earmark)		
Add STP funding	Amend	11/30/11	Add \$3,000,000 STP		
Change CON FY	Mod	9/13/2013	Move from FY 2013 to FY 2015		
Change CON FY	Mod	3/10/14	Move from FY 2015 to FY 2016		
Split funding FY	Mod	10/14	Split funding between FY17 & FY18		
Change FY & Funding	Mod	11/19/14	Mod ROW phase, to FY15, change fund source from "Earmark" to "Earmark/STP-MDOT", change Fed funds to \$560,000		

§4 also addresses project funding needs and remaining project budget. As shown, Gulfport is requesting approximately \$16.12 million in RAISE funds

Of the remaining \$4.22 million project budget, approximately \$5 million (23.7%) will be utilized for R.O.W. acquisition, \$2.1 million (10%) for professional service and permitting fees, and \$14.0 million (66.4%) for construction. The above numbers are shown in \$2022.

Regarding the City’s ability to manage grants, Gulfport has a great track record implementing wide variety of grant funds from multiple sources; this was proven as the City of Gulfport was the first to finish infrastructure projects related to Hurricane Katrina (totaling \$70M). It is familiar with federal bid requirements for various grant sources. Its Community Development Division has a dedicated Grants Manager that will be the point of contact for the US DOT

once RAISE Discretionary grant funds are administered.

Project Schedule

Contrary to most applications, this project is far enough along that the construction of the first segment is complete and the second segment is funded for fiscal year 2023. As such, the City of Gulfport will commit to beginning construction of the third segment quickly upon receipt of a RAISE Discretionary Grant and that grant funds will be spent steadily and expeditiously once appropriated.

Several properties, including relocations, need to be acquired for the third segment of this project. However, the preferred route is determined and the limits of this R.O.W. have been established. Property acquisition is ready to begin and Gulfport fully commits

to begin immediately following receipt of RAISE Discretionary Grant funds. This process can be completed expeditiously.

As demonstrated, Gulfport has already completed many of this project’s required pre-construction activities and has already identified all real property that will be needed for construction. Accordingly, the City of Gulfport sees no reason that property acquisition will not be complete prior to June 1, 2025 to give U.S. DOT reasonable assurance that all RAISE Discretionary Grant funds allocated to this project will be obligated sufficiently in advance of the September 30, 2026 statutory deadline. Being so far into this project, the City feels these dates are reasonable and achievable even in the event of some unexpected delays. A conservative anticipated project schedule is presented below:

Activity	Completion Date
Finalize R.O.W. Acquisition, finalize PS&E, Assemble Bid Documents and Advertise for Construction Bids for Segment 3 (Finalize Pre-Construction Activities for Segment 3)	9/1/2024
Review Bids, Award Contract, and Begin Construction on Segment 3	1/1/2025
Close-out Construction Contract for Segment 3	6/30/2027
<i>CUT-OFF FOR OBLIGATION OF RAISE FUNDS</i>	<i>9/30/2026</i>
<i>CUT-OFF FOR FY 2022 RAISE FUNDS EXPENDITURES</i>	<i>9/30/2031</i>

Table 7.1 – Anticipated Project Schedule

Required Approvals

1) Environmental Permits

In February, 2011, a Finding of No Significant Impact (FONSI) for this project was approved by FHWA for the Mississippi Department of Transportation Environmental / Location Division and for the City of Gulfport. The project number was noted as STPD-9370-00(004)LPA / 104866. Nearly four years later, in December, 2014, a reevaluation was complete to determine if there had been any unforeseen changes in the project, its surroundings, or impacts that would result in significant impacts to the environment; both MDOT's Environmental Division Administrator and FHWA's Division Administrator concluded there were no additional modifications that would result in a significant impact to the environment.

Re-evaluation of "Finding of No Significant Impact" (FONSI)
Project Numbers STPD-9370-00(004)LPA/104866-801000
DeDeaux Rd from Three Rivers Rd to SR 605
Gulfport, Harrison County

The anticipated social, economic, and environmental impacts were evaluated as a Finding of No Significant Impact (FONSI) under Project Number STPD-9370-00(004) LPA/104866, Harrison County, Mississippi, and MDOT received approval from FHWA on February 24, 2011. The project was also re-evaluated and approved on December 19, 2014. Since that approval, the nature of the project has not been modified or revised in any way. This re-evaluation is being performed due to a lapse in time only.

This re-evaluation is being requested due to the three year lapse in time since the FONSI was last re-evaluated. The nature of the project has not been modified or revised in any way since the last approval.

In compliance with FHWA Policy, we have reviewed the environmental document to determine if there have been any changes in the project, its surroundings and impacts since the last approval. We have concluded that there have been no changes to the surroundings or new potential impacts that have not been addressed and that the original EA/FONSI and subsequent Re-evaluation remain valid. Therefore, we respectfully request a re-evaluation.

If you have any questions or require additional information, please contact Mr. Brad Johnson or myself at telephone number (601) 359-7920.

Approved by: *Brad Johnson* Date: 3/22/2022
Environmental Division Administrator, MDOT

Approved by: *Kim D Thurman* Date: 3/24/2022
for Division Administrator, FHWA

Figure 7.3 – FONSI Re-evaluation 3/24/2022

As part of the Environmental Assessment, the preferred route alternative (referred to as "Alternate E" in the FONSI / Environmental Assessment), was estimated to potentially impact 2.51 acres of wetlands common to South Mississippi.

Accordingly, a Clean Water Act, Section 404 permit was obtained from USACE, Mobile District. The Army Corps of Engineers Permit was obtained, but has since expired. This permit will need to be renewed. Furthermore, the FONSI for the project has been submitted and received for re-evaluation. This should not delay the project beyond the anticipated schedule.



Figure 7.4- Onsite Wetlands

Finally, this project is expected to disturb more than five acres during construction. Mississippi Department of Environmental Quality will require a site-specific Large Construction stormwater permit, issued under the National Pollutant Discharge Elimination System General Permit No. MSR10. This permit has been obtained for segment 1. The impacts of this permitting process are also included in the anticipated project schedule above.

2) Legislative Approvals

This project will not require any additional legislative approvals. The local MPO and MDOT have demonstrated their support by including this project in the STIP for the last 15 years. Additional stakeholder and legislative support is evidenced by the Letters of Support included as Attachment "B."

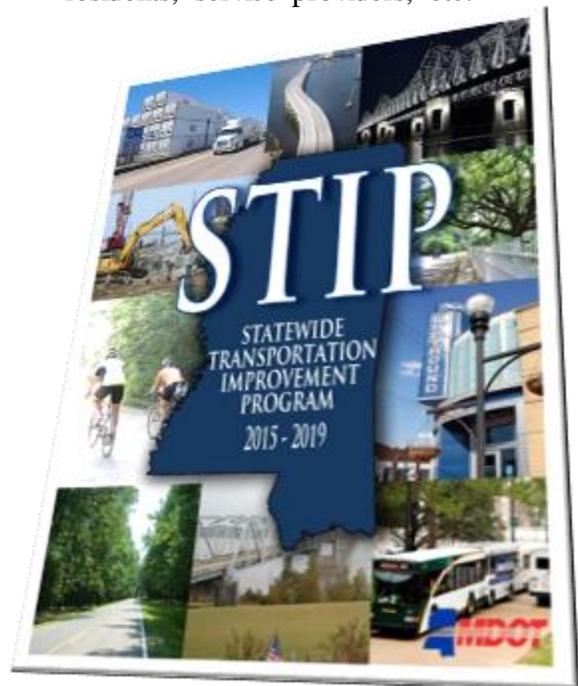
3) State and Local Planning

Gulf Regional Planning Commission (GRPC) was designated the Mississippi Gulf Coast Metropolitan Planning Organization (MPO) in 1973 and is responsible for developing and maintaining the long-range transportation planning process for the Gulfport and Pascagoula urbanized areas. In 2007, GRPC included this project in their Transportation Improvement Program (TIP) and submitted it to MDOT for inclusion in the State Transportation Improvement Program (STIP). It has remained in each in all subsequent releases.

4) Assessment of Project Risks and Mitigation Strategies

The greatest risk mitigation strategy for this project is its project readiness coupled with the extent of work that has been performed to date. Because of the following activities listed below, the City of Gulfport does not anticipate difficulties meeting deadlines for the FY2022 RAISE Discretionary funds obligation / expenditures:

- ❖ Portions of existing funding already secured
- ❖ Local MPO / MDOT support (included in the STIP)
- ❖ Engineering consultant contracts already in place
- ❖ Preferred Route and road section has been selected
- ❖ R.O.W. needs identified; 30 parcels already secured
- ❖ FONSI received
- ❖ The first segment of this project is complete.
- ❖ The second segment of this project is funded for FY 2023
- ❖ Heavy support by lawmakers, local residents, service providers, etc.



8. FEDERAL WAGE RATE CERTIFICATION

The City of Gulfport certifies that it will comply with the requirements of subchapter IV of chapter 31 of title 40, United States Code [federal wage rate requirements], as required by the FY 2022 Infrastructure Investment and Jobs Act. The City understands and appreciates that Federal wage rate requirements referenced above apply to all projects receiving funds under the RAISE Discretionary Grant Program, and that these rates apply to all parts of the project, whether funded with RAISE Discretionary Grant funds, other Federal funds, or non-Federal funds.

William “Billy” Hewes
Mayor
City of Gulfport, Mississippi

9. LIST OF ATTACHMENTS

As requested by the “Notice of Funding Opportunity for the Department of Transportation’s FY 2022 Infrastructure Investment and Jobs Act,” Attachments to this funding request can be found online at www.gulfport-ms.gov/Dedeauxroadwidening

Attachments include:

- Attachment A – Construction Cost Estimates
- Attachment B – Letters of Support
- Attachment C – Detailed Benefit-Cost Analysis
- Attachment D – Conceptual Project Plans
- Attachment E – Finding of No Significant Impacts (FONSI)
- Attachment F – Project Cover