FHWA-AL-EIS-19-01-SD

SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

PROJECT NO. DPI-0030(005)
I-10 MOBILE RIVER BRIDGE AND BAYWAY
MOBILE AND BALDWIN COUNTIES, ALABAMA

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
ALABAMA DEPARTMENT OF TRANSPORTATION

IN COOPERATION WITH:
U.S. Army Corps of Engineers, Mobile District
and
U.S. Coast Guard, Eighth District

March 2019

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03/26/2019
Date

Mark D. Bartlett
For FHWA

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Project DPI-0030(005) is a proposal to increase the capacity of Interstate Route 10 (I-10) by constructing a new six-lane bridge across the Mobile River and replacing the existing four-lane I-10 bridges across Mobile Bay with eight lanes above the 100-year storm elevation. The proposed project is located in Mobile and Baldwin Counties, Alabama.

EXECUTIVE SUMMARY

ES-1.0 PURPOSE OF SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

A Draft Environmental Impact Statement (DEIS) was signed by the Federal Highway Administration (FHWA) on July 22, 2014. Due to changes that occurred subsequent to the DEIS, the FHWA determined that a Supplemental DEIS and a combined Final EIS/Record of Decision (FEIS/ROD) would be prepared. The Notice of Intent (NOI) to prepare a Supplemental DEIS and a combined FEIS/ROD was published in the *Federal Register* on June 5, 2017. The Supplemental DEIS was prepared primarily to evaluate the effects of tolling and other changes on potential impacts, which were not addressed in the DEIS.

ES-2.0 PURPOSE AND NEED

The purpose of this project is to increase the capacity of I-10 to meet existing and projected future traffic volumes and to provide a more direct route for vehicles transporting hazardous materials, while minimizing impacts to Mobile's maritime industry.

The existing traffic volumes result in ongoing traffic flow or congestion problems. The 2016 Annual Average Daily Traffic (AADT) crossing the Mobile River was 103,609 vehicles at the three locations in Mobile. The level of traffic results in failing Levels of Service (LOS) of E and F with delays during peak traffic periods at locations along the I-10 corridor, including the Wallace Tunnel and Bayway. The projected AADT crossing the Mobile River in 2040 is 173,018 at the three locations in Mobile, which would create more congestion and longer delays. A LOS E represents an unstable congested condition in which operating conditions are extremely poor. A LOS of F represents a traffic condition that produces a breakdown in traffic flow due to the amount of traffic exceeding capacity.

ES-3.0 PROJECT DESCRIPTION

The I-10 Mobile River Bridge and Bayway project is a proposal to increase the capacity of I-10 by constructing a new six-lane bridge with 215 feet of air draft clearance (ADC) across the Mobile River to supplement the four-lane George Wallace Tunnel. It also includes replacing the existing four-lane I-10 bridges across the Mobile Bay with new eight-lane bridges. The proposed project would be located in Mobile and Baldwin Counties, Alabama. The proposed project would provide a LOS of D or better on I-10 in 2040, with the majority of the route improved to LOS of B or better during peak traffic periods. The proposed project would also provide a direct interstate route for hazardous material transport, and would minimize adverse impacts to the maritime industry. **Figure ES-1** depicts the overall setting and the location of a number of features that are addressed in this document.

ES-4.0 ALTERNATIVES

A wide range of alternatives, including mass transit, Transportation System Management (i.e., ramp metering, Intelligent Transportation Systems (ITS), etc.), the No Build Alternative, and fourteen Build Alternatives, have been evaluated in relation to this project. Four Build Alternatives and the No Build Alternative have been carried through the environmental process. Alternative B' has been identified as the Preferred Alternative. The approach to identifying the Preferred Alternative included an analysis of environmental, social, economic, engineering, and other considerations. The No Build Alternative provides a basis for comparison of effectiveness of alternatives and their associated impacts. Final selection of an alternative will not be made until the alternatives' impacts and comments on the Supplemental Draft Environmental Impact Statement (DEIS) and from the public hearings have been fully evaluated.

ALABAMA DEPARTMENT OF TRANSPORTATION
I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

ALABAMA DEPARTMENT OF TRANSPORTATION

thompson

MOTT MACDONALD

HDR

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community NAIP 2015 - 1 Meter Resolution

LEGEND
- Preferred Alternative
- Major Interstate
- US Highways
- Major Roads

FIGURE ES-1
PROJECT LOCATION MAP

PROJECT NO.: 15-1101-0300

DATE: JANUARY 2019

Date 2/6/2019

ES-5.0 SUMMARY OF CHANGES SINCE DEIS

ES-5.1 Logical Termini

The eastern terminus of the proposed project has been extended from the exit ramp from the Bayway to the US-90/US-98 interchange in Daphne to just east of the US-90/US-98 interchange in Daphne. Extending the eastern terminus allows for interchange improvements that will better accommodate future traffic projections. The termini are shown on **Figure ES-1**.

ES-5.2 Refinements to Alignment

Since the DEIS, modifications to interchange concepts and shifts in the mainline alignment of the Preferred Alternative have been made based on more engineering design and updated traffic studies.

The DEIS envisioned modifications to the interchanges along the I-10 corridor from Broad-Duval Street in Mobile to US-90/US-98 in Daphne would be required, but it did not contain detailed concepts nor did it include an analysis of how those interchanges would function. The Supplemental DEIS contains more detailed evaluations of those interchange modifications. A Draft *Interstate Modification Request* (IMR) has been prepared for the proposed project. The IMR analyzes how the interchanges would function in terms of traffic and capacity. The proposed improvements evaluated in the IMR were considered acceptable from an operational standpoint by FHWA in a letter to ALDOT dated October 3, 2018. Final approval of the IMR is conditional upon approval of the FEIS/ROD.

ES-5.3 Bayway

The DEIS envisioned that the existing I-10 Bayway would be widened to the inside of the existing bridges to provide eight lanes of capacity (four lanes in each direction). Storm surge analyses were performed after the DEIS was signed. These analyses indicate that much of the existing Bayway is vulnerable to damage from storm surge, meaning that all or portions of these structures could be damaged during a storm event. Hurricanes

have caused substantial damage to interstate bridges in Florida, Mississippi, and Louisiana in the last decade. Based on the results of the storm surge analyses, it was determined that the Bayway should be replaced with new bridges at a higher elevation rather than widened as proposed in the DEIS. The new Bayway will be up to 8 feet higher than the existing elevation on average. The existing Bayway will be demolished.

The DEIS indicated that construction would be contained entirely between the existing Bayway bridges except at the eastern end where the gap between the bridges narrows near the US-90/US-98 interchange in Daphne. Replacement of the Bayway will require more disturbance in order to maintain interstate traffic during construction. Construction outside of the existing Bayway bridges is likely at the each of the interchanges along the Bayway. The modified approach will allow new ramps to be constructed outside of the footprint of the existing ramps, but within ALDOT's right-of-way, so that the existing infrastructure can continue to carry traffic during construction.

The DEIS envisioned the Bayway to be constructed using segmented (modular) barges and did not allow for dredging. Since the DEIS, bathymetric surveys performed as part of the storm surge analyses indicate that portions of the area between the existing Bayway bridges have naturally filled in to depths of less than six feet due to shoaling. In order to better facilitate construction of the new Bayway bridges, it has been determined that dredging may be required in areas where water depths are less than six feet. Dredging would reduce construction time and result in substantial construction cost savings.

Dredging would occur within the previously disturbed construction channel that was used to build the existing Bayway. The proposed dredging would be approximately 125 feet wide and 6 feet deep, which is less than the dimensions of the original construction channel. Dredging would occur in open water areas where wetlands are not present. It is estimated that approximately 325,000 cubic yards of material would be dredged. It is anticipated that the dredged material would be beneficially used to create the marsh island mitigation site for the project.

Since the DEIS, other construction methodologies, including construction from above (top-down) or from temporary trestles, have also been considered because they may reduce the construction time required and therefore minimize impacts to the traveling public. Use of barges and/or top-down construction are the preferred construction methodologies for the Bayway. Final construction methodologies will be coordinated with the agencies as part of the Final Mitigation Plan for wetlands, submerged aquatic vegetation (SAV), and essential fish habitat (EFH), and the Section 404/401 Permit.

ES-5.4 Funding the Project/Tolling

The proposed project was originally envisioned as a traditional Federal-aid project where Federal funds would be used to pay for 80 percent of the project, and state funds would be used to pay for the remaining 20 percent. The expanded scope of the proposed project to include interchange modifications and replacement of the Bayway at a higher elevation has resulted in a substantial increase in total estimated cost from approximately $773 million to approximately $2.1 billion. ALDOT's budget for capacity projects is approximately $135 million per year.

In recent years, a renewed interest in tolling has resulted from a nationwide funding shortfall. Technological advancements have made all-electronic tolling (toll-by-plate) a viable option for implementing tolls on roadways. All-electronic tolling eliminates the need for toll plazas, removing the concern about increased environmental impacts, and allows tolls to be collected without drivers having to stop or even slow down.

After the DEIS was signed, ALDOT began to reconsider the advantages of tolling. A traffic and revenue study was prepared and determined that tolling is a viable funding source for the project. The traffic and revenue study evaluated multiple options for tolling, including a variety of locations of tolling gantries to collect electronic tolls and a range of potential toll amounts. As currently proposed, Virginia Street to the US-90/US-98 interchange in Daphne on I-10 would be tolled. I-10 Business from Canal Street/Water Street through the Wallace Tunnel to its connection with the Bayway

would also be tolled. Because of the funding challenges ALDOT and the Federal government are currently experiencing, the project is only viable if the corridor is tolled.

ES-5.5 Alternative Delivery Method

Subsequent to the DEIS, ALDOT decided to pursue a public-private partnership (P3) to advance the proposed project. This P3 pairs ALDOT with a private partner or partners to design, build, finance, operate, and maintain (DBFOM) the new Mobile River Bridge and Bayway to lessen the burden on public tax dollars.

As the public partner, ALDOT will facilitate the selection of a private partner, or Concessionaire, through a competitive process. The Concessionaire agrees to lease the infrastructure in the designated project area for 55 years, making the Concessionaire responsible for designing and constructing the project, as well as maintaining and preserving the roadways and bridges over the life of the lease. During the 55-year term, ALDOT will provide oversight and hold the Concessionaire accountable for the goals, deadlines, and budgets detailed in the lease. The Concessionaire will also be required to meet all of the commitments detailed in the approved FEIS/ROD. After 55 years, ALDOT will take over the maintenance and operations of the facility.

Toll revenue will be used to cover the financing, operations, and maintenance costs of the proposed project. Tolls will also allow the private partner to recover its investment in the project over the life of the P3 agreement. It is anticipated that the tolls will remain in effect after the end of the concession period to help cover continued maintenance and operation costs. If needed, ALDOT will be required to invest in the proposed project to make up the difference between the private investment and project cost.

ES-5.6 Bicycle/Pedestrian Accommodations

The DEIS committed to providing a bicycle and pedestrian crossing of the Mobile River as part of the proposed project. The specific route was not identified in the DEIS. Multiple bicycle and pedestrian alternatives were evaluated and discussed with the

public and stakeholders as part of the development of the Supplemental DEIS. After reviewing input from a Bicycle/Pedestrian Public Workshop and further discussions with the bicycle/pedestrian focus groups and Bicycle Pedestrian Advisory Committees (BPACs) from Mobile and Baldwin Counties, ALDOT's preferred solution includes a combination of facilities to meet the interests of a variety of user groups.

The preferred route is a bicycle/pedestrian facility from downtown Mobile via the Cochrane-Africatown USA Bridge and then to the USS ALABAMA Battleship Park. This route includes funding and building a bicycle and pedestrian shared use path from the I-165 southbound on-ramp at Bay Bridge Road to the Cochrane-Africatown USA Bridge. ALDOT will retrofit the Cochrane-Africatown USA Bridge to provide two protected bicycle and pedestrian lanes (one on each side of the bridge). The bicycle and pedestrian path will be a minimum of eight feet wide. ALDOT proposes to provide a shared use path on the south side of Bay Bridge Road and a sidewalk on the north side of Bay Bridge Road with crosswalks at appropriate locations. More detailed studies, design, and coordination with the local community will be required to finalize the details of the bicycle and pedestrian facilities along this route. ALDOT will work with local municipalities to extend this route to downtown Mobile and to the USS ALABAMA Battleship Memorial Park.

In addition to the above-listed facilities, ALDOT commits to constructing a belvedere (i.e., an overlook that provides a space for people to stop, rest, and enjoy the view) on the bridge at the west main tower. Access to the belvedere will be provided via an elevator and stair tower on the west side of the river.

Bicycle and pedestrian facilities will also be provided at interchanges within the project limits.

ES-6.0 ALTERNATIVES COMPARISON MATRIX

The alternatives comparison matrix in the DEIS shows a comparison of selected attributes and associated categories of the impacts to provide differentiating factors for the four Build Alternatives and the No Build Alternative. In order to update the matrix

in this Supplemental DEIS, design refinements made to the Preferred Alternative have been applied to the other Build Alternatives, where applicable. **Table ES-1** presents an updated comparison of alternatives based on information contained in the DEIS and this Supplemental DEIS.

TABLE ES-1: ALTERNATIVES COMPARISON MATRIX

Description of Impact/Benefit Areas	No Build (Supplemental DEIS)	DEIS	Build Alternatives – Supplemental DEIS			
		Alternative B' (Preferred)	A	B	Preferred Alternative	C
Local Road Modifications	No	Yes	Yes	Yes	Yes	Yes
			As discussed in Section 4.1.4, all of the Build Alternatives would require modifications and/or closures of local roads to accommodate interchange modifications and high level approaches.			
Improvements to Bicycle/Pedestrian Facilities	No	Yes	Yes	Yes	Yes	Yes
			All of the Build Alternatives would include improvements to bicycle/pedestrian facilities as described in Section 3.8.2.			
Navigation Impacts	No	Yes	Yes	Yes	Yes	Yes
			As discussed in Sections 4.2 and 4.14.6, the proposed project will result in temporary impacts to navigation during construction. Appropriate clearances have been developed for the main span over the Mobile River as well as the Tensaw, Apalachee, and Blakeley Rivers.			
Hazardous Materials Sites (each)	0	7	12	12	12	13
Economic Loss ($M)*	$0	$6.1	$5.6	$6.1	$6.1	$200
Economic Benefits ($M)*	$0	$549-1,066	$537-1,054	$549-1,066	$549-1,066	$560-1,077
Tolling	No	No	Yes	Yes	Yes	Yes
Estimated Total Cost	0	$773.1 M	$2.09 B	$2.08 B	$2.08 B	$2.1 B
Residential Relocations	0	0	0*	0	0	4*
Business Relocations	0	12	14*	26	26	13*
Utility Relocations	No	Yes	Yes	Yes	Yes	Yes
Environmental Justice	No	No	Yes	Yes	Yes	Yes
			As discussed in Section 4.6, the proposed project would result in disproportionately high and adverse effects on the Africatown/Plateau community due to traffic diverting to the non-tolled route along Bay Bridge Road and the Cochrane-Africatown USA Bridge.			
Farmland Impacts	N/A	N/A	N/A	N/A	N/A	N/A
			The Farmland Protection Policy Act does not apply to the proposed project because Mobile and Daphne are urbanized areas per the U.S. Census Bureau.			
Floodplain Impacts	No	Yes	Yes	Yes	Yes	Yes

Description of Impact/Benefit Areas	No Build (Supplemental DEIS)	DEIS Alternative B' (Preferred)	Build Alternatives – Supplemental DEIS			
			A	B	Preferred Alternative	C
			As described in Section 4.10 of the DEIS, the proposed project would result in an encroachment on floodplains. The encroachment would be similar for all of the Build Alternatives, and the project would be designed to avoid raising the base flood level in the project area.			
Wetland Impacts (acres)	0	1.7	6	6	6	11
Submerged Aquatic Vegetation Impacts (acres)	0	33.4	16.1	16.1	16.1	16.1
Essential Fish Habitat Impacts (acres)	0	67.15	22.1	22.1	22.1	27.1
303(d) Impaired Waterbody Crossings	0	3	1	1	1	1
Additional Impervious Area (acres)	N/A	N/A	~100	~100	~100	~100
Threatened, Endangered, and other Listed Species Impacts	No	Yes	Yes	Yes	Yes	Yes
			The USFWS issued a Biological Opinion and Incidental Take Permit for the Gulf sturgeon and the Alabama red-bellied turtle. Additionally, the USFWS specified requirements to avoid impacts to the manatees. Potential impacts to these species would be the same for all of the Build Alternatives.			
Traffic Noise Impacted Receptors (each)	299	276 *(Note: DEIS text listed 275 impacts, but the analysis indicated that there were 276 impacts)*	~276*	~276*	276	~350*
Air Quality Impacts	No	No	No	No	No	No
			As discussed in Section 4.11, the proposed project would not result in exceedances of NAAQS.			
Lighting Impacts	Yes	Yes	Yes	Yes	Yes	Yes
			As discussed in Section 4.12, all of the Build Alternatives would result in changes in lighting conditions within the project corridor and would introduce a new light source, the Mobile River Bridge. The environmental commitments contain requirements for lighting that will offset these impacts.			
Impacts to Cultural Resources (Historic Structures, Visual Effects on Historic Districts)	0	0	2	2	2	2

Description of Impact/Benefit Areas	No Build (Supplemental DEIS)	DEIS Alternative B' (Preferred)	Build Alternatives – Supplemental DEIS			
			A	B	Preferred Alternative	C
Impacts to Archaeological Sites	0	1	Due to the historical development and use of the area between I-10 and the Mobile River and based upon cultural resources surveys performed on properties in this area to date, it is reasonable to expect Alternatives A, B, the Preferred Alternative, and C would result in similar impacts to archaeological sites.			
Impacts to Section 4(f) Properties (each)	0	0	0	0	0	1
Construction Impacts	No	Yes	Yes	Yes	Yes	Yes
			As discussed in Section 4.14, all of the Build Alternatives would result in temporary impacts related to sediment and runoff, noise, vibrations, and navigation.			
Indirect Effects	No	Minimal	Yes	Yes	Yes	Yes
			As discussed in Section 4.19.3 of the DEIS, the Build Alternatives would have minimal indirect effects on ecosystems or socio-economic resources. As discussed in Section 4.16.1, tolling would result in indirect effects on the non-tolled route due to traffic diverting to avoid the toll.			
Cumulative Effects	No	Yes	Yes	Yes	Yes	Yes
			As discussed in Section 4.16.2, the Build Alternatives would contribute to the cumulative effects on the viewsheds of the Church Street East Historic District and Lower Dauphin Street Historic District, which would further diminish the settings of these districts. The potential for cumulative noise impacts was also considered in this Supplemental DEIS. The design year traffic projections used for the noise analysis include 20 years of growth and include planned and programmed projects. As a result, the noise impacts described in Section 4.10 include predicted growth and represent both direct and cumulative noise impacts.			

** Based upon information contained in 2014 DEIS*

ES-7.0 ECONOMIC IMPACTS – TOLLING

ALDOT has established a toll policy that sets a maximum toll that can be charged. The maximum toll rate included in the toll policy ranges from $3 to $6 (in 2020 dollars). The Concessionaire will determine the final toll rate in accordance with the toll policy. It is anticipated that the tolled lanes will be divided into toll segments so that drivers only pay for the portion of the tolled facility that they use. The proposed maximum toll rate for the entire length of the tolled corridor for a passenger vehicle is $6 (in 2020 dollars). Toll rates will vary depending on the classification of the vehicles.

Paying tolls will result in a new expense to travelers on the I-10 corridor. However, drivers will have the option to take the non-tolled route to avoid paying the toll. While users would pay a toll to use I-10 from Virginia Street to the US-90/US-98 interchange in Daphne and I-10 Business from Canal Street/Water Street through the Wallace Tunnel to its connection with the Bayway, they would receive a benefit of reduced congestion and more reliable travel times on I-10. For the general public, tolls will represent a new cost in their household budget, with the cost of a toll representing a higher portion of the household income of low-income drivers compared to households with higher incomes. The daily, weekly, monthly, and annual expenditure resulting from paying a toll would be directly related to the number of times the driver uses the tolled route per day. For example, for people who use the entire tolled route twice per weekday to commute for work, the toll would cost approximately $60 per week (if the toll is set at the upper end of the acceptable range). To help offset the cost of tolls for frequent users, ALDOT will incorporate a frequent user discount program into their toll policy. Currently, ALDOT is evaluating a 15% discount when 20 or more trips are taken in a month.

The trucking industry would also be affected by the implementation of a toll on I-10. The project would provide trucks with a more direct, less congested route across Mobile River and Mobile Bay. Trucks transporting hazardous materials would no longer be routed to I-65, I-165, and the Cochrane-Africatown USA Bridge to cross the Mobile River

but will be able to use a direct, non-congested route. The cost of the toll for trucks would likely be four to six times higher than the cost for a passenger vehicle, depending upon the size of the truck. ALDOT has committed to maintaining a non-tolled route across both the Mobile River and Mobile Bay for trucks and other users who do not want to pay a toll.

In addition to the impacts associated with users of the tolled facility, the potential impacts on businesses along a tolled or non-tolled route were also considered. Conclusions regarding the economic effects of tolling on businesses along a tolled or non-tolled route vary depending upon a project's location and setting. Based upon the results of the IMR, the proposed project is expected to result in increased traffic along Bay Bridge Road, the Cochrane-Africatown USA Bridge, US-90 between the Cochrane-Africatown USA Bridge and the Bankhead Tunnel, and the US-90/US-98 Causeway. Increased traffic could result in increased congestion along these routes. Measures to manage congestion and maintain access to businesses along these routes will be implemented prior to tolling commencement.

ES-8.0 RELOCATION IMPACTS

Refinements to the interchange concepts and the shift in the mainline alignment of I-10 to the east resulted in additional business relocations from Virginia Street to Texas Street. The acquisitions for the Preferred Alternative increased from 12 to 26. The Preferred Alternative would impact 26 businesses and 9 signs. No residential or non-profit organizations would be relocated.

ES-9.0 ENVIRONMENTAL JUSTICE

A new Environmental Justice Assessment was prepared for the proposed project primarily to address effects of tolling. Based upon the Environmental Justice Assessment, the projected impacts on the Africatown/Plateau community due to traffic diverting onto the non-tolled route are expected to be disproportionately high and adverse on Environmental Justice populations. The impacts that are expected to be

disproportionately high and adverse include: community cohesion and degradation of LOS.

Implementation of the mitigation measures will not offset the identified disproportionately high and adverse impacts on EJ populations. There is no practicable alternative that would avoid or reduce the disproportionately high and adverse impacts. There is a substantial need for the project based on the best overall public interest, as congestion on the I-10 corridor continues to grow due to lack of adequate capacity. The mitigation measures will, however, provide a benefit to the Africatown community by addressing access, congestion, and speed issues that are currently experienced and would continue to be experienced without the project, as well as those that are projected to result from the project. ALDOT will work with Africatown to implement the mitigation measures through community outreach, public meetings, and/or a steering committee. This will provide continued opportunities for involvement of Africatown representatives to promote compatibility with plans for Africatown's development and growth.

ES-10.0 WETLANDS, SUBMERGED AQUATIC VEGETATION, AND ESSENTIAL FISH HABITAT

Updated surveys for wetlands and submerged aquatic vegetation (SAV) were conducted in 2015 and 2016. The anticipated impacts to those resources have been updated based on the more recent surveys. The proposed project is expected to result in impacts to approximately 6 acres of estuarine emergent wetlands (marsh) and 1.3 acres of scrub shrub and forested wetlands. Approximately 16.1 acres of SAV are expected to be impacted by the proposed project due to shading or dredging. A total of approximately 22.1 acres of essential fish habitat (EFH) would be impacted by the proposed project.

This Supplemental DEIS contains a Draft Mitigation Plan that has been developed with the regulatory and resource agencies to offset the loss of wetlands, SAV, and EFH. A mitigation ratio of 1.5:1 for wetlands and 2:1 for SAV has been agreed upon by the agencies. The proposed mitigation approach includes creating approximately 9 acres of

marsh and approximately 32.2 acres of SAV habitat at a location north of the Mobile Bay Causeway. Impacts to scrub shrub and forested wetlands will be mitigated through the purchase of an appropriate number of credits from a USACE-approved mitigation bank. A Final Mitigation Plan will be developed following the FEIS/ROD as part of the permitting process.

ES-11.0 THREATENED, ENDANGERED, AND OTHER LISTED SPECIES

A Biological Assessment for the West Indian manatee was conducted and coordinated with the USFWS subsequent to the DEIS. Special provisions to avoid impacts to manatees have been added as environmental commitments since the DEIS.

ES-12.0 TRAFFIC NOISE IMPACTS

The traffic noise analysis was updated using updated traffic projections. The analysis was also expanded to include additional areas of assessment along Bay Bridge Road and along US-90/US-98 near Daphne. These two areas were added to the noise analysis due to anticipated increases in traffic on non-tolled routes projected to result from traffic pattern changes associated with tolling. A total of 1,185 receptors were analyzed in the updated noise analysis. A total of 198 receptors currently experience traffic noise impacts. A total of 299 receptors are expected to experience traffic noise impacts in the 2040 No Build scenario, and a total of 276 receptors are expected to experience traffic noise impacts approaching or exceeding the noise abatement criteria in the 2040 Build scenario. There were no projected noise increases of 15 dBA or greater. It should be noted that some of the receptors predicted to be impacted in the DEIS analysis are no longer predicted impacts. This change is primarily the result of lower predicted traffic volumes on high speed routes than was previously estimated in the DEIS. It is anticipated that all of the Build Alternatives would experience decreases in projected traffic noise impacts along I-10 due to lower projected traffic volumes with tolling. Similar traffic noise impacts along Bay Bridge Road and US-90/US-98 would occur due to traffic diverting to the non-tolled route to avoid paying a toll.

Noise abatement measures were evaluated and determined not to be reasonable per ALDOT's Noise Policy.

ES-13.0 CULTURAL RESOURCES

Additional Section 106 Consultation activities with the Consulting Parties have occurred since the DEIS. By letter dated May 15, 2015, FHWA changed its determination of effects from "no adverse effect" to "adverse visual effect" on the Church Street East Historic District and the Lower Dauphin Street Historic District in response to comments from the SHPO and Consulting Parties. Since that time, FHWA and ALDOT have worked with the Section 106 Consulting Parties to develop a Draft Memorandum of Agreement (MOA) to identify appropriate mitigation measures for adverse effects on historic resources. Consultation will continue with SHPO and the other Consulting Parties to finalize the MOA which will be signed by the FHWA, Advisory Council on Historic Preservation, Alabama Historical Commission, and ALDOT. The Final Section 106 MOA will be completed prior to the combined FEIS/ROD.

Two additional historic resources have been added to the project's area of potential effect since the DEIS due to potential impacts from tolling. These resources are the Africatown Historic District and the US-90/US-98 Causeway. By letter dated February 8, 2019, SHPO concurred that the project would not have adverse effects on these resources.

ES-14.0 NEXT STEPS/CONCLUSION

The next step in the decision-making process is to conduct public hearings on the Supplemental DEIS and to solicit public and agency comments. It is anticipated that a combined FEIS/ROD will be prepared to address comments received at the public hearings. The combined FEIS/ROD will include a Selected Alternative and a signed Section 106 MOA.

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List of Acronyms

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway Transportation Officials
ACAMP	Alabama Coastal Area Management Program
ACHP	Advisory Council on Historic Preservation
ADAAG	Americans with Disabilities Act Accessibility Guidelines
ADC	Air Draft Clearance
ADCNR	Alabama Department of Conservation and Natural Resources
ADECA	Alabama Department of Economic and Community Affairs
ADEM	Alabama Department of Environmental Management
ADDSCO	Alabama Dry Dock & Shipbuilding Company
AHC	Alabama Historical Commission
ALDOT	Alabama Department of Transportation
APE	Area of Potential Effects
ASSF	Alabama State Site File
ASPA	Alabama State Port Authority
BCR	Benefit to Cost Ratio
BID	Business Improvement District
BMP	Best Management Practices
BRATS	Baldwin Rural Area Transportation Systems
CAA	Clean Air Act
CBD	Central Business District
CBRA	Coastal Barrier Resource Act
CBMPP	Construction Best Management Practices Plan
CCL	Carnival Cruise Lines
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMT	Crepe Myrtle Trail
CMP	Congestion Management Process
CO_2	Carbon Dioxide
CO	Carbon Monoxide
CWA	Clean Water Act
dBA	“A-weighted” decibel unit measure
DBFOM	Design Build Finance Operate and Maintain
DDI	Diverging Diamond Interchange
DEIS	Draft Environmental Impact Statement
DFCP	Daphne Future Comprehensive Plan
DWA	Day Wilburn Associates, Inc.
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EJ	Environmental Justice
FAA	Federal Aviation Administration

FAL	Final Assembly Line
FEIS	Final Environmental Impact Statement
FEIS/ROD	Final Environmental Impact Statement/Record of Decision
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FPPA	Farmland Protection Policy Act
FY	Fiscal Year
GIS	Geographic Information System
HCM	Highway Capacity Manual
HEI	Health Effects Institute
HMPS	Historic Mobile Preservation Society
HOV	High-Occupancy Vehicle
HSF	Highlands of Spanish Fort
HSS	U.S. Department of Health and Human Services
I-10	Interstate 10
ICTF	Intermodal Container Transfer Facility
IMR	Interstate Modification Request
IRIS	Integrated Risk Information Systems
ITS	Intelligent Transportation Systems
JHSV	Joint High Speed Vessels
LCS	Littoral Combat Ship
LOS	Level of Service
LRTP	Long Range Transportation Plan
MAAHT	Mobile African American Heritage Trail
MACC	Mobile Area Chamber of Commerce
MATS	Mobile Area Transportation Study
MBNEP	Mobile Bay National Estuary Program
MHDC	Mobile Historic Development Commission
MMF	Modular Manufacturing Facility
MOA	Memorandum of Agreement
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer Systems
MSAT	Mobile Source Air Toxics
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent

NRHP	National Register of Historic Places
NRNL	National Register of Natural Landmarks
NPDES	National Pollutant Discharge Elimination System
NTHP	National Trust for Historic Preservation
P3	Public Private Partnership
PM	Particulate Matter
PROWAG	Public Right-of-Way Accessibility Guidelines
RESTORE	Resource and Ecosystems, Sustainability Tourist Opportunity, and Revived Economies of the Gulf Coast States Act of 2012
ROD	Record of Decision
ROW	Right-of-Way
RSA	Retirement Systems of Alabama
SARPC	South Alabama Regional Planning Commission
SAV	Submerged Aquatic Vegetation
SFCP	Spanish Fort Comprehensive Plan
SHPO	State Historic Preservation Officer
STIP	Statewide Transportation Improvement Program
TEA-21	Transportation Equity Act
TEUs	Twenty-foot Equivalent Units
THPO	Tribal Historic Preservation Officer
TIP	Transportation Improvement Plans
TMA	Traffic Management Area
TMDL	Total Maximum Daily Load
TNM	Traffic Noise Model
TRB	Transportation Research Board
TTI	Texas Transportation Institute
USA	United States of America
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USCG	United States Coast Guard
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish & Wildlife Service
VMT	Vehicle Miles Traveled

1.0 INTRODUCTION

The National Environmental Policy Act (NEPA) requires Federal agencies to prepare Environmental Impact Statements (EISs) for major Federal actions that may significantly affect the quality of the human environment. The EIS details the process through which a transportation project is developed, including consideration of a range of reasonable alternatives, analysis of the potential impacts resulting from the alternatives, and demonstrating compliance with other applicable environmental laws and executive orders.

This EIS was developed in accordance with the following:

- FHWA Environmental Impacts and Related Procedures regulations found in 23 CFR Part 771, 42 United States Code (U.S.C.) 4321 et seq., NEPA, as amended;
- 23 U.S.C. 138 and 49 U.S.C. 303, Section 4(f) of the Department of Transportation Act of 1966;
- 40 CFR 1500 et seq., Council on Environmental Quality (CEQ), Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act; and
- 36 CFR Part 800 Section 106 Protection of Historic Properties.

1.1 Background

In 1997, a Feasibility Study was conducted to determine whether constructing a bridge over the Mobile River near the Central Business District (CBD) would alleviate congestion in the Wallace Tunnel (Volkert, 1997). The study concluded that a bridge could provide additional traffic capacity along I-10 and reduce congestion in the Wallace Tunnel.

However, increasing the capacity only across the Mobile River would relocate the congestion problem to the I-10 Bayway. The existing I-10 Bayway consists of parallel bridges that carry eastbound and westbound I-10 across Upper Mobile Bay between the

Wallace Tunnel and the City of Daphne. The existing Bayway bridges are approximately 7.5 miles long, and each bridge consists of two travel lanes. Based upon projected traffic and the availability of only two travel lanes in each direction on the existing Bayway, the need to increase the capacity of the Bayway from four lanes to eight lanes became apparent and was added to the project. In the sixteen years since the Feasibility Study was prepared, a number of alternatives have been developed and evaluated. **Figure 1** depicts the overall project setting and the location of a number of features that are discussed in this EIS.

An Environmental Assessment (EA) for the proposed project was signed by the FHWA on June 9, 2003 (Volkert, 2003). Because of concerns related to visual impacts of the bridge on historic properties, the FHWA elevated the level of documentation to an EIS. The NOI to prepare an EIS was published in the *Federal Register* on October 20, 2003.

The DEIS for the proposed project was signed by the FHWA on July 22, 2014. Due to changes in the proposed project that occurred subsequent to the DEIS, it was determined that a Supplemental DEIS and a combined FEIS/ROD would be prepared. The NOI to prepare a Supplemental DEIS and a combined FEIS/ROD was published in the *Federal Register* on June 5, 2017. The primary reason a Supplemental DEIS has been prepared is to address the addition of tolling and other changes to the project. The addition of tolling led to a range of potential impacts that were not previously considered in the DEIS. Updated traffic studies were performed to evaluate tolling as a viable method for generating funds for the project. The results of the updated traffic studies were used to update environmental studies and associated potential impacts in the Supplemental DEIS.

On January 14, 2013, the FHWA and the Federal Transit Authority issued Interim Guidance on MAP-21, Moving Ahead for Progress in the 21st Century Act, Section 1319,

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DEPARTMENT OF TRANSPORTATION

MOTT MACDONALD

thompson

HDR

2,000 0 2,000 4,000 Feet

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community NAIP 2015 - 1 Meter Resolution

LEGEND

- Preferred Alternative
- Major Interstate
- US Highways
- Major Roads

FIGURE 1
PROJECT LOCATION MAP

PROJECT NO.: 15-1101-0300

DATE: JANUARY 2019

Date 2/6/2019

Accelerated Decision-Making in Environmental Reviews and available at http://www.fhwa.dot.gov/map21/guidance/guideaccdecer.cfm. This guidance addresses Section 1319(b) "Single Final EIS and ROD Document," directing the combining of the FEIS and ROD into a single document unless:

- The FEIS makes substantial changes to the proposed action that are relevant to environmental or safety concerns or
- There are significant new circumstances or information relevant to environmental concerns and that bear on the proposed action or the impacts of the proposed action.

At this time, neither of the two exceptions apply. Therefore, the plan is to address comments received from the public and agencies in a combined FEIS/ROD.

1.2 Purpose of Supplemental DEIS

The purpose of this Supplemental DEIS is only to supplement the original DEIS, not to replace it. The Supplemental DEIS identifies new information and activities that have occurred in the project since the July 2014 DEIS. The issues addressed in this Supplemental DEIS include, but are not limited to: design refinements to the alignment and interchange concepts, storm surge analysis, tolling as a funding mechanism, traffic studies, Section 4(f) Evaluation, Section 106 consultation, bicycle/pedestrian facilities, threatened and endangered species, ecological resources, hazardous materials, cultural resources surveys, agency coordination and public outreach activities, and the decision to utilize an alternative delivery method to design, build, finance, operate, and maintain (DBFOM) the proposed project. Each of these topics, along with relevant updates to other information presented in the DEIS, is discussed in this Supplemental DEIS. **Table 1** at the end of this chapter summarizes the changes covered in this Supplemental DEIS.

The process used to develop this Supplemental DEIS incorporated new information into and updates to the impacts and analyses where changes have occurred since the DEIS was signed. The DEIS still remains valid except where superseded by changes

documented in this Supplemental DEIS. The DEIS is incorporated by reference (FHWA, 2014). The No Build and four Build Alternatives from the DEIS are still under consideration and will be carried through the environmental phase. For the purposes of this Supplemental DEIS, design refinements have been shown on the Preferred Alternative. It is anticipated that the analyses performed and presented in this Supplemental DEIS would affect the other Build Alternatives similarly. Where applicable, the differences among the potential impacts of the Build Alternatives are noted.

The Supplemental DEIS follows the same process and format as the original DEIS except that scoping was not required, and the Supplemental DEIS omits any discussion of areas where the DEIS remains valid. The Supplemental DEIS will be made available for review and comment by the public and agencies. Notification of the availability of this Supplemental DEIS will be made in the *Federal Register* and on the project website (www.mobileriverbridge.com). In accordance with ALDOT's Public Involvement Policy, copies will be available for review at ALDOT's Central Office and Southwest Region Office, as well as on the project website.

1.3 Summary of Key Decisions from DEIS

Several key decisions are addressed in detail in the DEIS. These decisions are summarized in the following paragraphs.

Development of Build Alternatives

A wide range of alternatives, including mass transit, Transportation System Management, the No Build, and fourteen Build Alternatives, have been evaluated in relation to this project.

In 2005, an Alternatives Screening Evaluation was conducted for the proposed project and evaluated 14 potential Build Alternatives for detailed environmental and engineering analysis. The 14 alternatives were developed in consultation with the public and stakeholders. The alignments were screened for their ability to meet the

purpose and need of the project, the technical feasibility of constructing the alignment, the economic impact of travel savings, the estimated cost of the alternative, and anticipated overall impacts to the human and natural environment. The report is contained in Appendix B of the DEIS, which is available at ALDOT's Southwest Region Office or online at www.mobileriverbridge.com.

Of the 14 potential build alternatives, four alternatives were recommended for further consideration; however, two of them were combined into one alternative due to their proximity to one another. The alternatives were named A, B, and C.

Alternative B' was developed several years after the Alternatives Screening Evaluation in response to input from local stakeholders, which included Austal, the Alabama State Port Authority (ASPA), the Mobile Area Chamber of Commerce, and the City of Mobile. These stakeholders requested that ALDOT shift the alignment of Alternative B to minimize impacts on the cruise terminal, Austal's property on the east side of Mobile River, and historic resources. For these reasons, a new Build Alternative was created by shifting Alternative B further away from these resources. This new alternative was named Alternative B'.

All four Build Alternatives and the No Build Alternative are still under consideration and will be carried forward through the FEIS/ROD. The Build Alternatives are shown on **Figure 2** in Chapter 3.

Air Draft Clearance

Air draft clearance, or vertical clearance, represents the vertical space beneath the lowest part of the bridge deck to allow for safe passage of ships. The 1997 Feasibility Study recommended a vertical clearance of 190 feet for the proposed project. A report evaluating the change in air draft clearance from 190 feet to 215 feet was prepared in 2012 in response to input from stakeholders requesting the air draft clearance to be increased. The evaluation determined that increasing the air draft clearance to 215 feet would allow the Port of Mobile to remain competitive in the cruise industry and

container cargo shipping with other ports that are unobstructed, such as Gulfport and Houston, as well as those that are currently obstructed, such as New Orleans, Savannah, Charleston, Jacksonville, and Tampa. Additionally, an air draft clearance of 215 feet would accommodate larger cruise ships with air drafts ranging up to 210 feet. Therefore, the air draft clearance was increased from 190 feet to the currently proposed 215 feet. The full air draft clearance analysis is included in Appendix C of the DEIS, which is available at ALDOT's Southwest Region office and online at www.mobileriverbridge.com.

Identification of a Preferred Alternative

Alternative B' was identified as the Preferred Alternative because it is located further away from historic resources in downtown Mobile than Alternatives A and B, would avoid use of Section 4(f) properties, and would minimize impacts on the maritime industry compared to the other Build Alternatives. Alternative A would be located the closest to downtown Mobile, resulting in the most visual effects on downtown historic districts, would be located directly over the Alabama Cruise Terminal, and would have more impacts on Austal's property on the east side of Mobile River compared to the other Build Alternatives. Alternative B would impact the Alabama Cruise Terminal, would have more impacts on Austal's property than the Preferred Alternative, and, at the time the DEIS was signed, would have required the acquisition of property from the Union Hall (see Section 4.13 for more details on the Union Hall). Alternative C would directly impact a historic district and would adversely affect the maritime industries by locating a bridge further south along the Mobile River near the ASPA's facilities.

TABLE 1: SUMMARY OF CHANGES SINCE DEIS

DEIS Section		Supplemental DEIS Section	Change since DEIS
1.0	Introduction	1.0	Describes history of project through DEIS. Added purpose of Supplemental DEIS.
2.0	Purpose and Need	2.0	Updated traffic which accounts for tolling.
3.0	Alternatives	3.0	Updated for design refinements, traffic changes, funding changes (including addition of tolling and delivery method), and identification of bicycle/pedestrian facilities.
4.2	Existing Land Use and Transportation	4.1	Updated for most current state and local planning documents.
4.3	Economic Impacts	4.4.1	Updated to include a discussion of tolling.
4.3.4	Potential Economic Impacts on Shipyards	4.4.2	Updated impacts on Austal's property.
4.4.6	Sidewalks and Bicycle Facilities	3.8	Bicycle and pedestrian facilities across the Mobile River have been added to the project.
4.5.3	Navigation	4.2	Confirmed proposed navigational clearances with the USCG and noted that USACE Mobile District project to deepen navigation channel is underway.
4.7	Potential Hazardous Materials Sites	4.3	Added investigation of 12 hazardous materials sites that was conducted after DEIS.
4.8	Relocation Impacts	4.5	Updated ROW-RA-1 Form and added discussion about early acquisition.
4.9.5	Environmental Justice (EJ)	4.6	New Environmental Justice Assessment conducted.
4.12	Water Quality and Biological Resources	4.8	Updated 303(d) impaired waterbody discussion.
4.12.1	Water Resources Impacts	4.8	Updated water resources impacts and commitments related to stormwater runoff.
4.12.4	Wetland Impacts	4.7	Updated wetlands, submerged aquatic vegetation, and essential fish habitat discussions based on surveys conducted after DEIS. Added discussion about Draft Mitigation Plan.
4.12.6	Threatened, Endangered, and Other Listed Species	4.9	Updated to include Biological Assessment for manatees.
4.13	Noise Analysis	4.10	Updated noise analysis based on updated traffic projections that include tolling and new areas of study.
4.14	Air Quality	4.11	Updated air analysis based on revisions to interchange concepts, addition of tolling, and updated traffic projections.
4.15	Lighting Conditions	4.12	Updated lighting commitments.
4.16	Historic Resources	4.13	Updated to include: additional Section 106 consultation activities, change to adverse visual effect, status of Union Hall, NRHP listing of Oakdale Historic District, addition of Africatown Historic District and US-90/US-98 Causeway, and Draft Section 106 Memorandum of Agreement.

DEIS Section		Supplemental DEIS Section	Change since DEIS
4.17	Construction Impacts	4.14	Updated requirements based on changes since DEIS, including Bayway construction methodologies and construction outside of existing Bayway footprint at interchanges.
4.18	Build Alternatives Comparison	4.15	Updated alternatives comparison matrix.
4.19	Indirect and Cumulative Effects	4.16	Updated to add indirect impacts resulting from tolling. Updated industrial/commercial development along I-10 in cumulative impacts. Added discussion of cumulative effects related to adverse visual effects on two historic districts.
4.22	Permits	4.17	Updated for latest permits required.
4.23	Environmental Commitments	4.18	Updated based on revisions to project and agency coordination since DEIS.
5.0	Draft Section 4(f) Evaluation	5.0	Updated based on changes in the project since DEIS, including addition of new historic resources and the change to adverse visual effect on historic resources.
6.0	Comments and Coordination	6.0	Updated for coordination activities since DEIS.
7.0	List of Preparers	7.0	Updated for current list of preparers.
8.0	References	8.0	Added references not included in DEIS.

2.0 PURPOSE AND NEED

The purpose of this project is to increase the capacity of I-10 to meet existing and projected future traffic volumes and to provide a more direct route for vehicles transporting hazardous materials, while minimizing impacts to Mobile's maritime industry. This section has been updated to provide revised traffic projections from the design year 2030 that was presented in the DEIS to the currently proposed design year of 2040.

Table 2 shows the existing and projected future traffic volumes on the existing crossings of the Mobile River between Mobile and Daphne, Alabama without the proposed project. Annual average daily traffic (AADT) is a tool used to describe how busy a road is or may be in the future. In 2016, the Wallace Tunnel had an AADT of around 70,200 vehicles per day. With future traffic volumes increasing, the Wallace Tunnel is anticipated to have an AADT of over 95,000 vehicles per day in 2040. The AADTs shown in **Table 2** were calculated using growth rates from the *I-10 Mobile River Bridge and Bayway Draft Traffic and Revenue Study Report* prepared for the project (CDM Smith, 2018).

TABLE 2: EXISTING AND PROJECTED TRAFFIC WITHOUT PROPOSED PROJECT (NO BUILD)

Route	Demand (AADT)		
	2016	**2020**	**2040**
Cochrane-Africatown USA Bridge	16,650*	19,299**	49,840
I-10 Wallace Tunnel	70,200	82,255	95,042
Bankhead Tunnel	16,759	21,825	28,136
Total	**103,609**	**123,379**	**173,018**

** 2016 AADT from ALDOT traffic counts*

*** Calculated using 2016 AADT with the long-term (2020 to 2040) traffic model growth rate.*

For comparison purposes, the highest traffic count in the Wallace Tunnel in July 2018 was 86,470 vehicles. This means that, on average, the anticipated traffic going through the Wallace Tunnel in 2040 on a daily basis would be around fourteen percent higher than what is currently experienced on Fridays during July. Additionally, the I-10 corridor

is used as a primary emergency evacuation route during hurricane season. In 2017, the I-10 corridor crossing the Mobile River experienced congestion over a week-long period due to evacuations associated with Hurricane Irma. Traffic volumes in the Bankhead and Wallace Tunnel averaged around 103,000 vehicles per day from September 7 through September 14, 2017 as a result of the evacuations.

In order to protect the interstate system, FHWA approval is required to modify access to the interstate. To evaluate the potential effects of proposed modifications to the interchanges along the I-10 corridor as part of this project, a *Draft Interstate Modification Request* (IMR) was prepared in accordance with FHWA's Policy on Access to the Interstate System (FHWA, 2017). The proposed improvements evaluated in the IMR were considered acceptable from an operational standpoint by FHWA in a letter to ALDOT dated October 3, 2018 (ALDOT, 2018). Final approval of the IMR is conditional upon approval of the FEIS/ROD. Traffic analysis is an integral part of the development of an IMR. The traffic analysis in the IMR for the proposed project was performed using the methodologies outlined in the Transportation Research Board's Highway Capacity Manual (HCM) and *Synchro™*.

To analyze the overall traffic flow problems on the existing I-10 corridor, a LOS analysis was conducted as part of the IMR for the proposed project. In general, the HCM provides methodologies for analyzing various roadway segments, intersections, and interchange components. Measures of effectiveness are assigned qualitative letter grades known as levels of service (LOS) to aid the evaluation, understanding, and presentation of an element's performance. LOS categories range from A, free flow operations, to F, breakdown in vehicle flow. The categories describe traffic flow conditions that become progressively worse as the driver's ability to maneuver and vehicle speed declines. A LOS of F represents a traffic condition that produces a breakdown in traffic flow due to the amount of traffic exceeding capacity.

The LOS analysis for 2016, 2020, and 2040 without improvements indicates that congestion will continue to worsen along the I-10 corridor in Mobile and Baldwin

Counties, particularly in the Wallace Tunnel, along the I-10 Bayway, and in the Bankhead Tunnel. For example, during peak hour (rush hour) conditions, the Wallace Tunnel, the Bankhead Tunnel, and the I-10 Bayway will all operate at a LOS F in the 2040 No Build scenario. **Table 4** in Section 3.6 presents more information on LOS projections with and without the proposed project.

3.0 ALTERNATIVES

The following changes have occurred since the DEIS and are addressed in this chapter:

- Design refinements (see Sections 3.3, 3.4, and 3.5)
- Traffic changes (see Section 3.6)
- Funding changes, including the addition of tolling and the decision to pursue a public-private partnership (P3) (see Section 3.7), and
- Identification of bicycle/pedestrian facilities to include as part of the project (see Section 3.8).

3.1 Alternatives Considered

In the sixteen years since the Feasibility Study was prepared, a number of alternatives have been developed and evaluated. The history of the Build Alternatives developed and evaluated for the project is discussed in Section 1.3. More details are included in the DEIS (FHWA, 2014). The No Build and four Build Alternatives (Alternatives A, B, B', and C) are under consideration and are being carried through the EIS process. The Build Alternatives are shown on **Figure 2**.

3.2 No Build Alternative

The No Build, or No Action, Alternative constitutes a baseline condition from which to measure impacts. This alternative is carried throughout the document as a means of comparison for the Build Alternatives. The No Build Alternative avoids the impacts associated with the Build Alternatives, but it does not meet the purpose and need of this project. Disadvantages of the No Build Alternative include increased congestion and more frequent, longer delays along the I-10 corridor, especially in the Wallace Tunnel. Under the No Build scenario, trucks hauling hazardous cargo would continue to traverse the CBD.

NOTE: PROJECT CONTINUES BY REPLACING THE EXISTING BAYWAY TO THE EASTERN SHORE

Begin Project

LEGEND

- Alternative A
- Alternative B
- Alternative B' (Preferred)
- Alternative C
- Bayway Replacement
- Tunnels
- Ship Channel
- Turning Basin
- 2010 County

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1,000 0 1,000 Feet

0 0.5 1 Miles

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community Digital Globe 2017

FIGURE 2
BUILD ALTERNATIVES FROM DEIS

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3.3 Build Alternatives

The DEIS proposed a new, six-lane, cable-stayed bridge across the Mobile River to supplement the Wallace Tunnel. The proposed configuration remains the same. All four Build Alternatives would include a cable-stayed bridge over the Mobile River. The bridge would have six lanes with inside and outside shoulders. The bridge's minimum vertical clearance above the navigation channel would be 215 feet for all of the Build Alternatives. The location of the bridge crossing of the Mobile River would be slightly different for each of the Build Alternatives. Alternative A is the northernmost alternative located in closest proximity to downtown Mobile. Alternative B is located slightly south of Alternative A. The Preferred Alternative is almost the same as Alternative B except that it is shifted on the western shore of the Mobile River to avoid historic structures and the Alabama Cruise Terminal. Alternative C is the southernmost alternative and is the alternative that is closest to the Port of Mobile operations south of the existing tunnels.

The project would begin at the I-10/Broad-Duval Street interchange. Existing I-10 would be designated as I-10 Business. Access to and from downtown Mobile would be provided via existing roadways, including Canal Street, Water Street, and the Wallace Tunnel.

All of the Build Alternatives would require modifications to the Broad-Duval Street interchange, Virginia Street interchange, Texas Street interchange, Canal Street/Water Street interchange, US-90/US-98 East Tunnel interchange, US-90/US-98 Mid-Bay interchange, and US-90/US-98 Eastern Shore interchange. The proposed interchange configurations for the Preferred Alternative are described in the sections below. Some slight modifications in the proposed layouts of the interchanges along the I-10 corridor in Mobile could be required for Alternatives A, B, and C to accommodate variations in the alignment for the main span. However, the changes in costs and potential impacts associated with the proposed interchange modifications compared to what was presented in the DEIS are expected to be similar for all of the Build Alternatives.

The DEIS envisioned that the Bayway would be widened to the inside of the existing bridges to provide eight lanes of capacity (four lanes in each direction). This Supplemental DEIS evaluates the impacts of replacing the entire Bayway at an elevation up to eight feet higher than existing due to storm surge analyses that were conducted after the DEIS was signed. All of the Build Alternatives would replace the Bayway rather than widen it to the inside.

All of the Build Alternatives would require modifications to accommodate tolling, which was not evaluated in the DEIS.

The anticipated costs and impacts associated with project components that have been added since the DEIS, such as bicycle and pedestrian facilities, aesthetic lighting, mitigation, toll collection equipment and infrastructure, etc., are applicable to all of the Build Alternatives.

All four Build Alternatives are still under consideration and will be carried forward through the FEIS/ROD. Final selection of an alternative will be made in the FEIS/ROD after evaluation of public and agency comments on the Supplemental DEIS following the Public Hearings.

3.4 Project Design Refinements

Since the DEIS, modifications to interchange concepts and shifts in the mainline alignment of the Preferred Alternative have been made based on more engineering design and updated traffic studies. The following paragraphs describe the refinements to the Preferred Alternative. The project's scope and limits with Preferred Alternative are displayed on **Figures 3** through **13**. As previously noted, all of the proposed modifications would be applicable to all of the Build Alternatives, with some minor modifications being required depending on the alignment.

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DEPARTMENT OF TRANSPORTATION

MOTT MACDONALD

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HDR

2,000 0 2,000 4,000 Feet

0 1 2 Miles

LEGEND

Preferred Alternative

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community NAIP 2015 - 1 Meter Resolution

FIGURE 3
PROJECT SCOPE AND LIMITS WITH PREFERRED ALTERNATIVE

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Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,968,500.0000
False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.9999
Latitude Of Origin: 30.0000
Units: Foot US

Date 2/26/2019

On the west side of the Mobile River, the high level approaches would begin just east of the Virginia Street interchange (**Figure 4**). The high level approaches are the elevated bridge structures that would transition I-10 from ground level to the bridge over the cable-stayed bridge over the Mobile River. From this point, the alignment would follow the existing I-10 route to the northeast before shifting east at the corner of the Mobile Metro Jail complex property, remaining south of the Canal Street/Water Street interchange. The project would then span the Mobile River, and tie into the I-10 Bayway less than one mile east of the Wallace Tunnel.

The western pylon/main tower of the cable-stayed bridge main span would be located partially on land and partially in water on the western bank of the Mobile River (**Figure 5**). The eastern pylon/main tower would be located in open water at the Pinto Pass peninsula's extreme point in a manner that does not interfere with the navigation channel. The bridge approach structures would begin approximately 5,500 feet east and west of the Mobile Harbor Federal Navigation Channel to achieve the required 215-foot vertical clearance.

As currently proposed, the bridge would have a main span length of approximately 1,380 feet with symmetrical side spans of approximately 585 feet each. The bridge would be a six-lane cable-stayed bridge with a maximum grade of 4 percent to meet interstate standards, and a minimum air draft clearance of 215 feet over the Mobile Harbor Federal Navigation Channel (see **Figure 5**). The minimum horizontal clearance of the main span would be 600 feet to accommodate the Mobile Harbor Federal Navigation Channel. The bridge would provide three 12-foot travel lanes in each direction with 12-foot inside and outside shoulders. The proposed typical section for the main span of the Mobile River Bridge is shown on **Figure 6**.

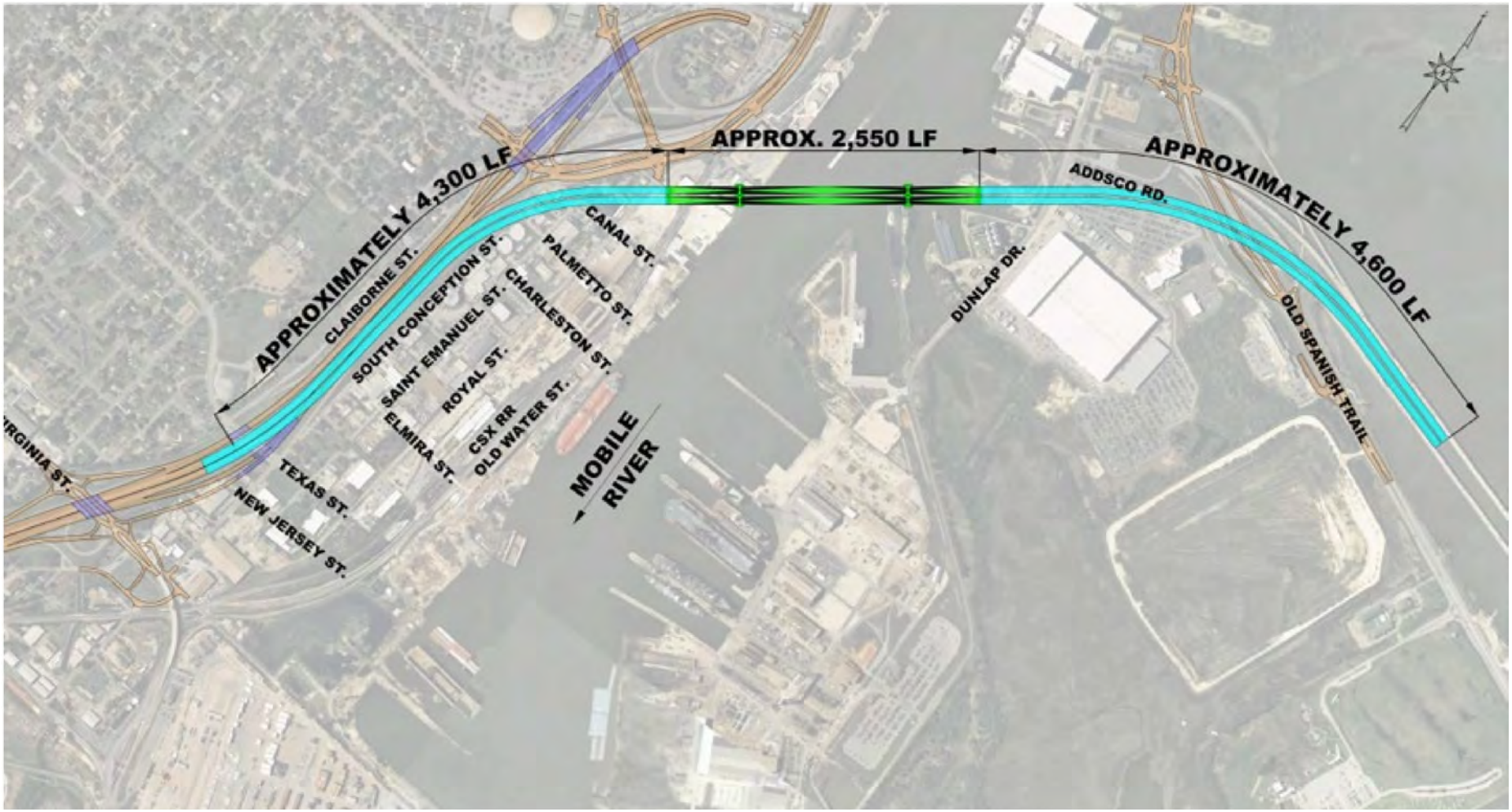

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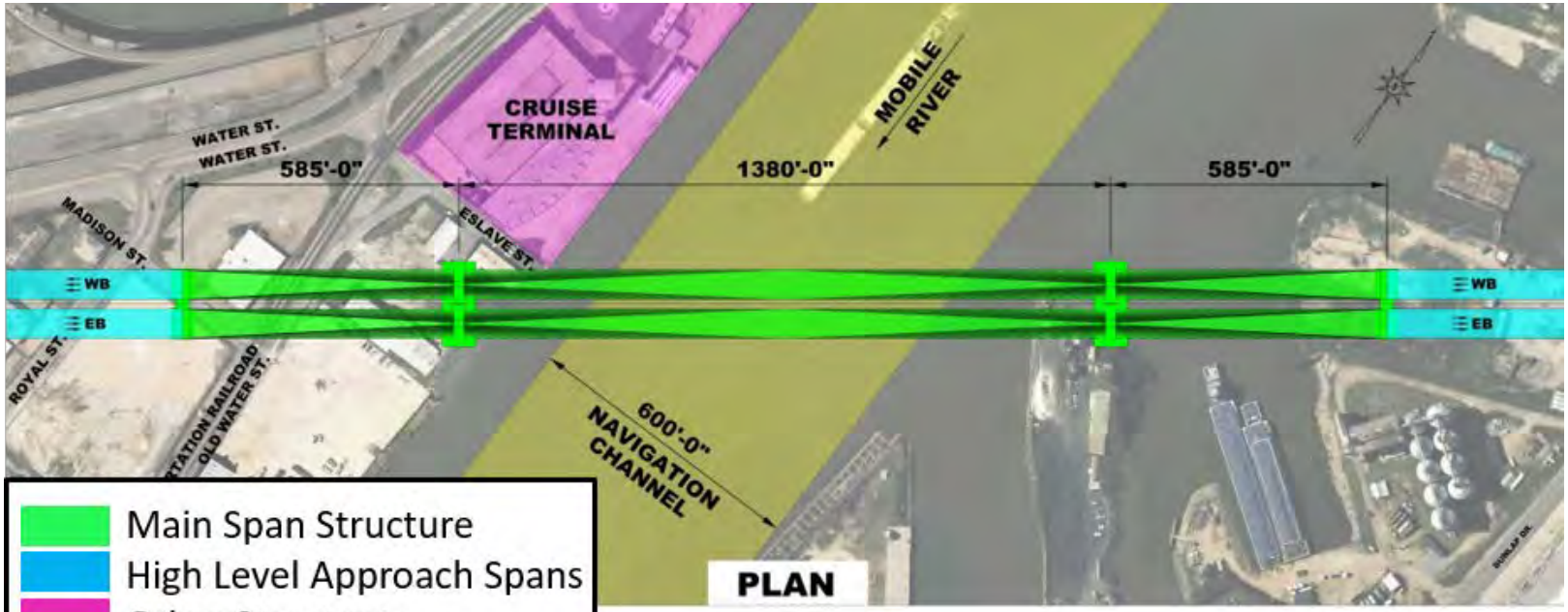
FIGURE 4
PROPOSED HIGH LEVEL APPROACHES AND
MAIN SPAN UNIT - PREFERRED ALTERNATIVE

PROJECT NO.:	DATE:
15-1101-0300	FEBRUARY 2019

P:\2015\15-1101-0300 ALDOT MRBP\PHASE 1 (US)\GIS\MXD\EIS REPORT FIGURES\FIGURE 24 PROPOSED LOCALIZED DREDGING_LND(8.5x11).mxd



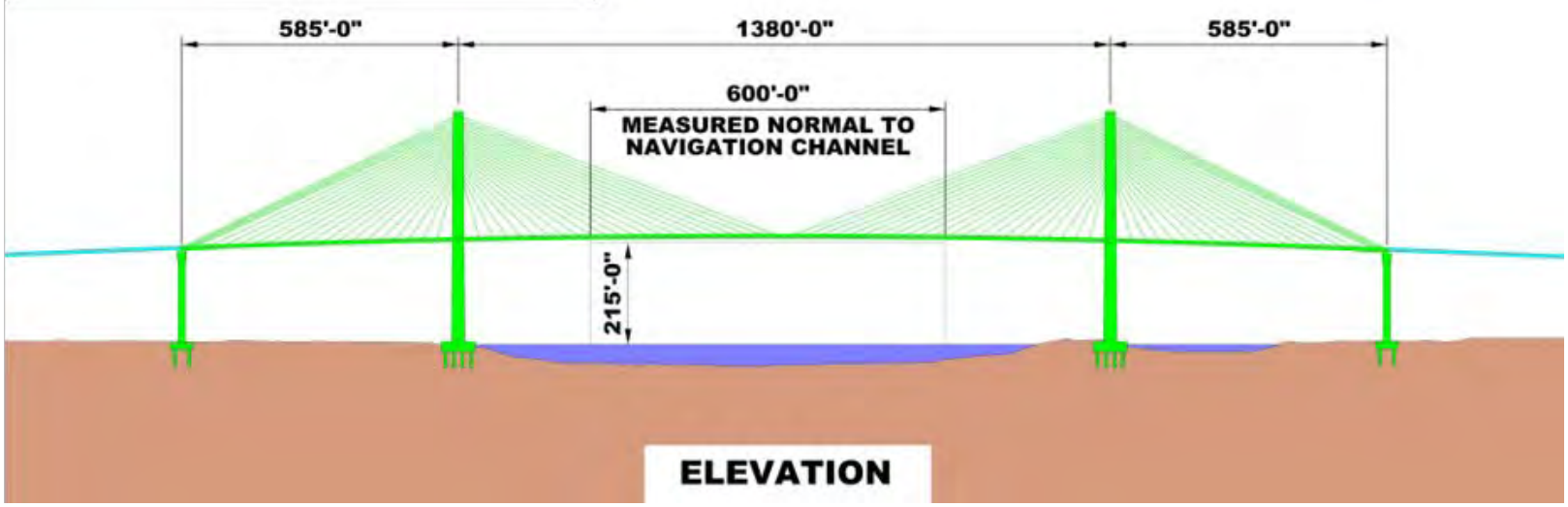


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FIGURE 5
PROPOSED MAIN SPAN UNIT
PREFERRED ALTERNATIVE

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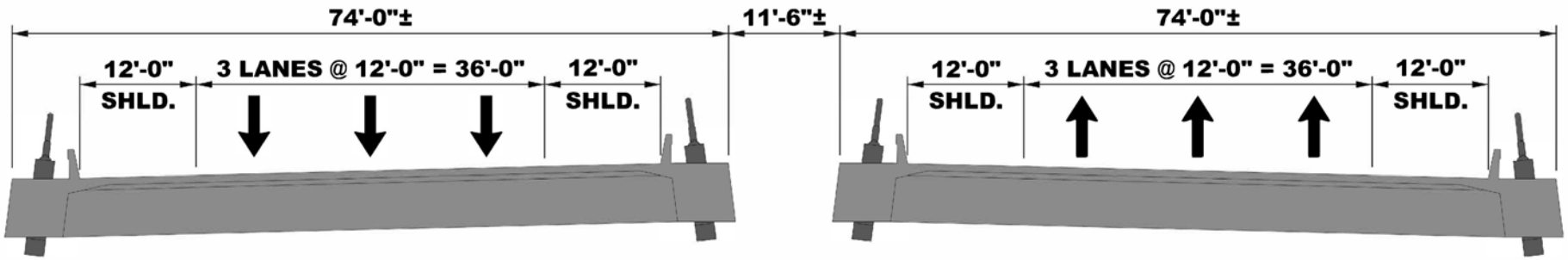
15-1101-0300	FEBRUARY 2019

P:\2015\15-1101-0300 ALDOT MRBP PHASE 1 (US)\GIS\MXD\EIS REPORT FIGURES\FIGURE 24 PROPOSED LOCALIZED DREDGING_LND(8.5x11).mxd



PROPOSED MOBILE RIVER BRIDGE MAIN SPAN
TYPICAL SECTION

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I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

FIGURE 6
PROPOSED MOBILE RIVER BRIDGE
MAIN SPAN TYPICAL SECTION

PROJECT NO.:	DATE:
15-1101-0300	FEBRUARY 2019

P:\2015\15-1101-0300 ALDOT MRBP PHASE 1 (US)\GIS\MXD\EIS REPORT FIGURES\FIGURE 2-4 PROPOSED LOCALIZED DREDGING_LND(8.5x11).mxd

Interchange Modifications

Modifications would be required for the Broad-Duval Street, Virginia Street, Texas Street, Canal Street/Water Street, US-90/US-98 East Tunnel, US-90/US-98 Mid-Bay, and the US-90/US-98 Eastern Shore interchanges. These modifications were evaluated in detail in the IMR prepared for the proposed project. The IMR is incorporated into this Supplemental DEIS by reference (ALDOT, 2018). See Chapter 8.0 for a full citation. The proposed interchange concepts are briefly described in the following paragraphs and are shown on **Figures 7** through **13**.

Broad-Duval Street Interchange

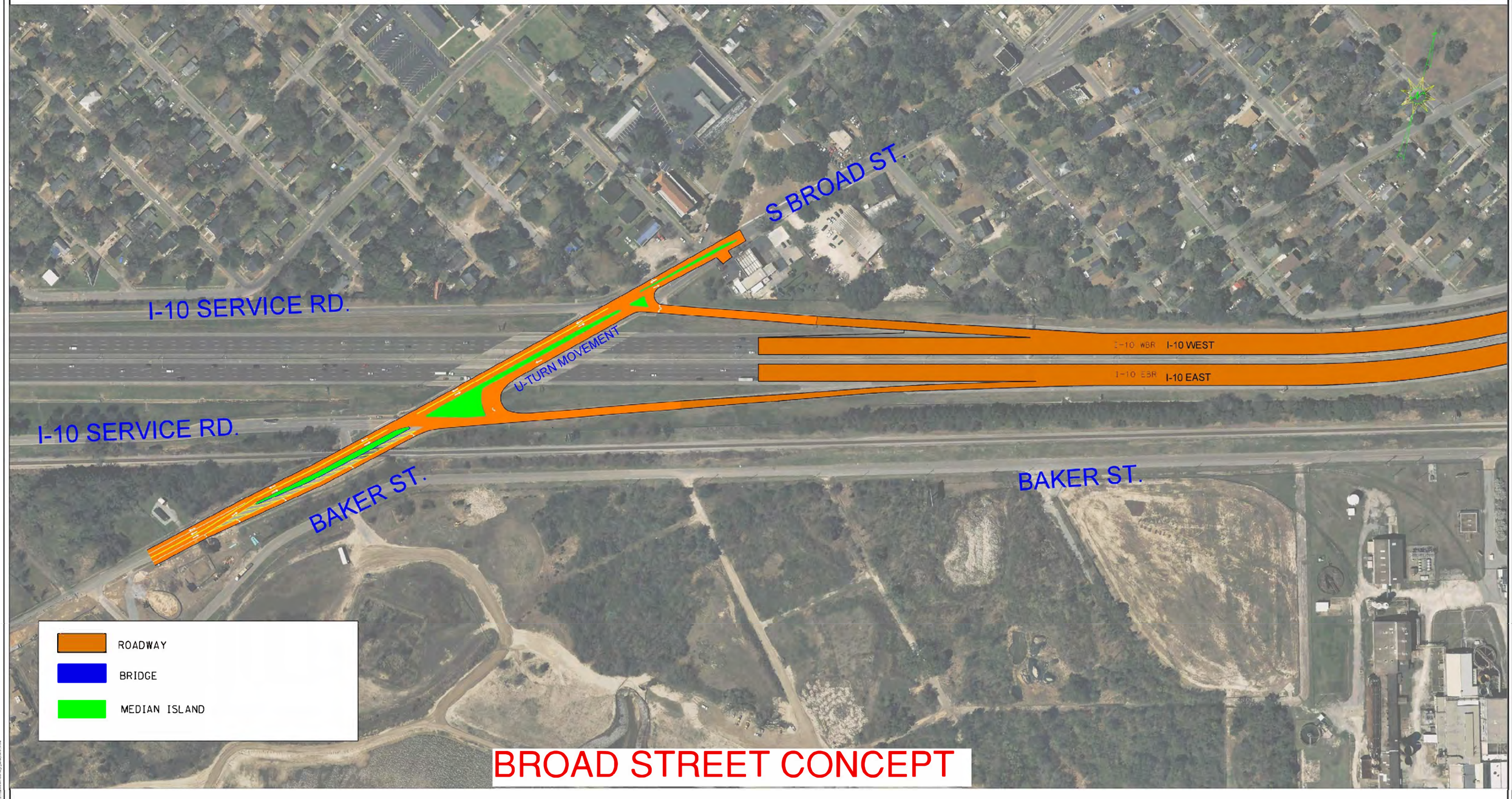
The existing interchange access would be maintained. Improvements proposed at this interchange include a westbound U-turn lane at the intersection of Broad Street at the I-10 westbound off-ramp (**Figure 7**). The U-turn lane would allow trucks going to and from Virginia Street to access the new I-10 Mobile River Bridge.

Virginia Street Interchange

The Virginia Street interchange would be reconfigured into a diverging diamond interchange to improve traffic flow (**Figure 8**). Direct access would not be provided between Virginia Street and the I-10 Mobile River Bridge because the high level approaches will begin to elevate just east of Virginia Street in order to achieve the required 215-foot vertical clearance over the Mobile River.

Texas Street Interchange

The existing I-10 westbound off-ramp and I-10 eastbound on-ramp at the Texas Street interchange would be removed (**Figure 9**). With the closure of these ramps, Texas Street traffic traveling to and from I-10 would use either the Virginia Street or Canal Street/Water Street interchange.



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PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

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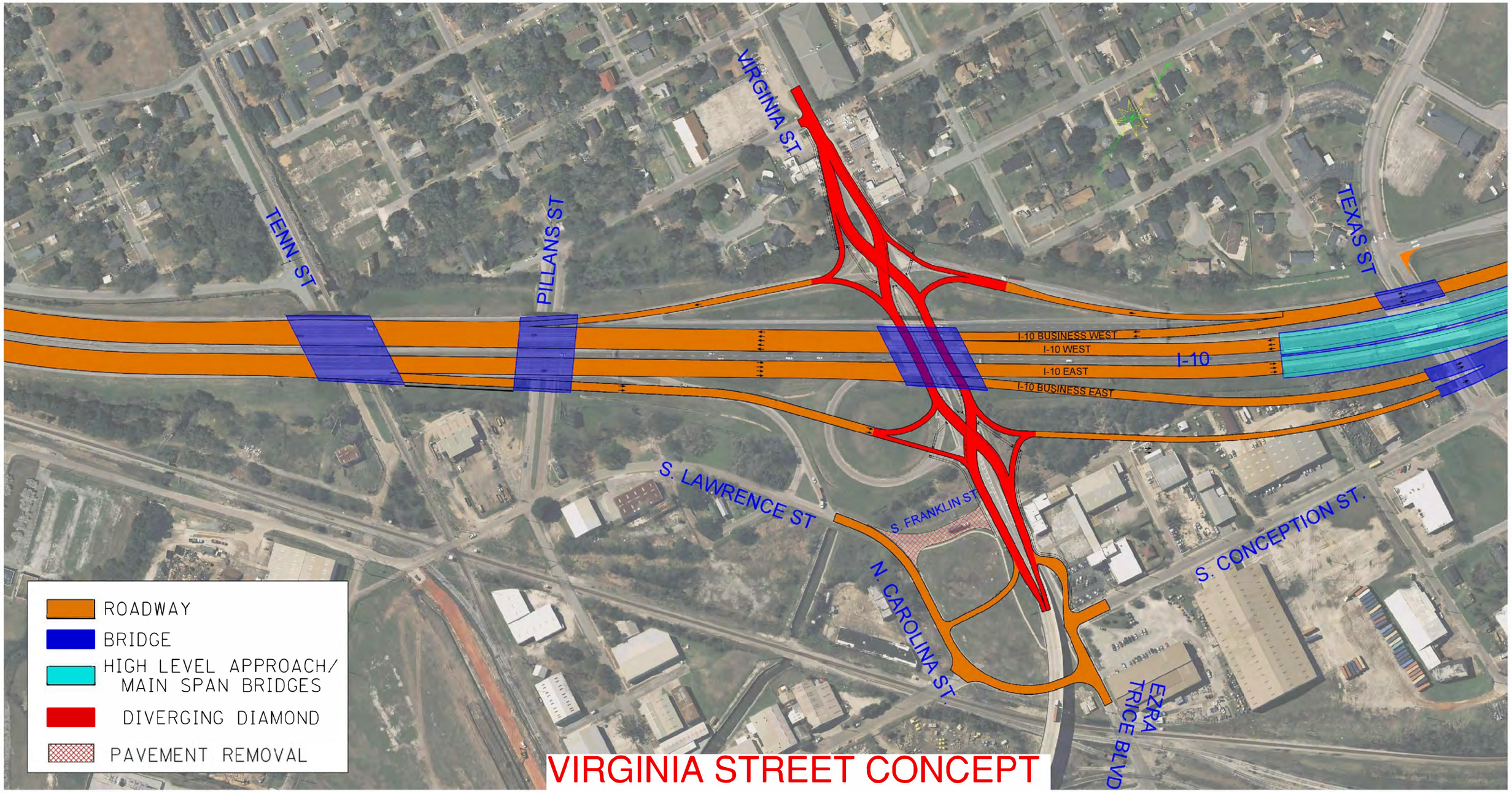
HDR

FIGURE 7
PROPOSED BROAD - DUVAL STREET INTERCHANGE
PREFERRED ALTERNATIVE

PROJECT NO.:	DATE:
15-1101-0300	NOVEMBER 2018



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I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

FIGURE 8
VIRGINIA STREET INTERCHANGE
PREFERRED ALTERNATIVE

PROJECT NO.:	DATE:
15-1101-0300	NOVEMBER 2018

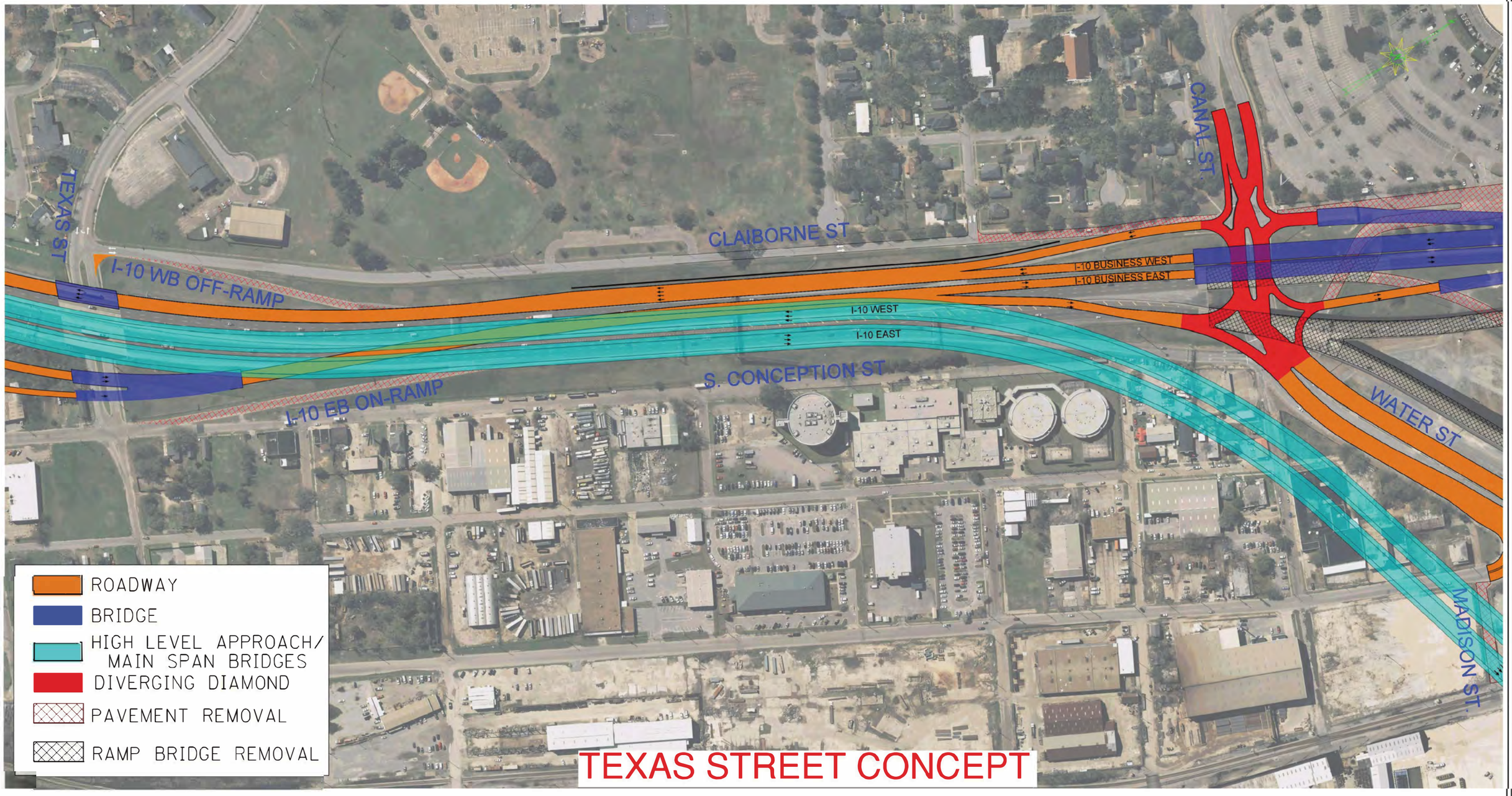

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FIGURE 9
PROPOSED TEXAS STREET INTERCHANGE
PREFERRED ALTERNATIVE

PROJECT NO.:	DATE:
15-1101-0300	NOVEMBER 2018

Date: 11/12/2018

Canal Street/Water Street Interchange

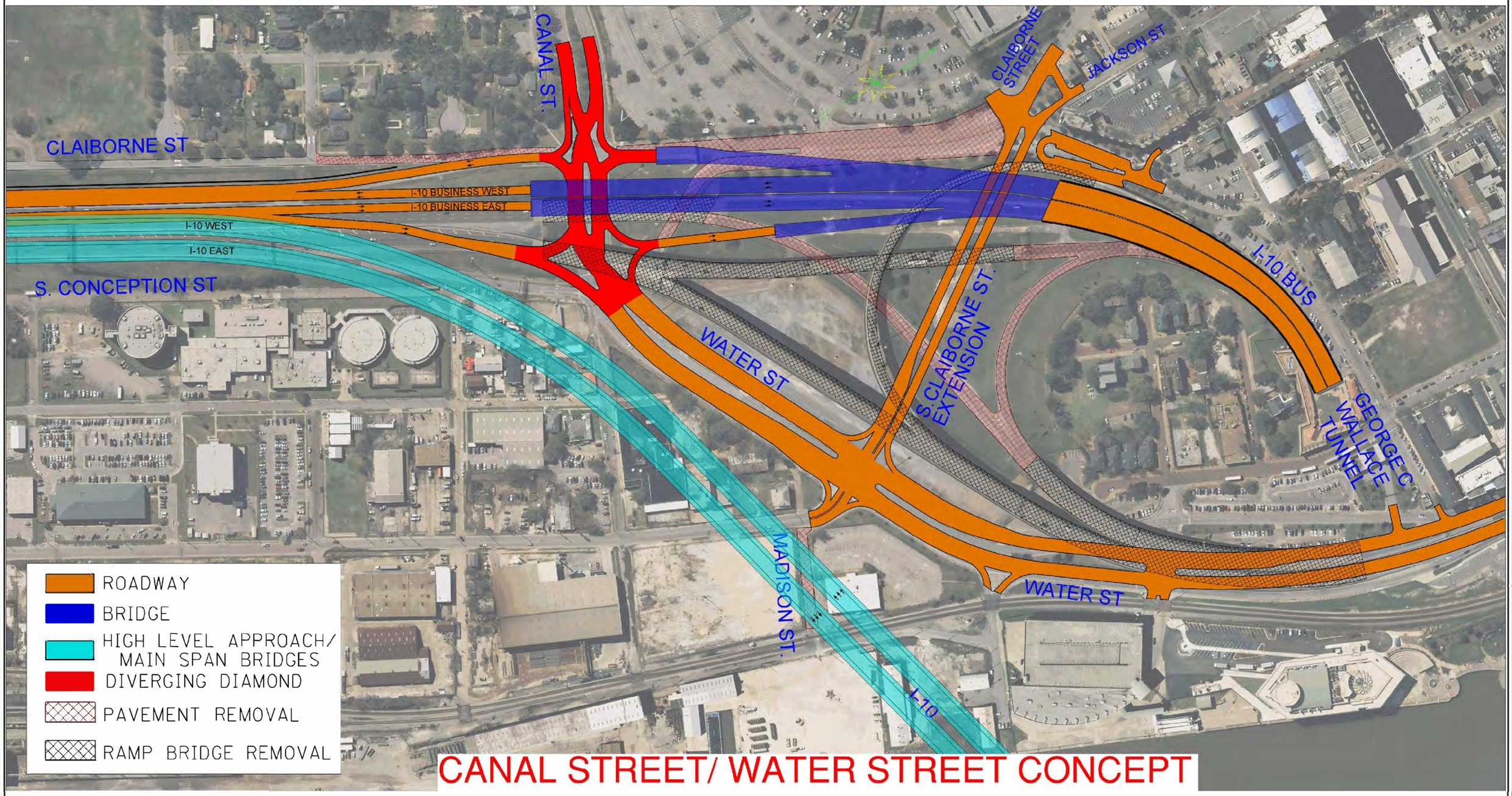
The existing Canal Street/Water Street interchanges would be converted to a diverging diamond interchange (**Figure 10**). Proposed modifications also include a new intersection along Water Street to the east of the interchange that would provide access to and from Claiborne Street and Jackson Street to facilitate traffic into and out of downtown Mobile. The existing I-10 ramps would be removed to allow at-grade connections between Water Street and South Claiborne Street via a new South Claiborne Street Extension. Additionally, the interchange modification would improve the curvature at the west end of the Wallace Tunnel from a 45 mile per hour design to a 55 mile per hour design. This interchange modification was evaluated as part of *ALDOT Project DPI-AL06(900), I-10 Interchange Modifications Texas Street to West Tunnel Entrance*. A Categorical Exclusion determination was made by the FHWA on October 23, 2014 for the project and is incorporated into this Supplemental DEIS by reference (ALDOT, 2014). Following approval of the DEIS for the proposed project, ALDOT determined that Project DPI-AL06(900) should be incorporated into the proposed I-10 Mobile River Bridge and Bayway Project.

US-90/US-98 East Tunnel Interchange

The existing interchange access at the US-90/US-98 East Tunnel interchange would be maintained. Proposed improvements to this interchange include one shared left turn/through/right turn lane and one exclusive right turn lane for the I-10 eastbound off-ramp (**Figure 11**). Traffic projections indicate that the existing two-way stop controlled intersection would need to be converted to a signalized intersection at the end of this ramp.

US-90/US-98 Mid-Bay Interchange

Existing interchange access would be maintained at the US-90/US-98 Mid-Bay interchange. Proposed modifications to the Mid-Bay Interchange include dual left turn lanes for the I-10 eastbound and westbound off-ramps (**Figure 12**). Traffic projections



CANAL STREET/ WATER STREET CONCEPT

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PROJECT No. DPI-0030 (005)
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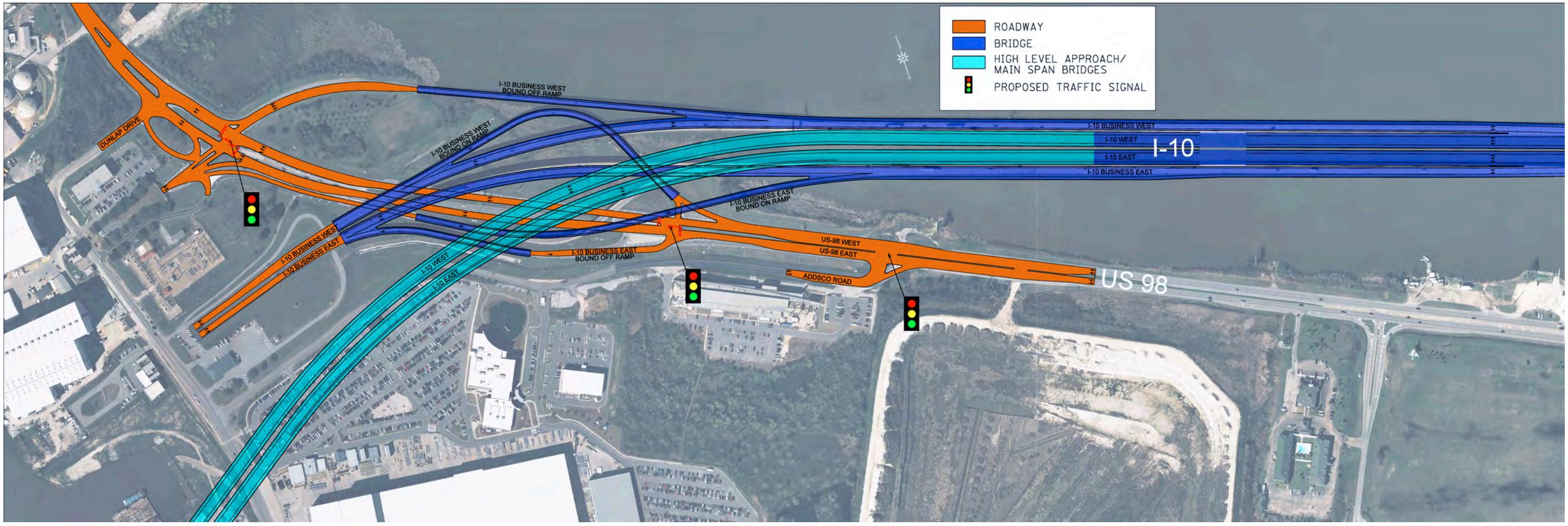
FIGURE 10
PROPOSED CANAL STREET / WATER STREET
INTERCHANGE - PREFERRED ALTERNATIVE

PROJECT NO.:	DATE:
15-1101-0300	NOVEMBER 2018



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PROJECT No. DPI-0030 (005)
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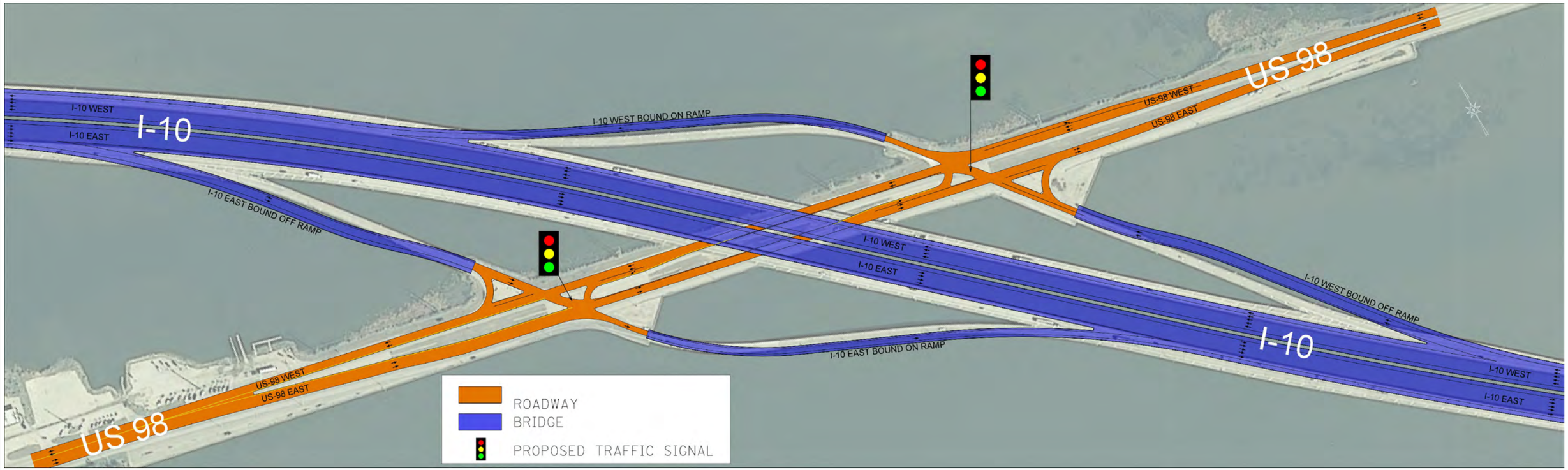
HDR

FIGURE 11
PROPOSED US-90 / US-98 EAST TUNNEL INTERCHANGE

PROJECT NO.:	DATE:	
15-1101-0300	JANUARY 2019	Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet Projection: Transverse Mercator Datum: North American 1983 False Easting: 1,640,416.6000 False Northing: 0.0000 Central Meridian: -87.5000 Scale Factor: 0.9996 Latitude Of Origin: 30.0000 Units: Foot US

Date: 1/24/2019



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I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

FIGURE 12
PROPOSED US-90 / US-98 MID-BAY
INTERCHANGE

PROJECT NO.: 15-1101-0300

DATE: JANUARY 2019

Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,968,500.0000
False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.9999
Latitude Of Origin: 30.0000
Units: Foot US

Date 1/24/2019

indicate that the existing two-way stop controlled intersections would need to be converted to signalized intersections.

US-90/US-98 Eastern Shore Interchange

The modifications to interchange access at the US-90/US-98 Eastern Shore interchange include removal of the eastbound and westbound through movements at the westbound off-ramp (**Figure 13**). The proposed improvements also include widening the westbound on-ramp from one to two lanes. An additional through lane is proposed on US-90 at its intersection with the I-10 eastbound on and off ramps.

Bayway

The Bayway crosses the upper portion of Mobile Bay and four rivers: the Spanish River, Tensaw River, Apalachee River, and the Blakeley River (see **Figure 1**). The DEIS included provisions for the widening of the existing four-lane I-10 Bayway to eight lanes across Mobile Bay. Subsequent to the DEIS, storm surge analyses were performed and indicated that much of the existing Bayway is vulnerable to storm surge. Hurricanes have caused substantial impacts to interstate bridges in Florida, Mississippi, and Louisiana in the last decade. In order to assess the vulnerability of the Bayway bridges to tropical storm and hurricane forces, storm surge impact analyses were performed. These analyses used existing data for environmental conditions primarily related to wind and storm surge heights, water bottom terrain, water depths, flood prone areas identified by the Federal Emergency Management Agency (FEMA), and the heights and widths of the existing Bayway bridges and ramps. The I-10 Mobile River Bridge and Bayway Project – Storm Surge Impact Analysis Level 3, dated April 17, 2018, is contained in **Appendix G**. Appendices to the storm surge analysis are available for review at ALDOT's Southwest Region office and online at www.mobileriverbridge.com.

Multiple storm scenarios with varying wind speeds and storm surge heights were modeled, and various levels of sea level rise were included in the model. The sea level rise projections that were modeled include the 0-year sea level rise of 0 feet, the 50-

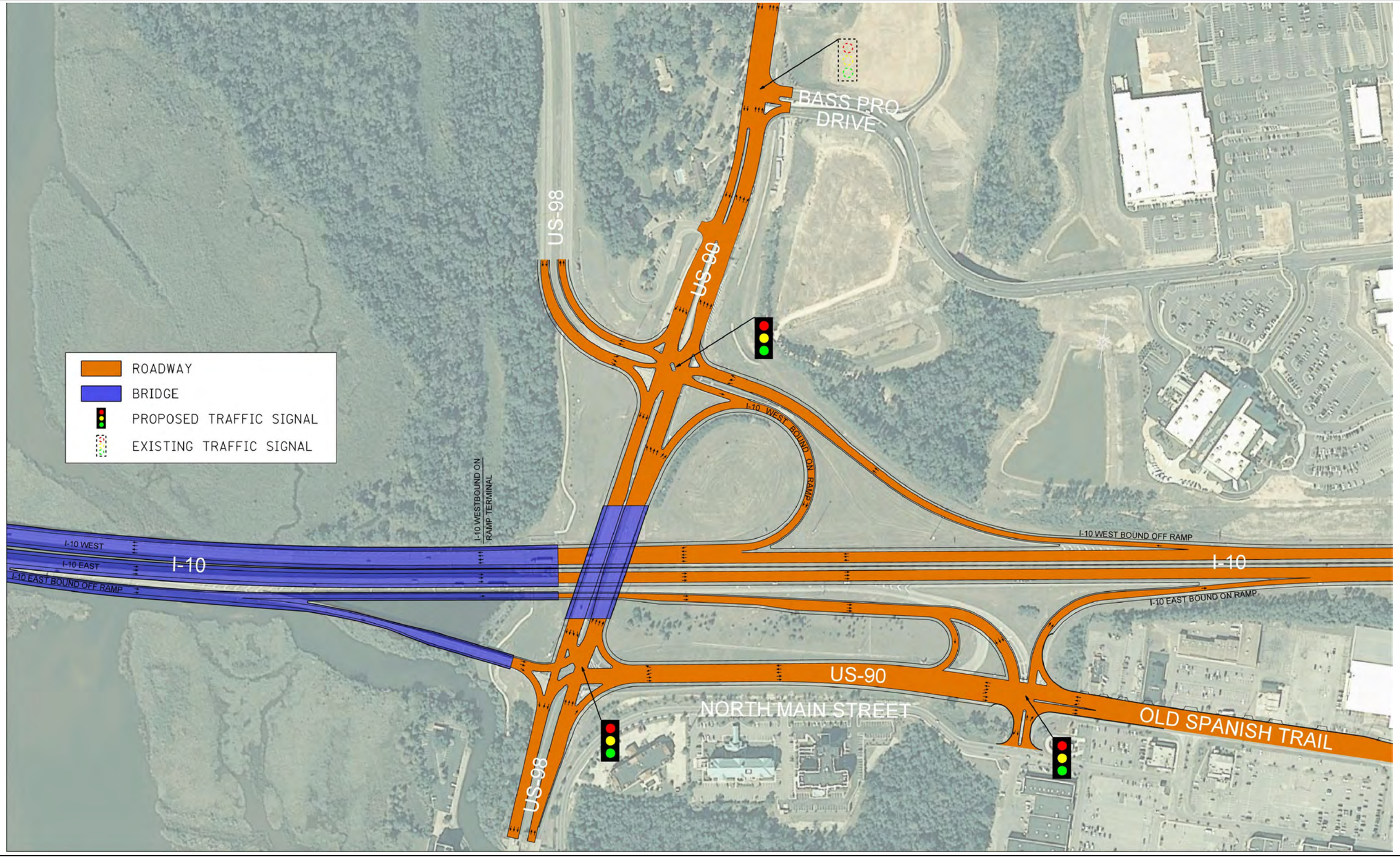

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FIGURE 13
PROPOSED US-90 / US-98 EASTERN SHORE INTERCHANGE

PROJECT NO.: 15-1101-0300

DATE: JANUARY 2019

Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
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False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.999933
Latitude Of Origin: 30.0000
Units: Foot US

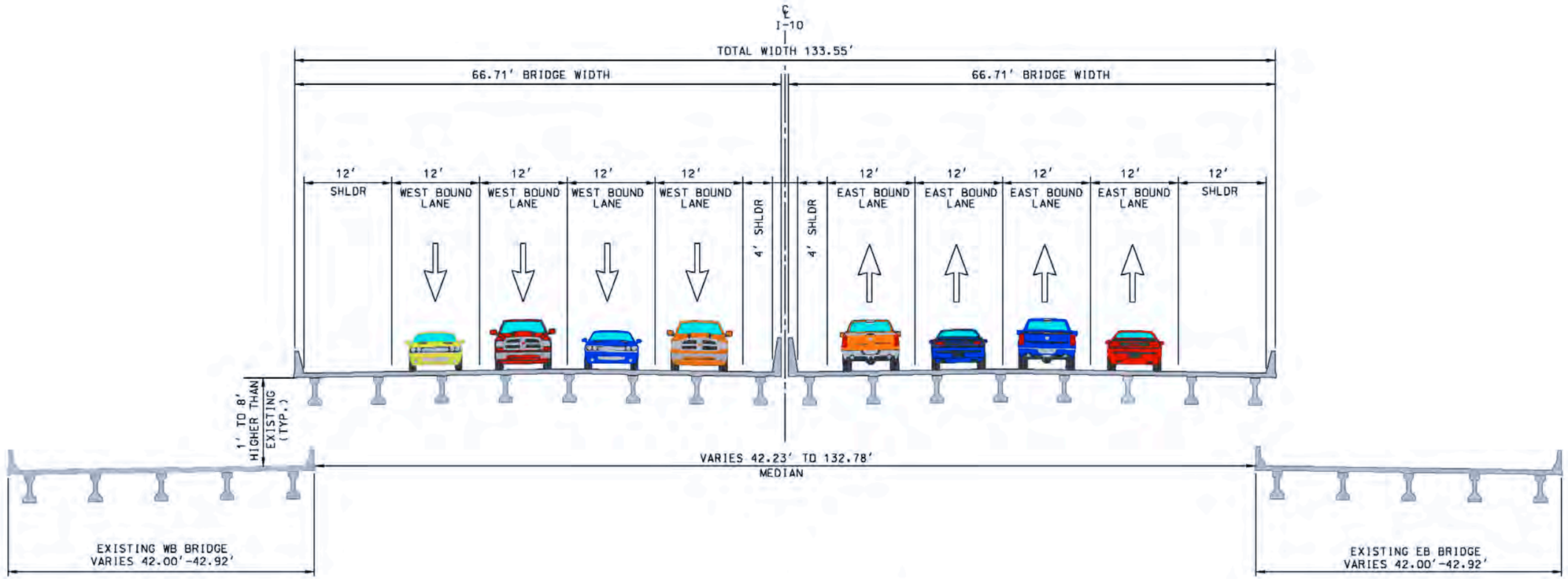
Date 1/24/2019

year sea level rise of 1.22 feet, and the 100-year sea level rise of 3.04 feet. The storm surge analyses indicate that portions of the Bayway and interchange ramps are vulnerable to storm surge, meaning that all or portions of these structures could be damaged during a storm event. Based upon this information, it was determined that the Bayway should be replaced with new wider Bayway bridges at a higher elevation rather than just widening the existing Bayway bridges, as proposed in the DEIS. The new Bayway will be up to 8 feet higher than the existing elevation on average and will be designed to withstand the 100-year design storm including the 100-year sea-level rise. New ramps will be designed to withstand the 50-year design storm including the 50-year sea-level rise. The existing Bayway will be demolished.

The new Bayway will be eight lanes, four lanes in each direction, for approximately 7.5 miles from the high level approaches on the east side of the Mobile River to the US-90/US-98 Eastern Shore interchange in Daphne. Inside and outside shoulders will be provided, along with turnarounds to facilitate emergency response to crashes or disabled vehicles. The proposed typical section for the Bayway is shown on **Figure 14**.

As part of the DEIS process, ALDOT and FHWA coordinated with resource and regulatory agencies to determine the preferred approach for construction along the Bayway. In order to minimize potential impacts on natural resources occurring along corridor of the Bayway, the agencies have stated a preference for construction to be performed within the footprint (outside edge to outside edge) of the Bayway bridges. This approach would limit impacts to areas that were previously disturbed by Bayway construction activities in the 1970s.

When originally evaluated in the DEIS, the proposed project included widening the Bayway to the inside, which would allow the existing Bayway lanes and ramps to remain in place and carry traffic. Replacement of the Bayway will require more disturbance in order to maintain interstate traffic during construction. Construction outside of the existing Bayway bridges and/or ramps but within ALDOT's existing right-of-way is



TYPICAL SECTION

NTS
BAYWAY BRIDGE
STA 582+40 TO STA 945+89

ALABAMA DEPARTMENT OF TRANSPORTATION
I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

FIGURE 14
PROPOSED BAYWAY TYPICAL SECTION

PROJECT NO.: 15-1101-0300

DATE: JANUARY 2019

Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,968,500.0000
False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.9999
Latitude Of Origin: 30.0000
Units: Foot US

Date 1/24/2019

proposed at the following locations: East Tunnel interchange, Mid-Bay interchange, and US-90/US-98 Eastern Shore interchange. This approach will allow new ramps to be constructed outside of the footprint of the existing ramps so that the existing ramps can continue to carry traffic during construction. ALDOT's existing right-of-way varies from approximately 300 to 400 feet wide, centered along the existing Bayway, except for at the interchange locations where the existing right-of-way is generally wider to accommodate ramps. ALDOT's existing right-of-way along the Bayway is shown on **Figures 21A through 21C**.

The DEIS also identified segmented barges as the preferred construction methodology for the Bayway and did not allow for dredging. Since the signature of the DEIS in July 2014, bathymetric surveys performed as part of the storm surge analyses indicate that portions of the area between the existing Bayway bridges have naturally filled in to depths of less than six feet due to shoaling. The areas exhibiting the effects of shoaling are primarily located around the Tensaw, Apalachee, and Blakeley Rivers. In order to better facilitate construction of the new Bayway bridges, it has been determined that dredging may be required in areas where water depths are less than six feet. Dredging would reduce construction time and result in substantial construction cost savings.

Dredging would occur within the previously disturbed construction channel that was used to build the existing Bayway. The dimensions of the original channel were around 125 feet wide and 8 feet deep. The proposed dredging would be approximately 125 feet wide and 6 feet deep. Dredging would occur in open water areas where wetlands are not present. It is estimated that approximately 325,000 cubic yards of material would be dredged.

Wallace Tunnel

The proposed project includes repaving and restriping the entire length of the eastbound and westbound Wallace Tunnel, as well as upgrading the lighting in the Wallace Tunnel.

3.5 Logical Termini

The western terminus for the proposed project is the I-10/Broad-Duval Street interchange in Mobile. In Mobile, I-10 west of the Broad Street interchange has eight lanes, which is sufficient to accommodate the projected 2040 Build traffic for an urban freeway with a LOS of C (eastbound) and a LOS of D (westbound) as shown in the IMR.

Since the DEIS, the eastern terminus of the proposed project was extended from the exit ramp from the Bayway to US-90/US-98 in Daphne to just east of the US-90/US-98 Eastern Shore interchange in Daphne. Extending the eastern terminus provided for improvements to the US-90/US-98 interchange in Daphne that would better accommodate future traffic projections.

From the US-90/US-98 interchange in Daphne, a separate ALDOT project will widen I-10 from four to six lanes to approximately 0.5 mile east of the SR-181 in Malbis. This widening will accommodate traffic east of the US-90/US-98 Eastern Shore interchange within ALDOT's existing right-of-way for approximately 3 miles. A *Programmatic Categorical Exclusion for Project No. NHF-I010(330), Widen I-10 from East End of Bayway Bridge to 0.5 Mile East of SR-181 in Baldwin County*, was completed in December of 2012 (ALDOT, 2012a). The widening would occur within existing ALDOT right-of-way. The only environmental impacts noted were noise impacts at one area. Noise abatement measures were evaluated and determined not to be reasonable or feasible. Project NHF-I010(330) is scheduled for letting in 2020. Project NHF-I010(330) is the next segment of I-10 immediately to the east of the US-90/US-98 Eastern Shore interchange and will function with a LOS of C or better in both the eastbound and westbound directions in 2040 as shown in the IMR.

3.6 Traffic

The traffic in this Supplemental DEIS has been updated based on traffic modeling for tolling considerations as described in detail in the draft traffic and revenue study and the IMR. **Table 3** displays the projected AADT for the No Build and Build scenarios for various design years and locations. The AADTs shown in **Table 3** were calculated using

growth rates from *I-10 Mobile River Bridge and Bayway Draft Traffic and Revenue Study Report* prepared for the project (CDM Smith, 2018).

TABLE 3: EXISTING AND PROJECTED AADT (NO BUILD/BUILD)

Route	Demand (AADT)		
	2016 Existing	**2020 No Build / Build**	**2040 No Build / Build**
Cochrane-Africatown USA Bridge	16,650*	19,299** / 47,288	49,840 / 51,163
I-10 Wallace Tunnel	70,200	82,255 / 25,475	95,042 / 34,288
Bankhead Tunnel	16,759	21,825 / 21,161	28,136 / 23,278
Mobile River Bridge***	N/A	-- / 24,494	-- / 45,733
Total	**103,609**	**123,379 / 123,418**	**173,018 / 154,462**

** 2016 AADT from ALDOT traffic counts*

*** Calculated using 2016 AADT with the long-term (2020 to 2040) traffic model growth rate.*

**** The Mobile River Bridge is only applicable in the Build scenario.*

Table 4 summarizes the results of the LOS analysis from the IMR for the Mobile River crossings.

The data shown in **Tables 3** and **4** indicate that the proposed project will reduce congestion along the I-10 corridor but increase congestion on the Cochrane-Africatown USA Bridge and portions of Bay Bridge Road. Without the proposed project, congestion along the I-10 corridor and along other routes, such as Bay Bridge Road and the US-90/US-98 Causeway will worsen due to lack of adequate capacity to handle increasing traffic.

TABLE 4: LEVEL OF SERVICE (NO BUILD/BUILD)*

SEGMENT	AM Peak			PM Peak		
Roadway Location	**2016 Existing**	**2020 No Build/Build**	**2040 No Build/Build**	**2016 Existing**	**2020 No Build/Build**	**2040 No Build/Build**
I-10 (Eastbound) Wallace Tunnel	C	D/B	E/B	E	E/C	F/D
I-10 (Westbound) Wallace Tunnel	C	D/B	E/B	E	E/A	F/B
I-10 (Eastbound) Mobile River Bridge**	--	--/A	--/A	--	--/A	--/B
I-10 (Westbound) Mobile River Bridge**	--	--/A	--/B	--	--/A	--/A
I10 Bayway (Eastbound) Wallace Tunnel to Mid-Bay Interchange	C	C/A	D/A	E	E/B	F/B
I-10 Bayway (Westbound) Mid-Bay Interchange to Wallace Tunnel	C	C/B	D/B	E	E/A	F/B
I-10 Bayway (Eastbound) Mid-Bay Interchange to US-90/US-98 (Daphne)	C	D/A	E/B	F	F/B	F/C
I-10 Bayway (Westbound) US-90/US-98 (Daphne) to Mid-Bay Interchange	C	D/B	E/B	F	F/A	F/A
US-90 from Cochrane Bridge to East Tunnel Interchange (Eastbound)	A	A/A	B/B	B	B/B	C/C
US-90 from Cochrane Bridge to East Tunnel Interchange (Westbound)	A	B/B	C/C	A	A/C	B/C
US-90/US-98 Causeway from East Tunnel Interchange to Mid-Bay Interchange (Eastbound)	A	B/B	B/C	C	D/D	E/F
US-90/US-98 Causeway from East Tunnel Interchange to Mid-Bay Interchange (Westbound)	C	C/D	D/E	A	A/C	B/C
US-90/US-98 Causeway from Mid-Bay Interchange to Meaher State Park (Eastbound)	A	A/B	A/C	B	C/D	D/E
US-90/US-98 Causeway from Mid-Bay Interchange to Meaher State Park (Westbound)	C	C/D	D/E	A	A/C	B/D

** Build projections include tolling.*

*** The Mobile River Bridge is only applicable in the Build scenario.*

INTERSECTIONS	**AM Peak**			**PM Peak**		
Roadway Location	**2016 Existing**	**2020 No Build/Build**	**2040 No Build/Build**	**2016 Existing**	**2020 No Build/Build**	**2040 No Build/Build**
Bay Bridge Road at I-165 Southbound Off Ramp	D	D/D	D/D	D	D/E	F/F
Bay Bridge Road at I-165 Northbound Off Ramp	B	B/B	B/B	A	B/F	E/F
Bay Bridge Road at Butts Street	A	B/B	B/B	B	B/F	E/F
Bay Bridge Road at US 43	B	B/B	B/B	B	B/F	B/F
Bay Bridge Road at Tin Top Lane	A	A/B	B/C	B	B/F	F/F
US-90/US-98 at Bankhead Tunnel	D	F/E	F/F	B	C/C	F/D
US-90/US-98 at Addsco Road	A	A/A	B/C	C	F/F	F/F

Source: IMR (ALDOT, 2018)

3.7 Funding the Project/Tolling

3.7.1 Funding Challenge

The proposed project was originally envisioned as a traditional Federal-aid project where Federal funds would be used to pay for 80 percent of the project, and state funds would be used to pay for the remaining 20 percent. However, there are special projects in other parts of the state that rely on traditional funding mechanisms that have begun, but there is no available funding to continue and they remain incomplete. These projects include the Birmingham Northern Beltline, a 52-mile-long corridor with an estimated completion cost of $5.3 billion. The first construction contract for 1.34 miles of the project was released in 2013. It is anticipated that the paving portion of that segment will be let within 5 years. No other projects are currently scheduled due to lack of funds. The Montgomery Outer Loop is a 30-mile-long route. Its construction began in 1998. In 2014, the interchange with I-85 was let which allowed a 2.8-mile-long portion to become usable. The estimated completion cost of the entire project is $875 million, and due to lack of funds, no other projects are currently scheduled. As these projects indicate, construction of major projects with estimated costs of over $500 million can result in lengthy construction periods and/or incomplete projects.

Constructing the Mobile River Bridge and Bayway project over decades or only constructing only a portion of the project does not make good programming or planning sense. If only part of the project is constructed, congestion issues would be moved to a new location because the infrastructure could not handle the traffic demand. In addition, this approach would leave the Bayway vulnerable to damage from storm surge, potentially for decades.

According to ALDOT's 106th Annual Report, ALDOT's total annual budget for fiscal year 2017 was approximately $1.32 billion (ALDOT, 2017). Approximately 54 percent of ALDOT's annual budget goes toward system preservation and maintenance. The remainder of ALDOT's budget is used for safety, maintenance, resurfacing, and bridge replacement projects on existing facilities, along with equipment and other costs.

ALDOT is responsible for maintaining over 1,000 miles of interstate pavements, over 10,000 miles of non-interstate pavements, and over 5,700 bridges. This leaves only about $135 million available each year for capacity and new construction projects statewide. Capacity projects are defined as projects that add new lanes (capacity) to existing routes or on new routes.

Federal and state gas taxes are primary sources of funding for transportation projects. Construction costs have more than doubled since the early 1990s, and fuel economy standards have reduced revenues from gas taxes because drivers purchase less fuel. The most recent increase in Federal gas taxes occurred in 1993. On March 12, 2019, the Rebuild Alabama bill was signed into state law. The legislation will raise the state tax on gas and diesel fuel, which has not changed since 1992, by 10 cents per gallon over the next three years. Once fully implemented, the increase in state gas tax will generate an estimated $320 million per year for road and bridge construction and maintenance, of which one-third is slated toward counties and municipalities for local roads. Even with this increase in funding from state fuel taxes, the state will not have sufficient funds to construct major capacity projects such as the Mobile River Bridge and Bayway project.

The expanded scope of the project to include interchange modifications and to replace the Bayway at a higher elevation has resulted in a substantial increase in the total estimated cost from around $773 million to approximately $2.1 billion.

3.7.2 Tolling as a Viable Revenue Source

In recent years, a renewed interest in tolling has resulted from a nationwide funding shortfall. According to a research report prepared for the U.S. Congress in 2016, “The failure of federal highway user taxes and fees to provide sufficient revenues to fund the surface transportation program authorized by Congress beginning in FY 2008 renewed interest in expanded toll financing” (CRS, 2016).

Tolling was originally evaluated as part of the Feasibility Study for this project conducted in the 1990s. Toll-by-plate was not an option at the time the preliminary study was performed. Tolling the project would have required the construction of toll plazas which would have required drivers on the interstate to stop to pay tolls, preventing I-10 from being a free flow facility. The toll plazas would have expanded the footprint of the proposed project and was expected to result in increased environmental impacts. In addition, the entire cost of the project could not be paid for with tolling. For these reasons, ALDOT elected not to pursue tolling as a funding source in the DEIS.

Advancements in technology have made all-electronic tolling (toll-by-plate) a viable option. All-electronic tolling allows tolls to be collected without drivers having to stop or even slow down. All-electronic tolling also eliminates the need for toll plazas, removing the concern about increased environmental impacts. The ability to develop agreements with other states to aid in enforcement also makes all-electronic tolling feasible.

Under 23 U.S.C. 129, Congress permits Federal participation in certain type of toll-financed construction activities, including reconstruction or replacement of bridges or tunnels on the Interstate Highway System. By letter dated May 11, 2017, the FHWA confirmed that 23 U.S.C. 129 is applicable to the proposed project (**Appendix A**). The new Mobile River Bridge and existing Wallace Tunnel would provide dual facilities and serve together as one to carry traffic on a single route and are proximately located, meeting the requirements for “reconstruction” under 23 U.S.C. 129.

In 2015, ALDOT began reconsidering the advantages of tolling. A traffic and revenue study was prepared for the proposed project and determined that tolling is a viable funding source for the proposed project. The traffic and revenue study evaluated multiple options for tolling, including a variety of locations of tolling gantries to collect electronic tolls and a range of potential toll amounts. As currently proposed, Virginia Street to the US-90/US-98 interchange in Daphne on I-10 would be tolled. I-10 Business

from Canal Street/Water Street through the Wallace Tunnel to its connection with the Bayway would also be tolled. (**Figure 15**).

Because of the funding challenges described in Section 3.7.1, the proposed project is only viable if the corridor is tolled.

3.7.3 Alternative Delivery Method

Over the last two decades, as revenues have lagged behind investment requirements, Congress and the states have sought ways to expand the capacity of the Federal-aid program to deliver projects. The Federal government has encouraged states to look for alternative delivery methods to fund or partially fund transportation infrastructure projects, especially major projects with costs at or above $500 million. FHWA refers to techniques and tools specifically designed to supplement traditional highway financing methods as "project finance." Project finance typically entails borrowing money, either through bonds or other financing mechanisms. FHWA's Center for Innovative Finance states, "Project finance is typically used for large capital projects in cases where using 'pay-as-you-go' does not make good planning and programming sense; that is, because the project's capital needs would consume most if not all available funding - and still often fall short of being fully funded. Further, given long-term benefits of transportation infrastructure, it can be economically sound to spread the project costs over the asset's life-cycle. Tolls, user fees, and other project-based revenue sources, in combination with new finance tools, can substantially increase state and local governments' ability to deliver projects" (FHWA, 2018).

ALDOT decided to pursue a public-private partnership (P3) to advance the proposed project using project finance. Across the country, P3s allow public agencies to leverage private sector resources to build critical projects when the public agencies do not have sufficient funds to do so otherwise. This P3 pairs ALDOT with a private partner or partners, to design, build, finance, operate, and maintain the new Mobile River Bridge and Bayway to lessen the burden on public tax dollars.

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1,000 0 1,000 2,000 3,000 4,000 Feet

0 1 2 Miles

LEGEND

- Proposed Tolled Route*
- Major Highways
- Highways
- Major Roads

NOTE: Ramps along tolled route may be tolled.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community NAIP 2015 - 1 Meter Resolution

FIGURE 15
PROPOSED TOLLED ROUTE

DRAFT

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Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,968,500.0000
False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.9999
Latitude Of Origin: 30.0000
Units: Foot US

Date 7/24/2017

As the public partner, ALDOT will facilitate the selection of the private partner, or Concessionaire, through a competitive process. The Concessionaire agrees to lease the infrastructure in the designated project area for 55 years, making the Concessionaire responsible for designing and constructing the project, as well as maintaining and preserving the roadways and bridges over the life of the lease. During the 55-year concession period, ALDOT will provide oversight and hold the Concessionaire accountable for the goals, deadlines, and budgets detailed in the lease. The Concessionaire will also be required to meet all commitments detailed in the approved FEIS/ROD. After 55 years, ALDOT will take over the maintenance and operations of the facility.

Toll revenue will cover the financing, operations, and maintenance costs of the proposed project. Tolls will also allow the private partner to recover its investment in the project over the life of the P3 agreement. It is anticipated that tolls will remain in effect after the end of the concession period to help cover continued maintenance and operation costs.

ALDOT will still be required to invest in the proposed project to make up the difference between the private investment and the project cost. The amount of investment required from ALDOT will depend upon the final proposals from each of the teams that are pursuing the P3 project. Funding sources for ALDOT's investment may include a combination of Federal-aid, Federal loan programs, and/or state discretionary funds.

3.8 Bicycle/Pedestrian Accommodations

The DEIS committed to providing a bicycle and pedestrian crossing of the Mobile River as part of the proposed project. While a specific route was not identified in the DEIS, options included the Bankhead Tunnel, Cochrane-Africatown USA Bridge, and the new Mobile River Bridge, but no detailed studies were performed to determine which one should be utilized. At the Corridor Public Hearings, information on possible locations for the bicycle/pedestrian facilities were displayed. The options included downtown to the

Causeway via local roads (Conception Street, Telegraph Road, Bay Bridge Road, Cochrane-Africatown USA Bridge and US-90); the Bankhead Tunnel; and the Mobile River Bridge.

ALDOT received 111 comments and a petition containing 3,213 signatures in support of including bicycle and pedestrian facilities on the proposed project. Subsequent to the Public Hearings, ALDOT studied the following bicycle and pedestrian alternatives in more detail:

1) I-165/Bay Bridge Road/Cochrane-Africatown USA Bridge/US 90;
2) Bankhead Tunnel;
3) Mobile River Bridge with facilities on the south side of the new bridge;
4) Mobile River Bridge with facilities on the north side of the new bridge; and
5) Mobile River Bridge with facilities on both the north and south sides of the new bridge.

These routes were presented at a Bicycle and Pedestrian Public Workshop on October 27, 2016 and are shown on **Figure 16**. **Table 5** provides selected information comparing the alternatives presented at the October 2016 workshop. More detailed information on each of the routes presented at the workshop is contained in the *I-10 Mobile River Bridge and Bayway Project Proposed Bicycle and Pedestrian Alternatives Evaluation Technical Report* (**Appendix B**). All of the routes listed in **Table 5** began in downtown Mobile and ended at the USS ALABAMA Battleship Memorial Park for comparison purposes.

TABLE 5: BICYCLE/PEDESTRIAN ALTERNATIVES COMPARISON MATRIX FROM OCTOBER 2016 WORKSHOP

Description	I-165/Cochrane	Bankhead Tunnel	Mobile River Bridge (south)	Mobile River Bridge (north)	Mobile River Bridge (north and south)
Total Estimated Cost	$8 million	$5 million	$64 million	$70 million	$93 million
Maximum Grade	4.67%	6%	4%	4%	4%
Width (feet)	8 or 12	21	12	12	8
Length (miles)	9	1.5	2.8	2.9	5.7

MOBILE RIVER BICYCLE / PEDESTRIAN CROSSING OPTIONS

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- I-65 / Cochrane Bike/Ped Route
- Bankhead Tunnel Bike/Ped Route
- Mobile River Bridge Bike/Ped Route

Note: For comparison purposes, all concepts shown on this graphic would begin in downtown Mobile and end at the USS ALABAMA Battleship Memorial Park.

FIGURE 16
BICYCLE / PEDESTRIAN ALTERNATIVES
FROM OCTOBER 2016 PUBLIC WORKSHOP

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3.8.1 Public Input on Bicycle and Pedestrian Alternatives

The alternatives listed above were presented to the public at a Bicycle/Pedestrian Public Workshop on October 27, 2016. A total of 523 comments were submitted to ALDOT before the comment period closed on November 11, 2016. Of the comments received, 322 people indicated they would prefer the bicycle/pedestrian facility be placed on the new Mobile River Bridge. Approximately 164 of these individuals specifically noted that the view from the bridge would be an attraction for residents and tourists. A total of 88 individuals preferred the Bankhead Tunnel option, and a total of 129 individuals preferred the Cochrane-Africatown USA Bridge route. A petition with 95 signatures in support of a route using the Cochrane-Africatown USA Bridge was received (**Appendix B**). The petition notes safety and growth and redevelopment of the Africatown/Plateau area as reasons for preferring the Cochrane-Africatown USA Bridge route. A total of 41 people stated they were opposed to providing bicycle and pedestrian facilities because of the associated costs.

ALDOT also met with the Mobile and Eastern Shore BPACs to discuss compatibility with existing and proposed bicycle and pedestrian plans. In addition to meeting with the BPACs, ALDOT met with the Mobile Baykeeper bicycle/pedestrian focus group. The Mobile BPAC and Mobile Baykeeper focus group preferred bicycle and pedestrian facilities to be located on the new Mobile River Bridge. The Eastern Shore MPO preferred the Bankhead Tunnel route. Although an observation area on the new Mobile River Bridge was not presented as an option at the October 2016 public workshop, the Mobile focus group, Mobile BPAC, and Eastern Shore BPAC all commented on the desire to see an observation area on the new Mobile River Bridge to allow people to experience the views from the Mobile River Bridge.

3.8.2 Bicycle/Pedestrian Preferred Route

After reviewing the input from the workshop and further discussions with the bicycle/pedestrian focus groups and BPACs, ALDOT's preferred solution includes a

combination of facilities to meet the interests of a variety of user groups based on feedback from the public workshop, BPACs, and focus groups.

The preferred route is a bicycle/pedestrian facility from downtown Mobile via the Cochrane-Africatown USA Bridge and then to the USS ALABAMA Battleship Park as shown on **Figure 17**. This route includes funding and building a bicycle and pedestrian shared use path from the I-165 southbound on-ramp at Bay Bridge Road to the Cochrane-Africatown USA Bridge. ALDOT will retrofit the Cochrane-Africatown USA Bridge to provide two protected bicycle and pedestrian lanes (one on each side of the bridge). The bicycle and pedestrian path will be a minimum of eight feet wide. ALDOT proposes to provide a shared use path on the south side of Bay Bridge Road and a sidewalk on the north side of Bay Bridge Road with crosswalks at appropriate locations. More detailed studies, design, and coordination with the local community will be required to finalize the details of the bicycle and pedestrian facilities along this route. The length of this proposed corridor is approximately 2.6 miles. This facility will be constructed using Federal and/or state funds and will be completed within the same timeframe as the completion of the Mobile River Bridge and Bayway project.

Future Extensions of Cochrane-Africatown USA Bridge Shared Use Path

ALDOT commits to a bicycle/pedestrian route from downtown Mobile to the USS ALABAMA Battleship Park via the Cochrane-Africatown USA Bridge by working with local municipalities to provide future extensions.

ALDOT will work with local municipalities to provide bicycle and pedestrian paths from Beauregard Street in downtown Mobile to the Cochrane-Africatown USA Bridge Shared Use Path via surface streets, such as Conception Street or Telegraph Road. ALDOT will work with local municipalities and the local BPAC of the Mobile MPO to determine the appropriate route for these paths, taking into consideration the opportunity for connectivity with the proposed Three Mile Creek Trail improvements, the Africatown

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FIGURE 17
BICYCLE / PEDESTRIAN
PREFERRED ROUTE

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Connections Blueway, and other proposed and existing bicycle and pedestrian plans and greenway initiatives. ALDOT will also work with local municipalities and the Mobile BPAC to extend the path to the USS ALABAMA Battleship Memorial Park.

ALDOT will also work with local municipalities from the Eastern Shore to extend the bicycle and pedestrian facilities from the USS ALABAMA Battleship Memorial Park to Spanish Fort/Daphne as proposed in the *Spanish Fort Causeway Master Plan*. Specifically, ALDOT will include bicycle and pedestrian facilities in future transportation improvement projects along the US-90/US-98 Causeway, such as the bicycle and pedestrian accommodations being included in the upcoming Tensaw River Bridge replacement project.

It is anticipated that these extensions will be funded with Better Utilizing Investments to Leverage Development (BUILD) transportation grants, Federal-aid funds, and/or other available means.

3.8.3 Bicycle/Pedestrian Enhancements

Mobile River Bridge Belvedere

In addition to the above-listed facilities, ALDOT commits to constructing a belvedere (i.e., overlook that provides a space for people to stop, rest, and enjoy the view) on the new Mobile River Bridge at the west main tower. This commitment is provided to address the stated desire from the BPACs and the public to have a viewing area from the bridge as an attraction for residents and tourists. Access to the belvedere will be provided via an elevator and stair tower located on the west side of the river. The path from the tower access to the belvedere will be a minimum of 12 feet wide. The belvedere will have a minimum area of 700 square feet. Construction of the belvedere will provide the view from the new Mobile River Bridge that was requested in comments received from the public workshop, the BPACs, and the bicycle/pedestrian focus group.

Bankhead Tunnel

ALDOT has previously closed the Bankhead Tunnel to vehicular traffic for a few hours on some weekends to allow bicyclists and pedestrians to use the tunnel to cross the Mobile River. The majority of respondents from the public workshop who favored the Bankhead Tunnel alternative said they would solely use the tunnel on the weekends. The Eastern Shore MPO BPAC also supported this route for the Mobile River crossing. ALDOT will continue this program seasonally as long as there is interest from the community and availability to close the tunnel without major disruptions to traffic.

3.8.4 Bicycle/Pedestrian Options

In response to public input requesting that bicycle and pedestrian facilities be located on the new bridge, ALDOT has included options that may be incorporated into the project should sufficient funding become available. As part of their bids, the teams proposing on the project will include prices for the options listed below. This process encourages the proposing teams to be innovative in how they approach incorporating these options on the project. Ultimately, ALDOT will determine whether either of these options can be added to the project. A decision on these options will not be made until after the FEIS/ROD is signed. These options are shown on **Figure 17** and are described in the following paragraphs:

Option 1: Full Shared Use Path on Mobile River Bridge

Option 1 would provide a minimum 12-foot-wide shared use path along the high level approaches and main span bridge crossing the Mobile River. The path would begin between Virginia Street and Texas Street on the west side of Mobile River and end near US-90/US-98 on the east side of Mobile River. The path would be located on the same side as the Mobile River Bridge Belvedere and would provide a connection to the belvedere from the path.

Option 2: Elevators/Stairs on Both Sides of Mobile River with Connecting Shared Use Path

Option 2 would provide an elevator and stair tower on the east side of Mobile River. A 12-foot-wide shared use path from the Mobile River Bridge Belvedere would connect to the elevator and stair tower on the east side of Mobile River. The belvedere could be moved to the center of the main span bridge.

3.8.5 Preferred Alternative Bicycle/Pedestrian Facilities Matrix

Table 6 displays information related to the bicycle and pedestrian facilities that are described in Sections 3.8.2 through 3.8.4 above.

TABLE 6: PREFERRED ALTERNATIVE – BICYCLE/PEDESTRIAN FACILITIES MATRIX

Description	Cochrane-Africatown USA Bridge Shared Use Path	Future Extensions of Shared Use Path*	Mobile River Bridge Belvedere	Bankhead Tunnel	Mobile River Bridge Option 1	Mobile River Bridge Option 2
Total Cost ($M)	$5.9M	$5.1M	$22.4M	$0M**	$55.6M	$29.7M
Max Grade	4.67%	0%	3.2%	6%	4%	3.2%
Width (feet)	8’ or 12’	8’ or 12’	12’	21’	12’	12’
Total Length (miles)	2.6	5.7	0.1	0.7	2.8	0.4

** Includes extensions from Cochrane-Africatown USA Bridge Shared Use Path to downtown Mobile and to USS ALABAMA Battleship Memorial Park.*

***Excludes ALDOT’s costs associated with maintenance of traffic and operations.*

3.8.6 Bicycle/Pedestrian Facilities at Interchanges and Local Roads

Pedestrian Facilities

All pedestrian facilities within the project limits must comply with the *U.S. Access Board Americans with Disabilities Act Accessibility Guidelines* (ADAAG) or the *U.S. Access Board Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way* (PROWAG). Existing facilities within the project limits that are not compliant will be upgraded to be in compliance. New facilities will be designed to meet these criteria.

Pedestrian facilities currently exist at the following locations within the project area on the west side of the Mobile River: Broad Street, Tennessee Street, Pillans Street, Virginia

Street, South Lawrence Street, South Franklin Street, North Carolina Street, South Conception Street, Texas Street, Claiborne Street, South Claiborne Street, Canal Street, Palmetto Street, St. Emmanuel Street, Royal Street, and Water Street. On the east side of the Mobile River, pedestrian facilities currently exist at the following locations: Dunlap Drive, US-98 at Old Spanish Trail, and North Main Street. Existing pedestrian facilities will be maintained or replaced. These roads are shown on **Figures 7 through 13** and **Figure 18A**.

The proposed project will provide pedestrian facilities at the areas under the high level approaches to connect to the elevator/stair tower for the belvedere at Water Street and along the new South Claiborne Street Extension. Pedestrian facilities will also provide crossings of I-10 at the Virginia Street, Canal Street/Water Street, and US-90/US-98 East Tunnel interchanges. In Daphne, pedestrian facilities to provide a crossing of I-10 from north to south will be provided. This path will be via a connection from connecting North Main Street to Old Spanish Trail or another safe and accessible path across I-10 that is developed during the final design phase of the Mobile River Bridge and Bayway Project. These facilities will be constructed within ALDOT's right-of-way and will not result in additional environmental impacts.

Bicycle Facilities

Bicycle lanes and/or a shared use path will be provided as part of the Mobile River Bridge and Bayway Project along the proposed South Claiborne Street Extension and at the following interchanges: Virginia Street and Canal Street/Water Street. A shared use path will be provided along US-90/US-98 within the project limits at the US-90/US-98 East Tunnel interchange. The bicycle lanes and/or shared use path along the South Claiborne Street Extension, Virginia Street, and Canal Street/Water Street will provide connectivity to the Crepe Myrtle Trail on the western shore of the Mobile River. These facilities will be constructed within ALDOT's right-of-way and will not result in additional environmental impacts.

4.0 ENVIRONMENTAL RESOURCES, IMPACTS AND MITIGATION

As discussed in Chapter 1.0, this Supplemental DEIS has been prepared to address changes that have occurred since approval of the DEIS in July 2014. This chapter describes the direct, indirect, and cumulative impacts and associated mitigation measures for each evaluated environmental resource that could be expected for the No Build and Build Alternatives.

4.1 Existing Land Use and Transportation

4.1.1 Transportation Planning Documents

Congestion on I-10 and in the Wallace Tunnel is recognized in the transportation planning efforts of municipalities and planning organizations in Mobile and Baldwin Counties. The proposed project is included in the following transportation planning documents which have been updated since the DEIS:

1) South Alabama Regional Planning Commission's *Mobile Area Transportation Study Metropolitan Planning Organization (MPO) Long Range Transportation Plan (LRTP) Destination 2040*, as adopted and modified in 2018 (SARPC, 2018);
2) South Alabama Regional Planning Commission's, *Mobile Area Transportation Study/Metropolitan Planning Organization's Fiscal Year (FY) 2016-2019 Transportation Improvement Program*, updated August 15, 2018 (SARPC, 2018a);
3) Eastern Shore MPO's *2040 Long Range Transportation Plan (LRTP)*, adopted July 2015 (ESMPO, 2015);
4) Eastern Shore MPO's *FY 2016-2019 Transportation Improvement Plan*, adopted May 2016 (ESMPO, 2016);
5) ALDOT's *2014-2019 State Transportation Improvement Program (STIP)* (ALDOT, 2016); and
6) ALDOT's *Five Year Plan for 2017 from October 1, 2016 through September 30, 2021* (ALDOT, 2017a).

4.1.2 Local Area Comprehensive Plans

The proposed project is compatible with existing land uses and conforms with the City of Mobile, City of Daphne, and City of Spanish Fort Comprehensive Plans. These municipalities have been active in the development of the proposed I-10 Mobile River Bridge and Bayway Project and have generally promoted the proposed transportation improvements to add capacity and reduce congestion along the I-10 corridor. The following paragraphs briefly describe the local area plans that have been adopted since approval of the DEIS.

In 2017, the City of Mobile adopted a new Comprehensive Plan, entitled *Map for Mobile* (City of Mobile, 2017). *Map for Mobile* outlines goals and policies that will guide the City's future planning efforts and the methods and approaches the City will follow to implement zoning, land use, code and ordinance changes and capital improvement priorities.

The proposed Mobile River and Bayway Project is included in the *Map for Mobile*, and the plans for future zoning and land use changes in and around the downtown area were developed to complement the Mobile River Bridge and Bayway Project.

In April 2018, the City of Spanish Fort adopted the *Spanish Fort Causeway Master Plan* (City of Spanish Fort, 2018). The Master Plan sets forth long-term improvements that the City of Spanish Fort intends to implement along the US-90/US-98 Causeway as funding becomes available.

4.1.3 Changes in Project Setting since DEIS

Since the DEIS was signed, Mobile has attracted a number of developments along the I-10 corridor and in downtown Mobile. The additions and changes are briefly summarized in the following paragraphs. Additionally, the updated traffic studies accounted for existing and future growth and development as part of the traffic model assumptions for future years.

The GulfQuest Maritime Museum opened to the public in February 2017. This modern concrete, steel, and glass building is located on the west bank of the Mobile River north of the cruise terminal and south of Cooper Riverside Park.

On November 9, 2016, Carnival Cruise Lines resumed operating multi-day cruises out of the Alabama Cruise Terminal located in downtown Mobile. Alabama Cruise Terminal is home to the 2,056-passenger *Fantasy*. According to the City of Mobile, more than 190,000 people have come through Mobile to take a cruise on the Fantasy, resulting in an economic impact estimated at around $35 million (al.com, 2017).

Airbus opened its first American final assembly line in September 2015. Located at the Brookley Aeroplex between the Mobile River and I-10 south of the proposed I-10 Mobile River Bridge, the facility produces approximately four planes per month and currently employs around 400 people. In 2017, Airbus and Bombardier announced plans to construct an additional final assembly line facility parallel to the existing facility at Brookley. The new facility is expected to bring an additional 400 to 600 jobs to Mobile in the next few years. With the development of the Airbus assembly line, around 20 new companies supporting the aerospace industry have chosen to locate in Mobile, creating jobs for local area residents and contributing to the local economy (al.com, 2018).

In October 2017, Amazon opened its first facility in Alabama. Located just off of I-10 in the western part of Mobile County, the company invested approximately $30 million to construct a 362,000-square-foot "sortation center" in Mobile that helps accelerate the delivery of online purchases to customers. The facility employs approximately 360 to 1,000 individuals on a part-time basis depending on demand (Made in Alabama, 2017).

On August 14, 2018, Walmart opened a 2.6-million-square-foot distribution center in Mobile County, just off of I-10. The center will supply several regional distribution centers that support approximately 700 Walmart stores in Alabama, Mississippi, and up to the Great Lakes area. With its close proximity to the Port of Mobile, I-10, and I-65,

the distribution center is expected to generate additional cargo traffic for the Alabama State Port Authority and to increase truck traffic on local interstate corridors.

The Alabama State Port Authority is also the recipient of a $12.7 million U.S. Department of Transportation grant that will fund the conversion of an abandoned port facility north of the proposed Mobile River Bridge and Bayway Project to a "roll-on/roll-off vehicle processing facility" that will allow vehicles, trucks, and other equipment on wheels to be driven onto and off of ships.

Industrial and commercial development is expected to continue to grow along the I-10 corridor in Mobile and Baldwin Counties as additional support services choose to locate in close proximity to major employers such as Austal, Airbus, Amazon, and Walmart.

4.1.4 Local Roads

The DEIS did not consider the potential impacts to local roads in the vicinity of downtown Mobile that might be necessary to accommodate the high level approaches and other components of the proposed project. Since the DEIS, potential impacts to local City streets that may result from the Preferred Alternative have been coordinated with the City of Mobile. All of the Build Alternatives would require modifications and/or closures of local roads to accommodate interchange modifications and high level approaches. Alternatives A and B would have similar impacts on these roads, while Alternative C would require similar modifications to roads in proximity to the location of the high level approaches near the Virginia Street interchange.

Coordination with the City of Mobile will be maintained as the design process continues. **Figures 18 and 18A** show the roads discussed in this section.

South Franklin Street between Virginia Street and I-10 and the westernmost portion of Maryland Street between ALDOT's proposed right-of-way and I-10 would be closed, and

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FIGURE 18
PROPOSED LOCAL ROAD MODIFICATIONS

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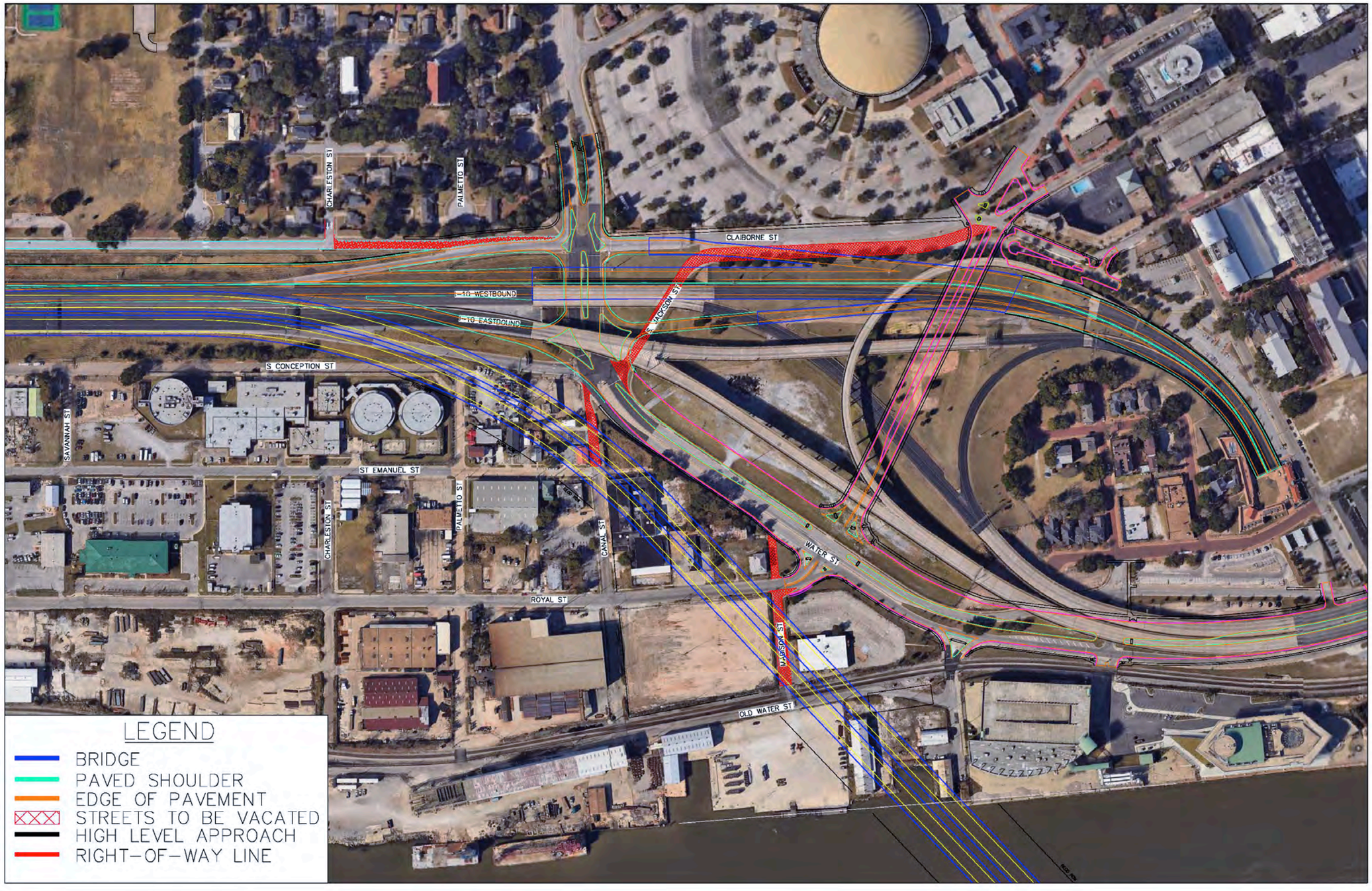

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FIGURE 18A
PROPOSED LOCAL ROAD MODIFICATIONS

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pavement would be removed. Access to remaining businesses in the vicinity of these locations would continue to be provided via Virginia Street, South Conception Street, and Maryland Street, and access points to the remaining businesses would not be modified.

New Jersey Street from South Conception Street to the end of the street would be vacated (transferred) to ALDOT and removed.

Palmetto Street would remain City right-of-way, and access must be maintained.

Madison Street has been identified as a potential location for one of the anchor piers to be constructed for the proposed project. ALDOT has coordinated with the City of Mobile and determined that the closure of Madison Street without relocation is acceptable. Madison Street from Old Water Street to Water Street would be transferred to ALDOT.

Canal Street from St. Emanuel Street to the end of the street would be transferred to ALDOT. The proposed Canal Street/Water Street interchange configuration will require the existing connections of South Claiborne Street and Canal Street to be removed. As a result, South Claiborne Street between Texas Street and Canal Street will serve local traffic around the Texas Street neighborhood, and South Jackson Street from Canal Street to Claiborne Street will be removed or repurposed for parking or other uses. As shown on **Figure 10**, a new connector road, South Claiborne Street Extension, will provide connections from South Jackson Street and South Claiborne Street to Water Street.

4.1.5 Impacts of Tolling on Surrounding Transportation Network

Traffic analyses in the IMR were used to evaluate roadways and intersections to compare existing, future No Build, and future Build conditions to identify the roads most likely to experience increases in congestion due to tolling. Based on the analysis included in the IMR, the proposed project is expected to result in increased traffic in

comparison with future 2040 No Build conditions along Bay Bridge Road (+4%), the Cochrane-Africatown USA Bridge (+8%), US-90 between the Cochrane-Africatown USA Bridge and the Bankhead Tunnel (+20%), US-90/US-98 Causeway between Bankhead Tunnel and the Mid-Bay Interchange (+30%), and the US-90/US-98 Causeway between the Mid-Bay Interchange and Daphne (+39%). These segments make up a contiguous non-tolled route between I-165 and Daphne/Spanish Fort where congestion is expected to increase due to diversion of traffic from the tolled facility. More details on the impacts of congestion due to traffic diversion are included in Sections 4.4, 4.6, and 4.16.

4.2 Navigation

The proposed project will result in temporary impacts to navigation during construction. Since the DEIS, navigation clearance requirements have been coordinated with the U.S. Coast Guard (USCG), Harbormaster, and other maritime interests to provide adequate horizontal and vertical clearances for the Mobile Harbor Federal Navigation Channel to allow marine traffic to pass underneath the bridge. Vertical clearance, also known as air draft clearance, represents the vertical space beneath the lowest bridge deck component to allow for safe passage of ships. Horizontal clearance is defined as the width of the open area beneath the main part of a bridge.

In addition to the Mobile Harbor Federal Navigation Channel being spanned by any of the proposed bridge alternatives crossing the Mobile River, the Bayway replacement will cross the Tensaw, Apalachee, and Blakeley Rivers. All structures must provide minimum vertical and horizontal clearances in accordance those listed in **Table 7**. By e-mail correspondence dated October 23, 2018, the USCG instructed ALDOT to establish minimum required clearances for these river crossings (**Appendix A**). The proposed minimum clearances were developed by comparing the proposed clearances from the DEIS to the record plan sets for the original construction of the Bayway. Other data used to confirm the minimum required clearances included navigational charts from the National Oceanic Atmospheric Administration (NOAA), maps from the USACE, bathymetric survey of the Bay bottom in proximity to the Bayway, and other available

plans and drawings. By e-mail dated November 15, 2018, ALDOT approved the use of these navigation clearances (**Appendix A**).

TABLE 7: NAVIGATION CHANNEL GEOMETRIC CLEARANCES

Navigation Channel	Minimum Horizontal Clearance (feet)	Minimum Vertical Clearance (feet)
Mobile Harbor	600	215
Tensaw River (mile 0.3)	100	24
Apalachee River (mile 0.0)	50	16
Blakeley River (mile 0.4)	50	16

The proposed vertical clearance for the new Mobile River Bridge is 215 feet. Since the DEIS, the USCG confirmed the 215-foot air draft clearance is acceptable. A copy of the USCG's letter dated June 6, 2018, is included in **Appendix A**. The minimum allowable horizontal clearance is 600 feet. Bridge pylons would be located on piers or in slips that are outside of the navigation channel and generally landward of the banks of the Mobile River.

Additional coordination with the USCG, USACE, and the Harbormaster will be conducted throughout the EIS, design, and permitting phases of the project to develop bridge permit conditions related to navigation.

In 1986, Congress authorized various modifications to Mobile Harbor including deepening and widening the majority of the channel to 55 feet deep and 550 feet wide. Since that time, the majority of the channel was enlarged to 45 feet deep and 400 feet wide. In 2014, the ASPA requested that the USACE consider deepening and widening the existing Mobile Harbor Channel to its authorized dimensions. The *Mobile Harbor General Reevaluation Report and Supplemental EIS* was issued for public review on July 27, 2018. The proposed action would be located south of the Build Alternatives and would not require changes in proposed navigational clearances.

4.3 Potential Hazardous Materials Sites

The DEIS committed to conducting investigations at potential hazardous materials sites and including the findings in the FEIS. The DEIS identified 7 potential sites as being

potentially impacted, but refinements to the alignment and a more detailed preliminary investigation resulted in the identification of an additional five potential hazardous materials sites in the area that would be traversed by Alternatives A, B, and the Preferred Alternative.

Subsequent to the DEIS, preliminary investigations were conducted at the twelve properties identified as potential hazardous materials sites within the proposed right-of-way for the Preferred Alternative (**Figure 19**). **Table 8** displays a summary of potential hazardous materials sites that may be affected by the proposed project. Alternatives A and B would have similar impacts as the Preferred Alternative, while Alternative C would impact potential hazardous materials sites around the Virginia Street area.

TABLE 8: POTENTIAL HAZARDOUS MATERIALS SITES

Site*		Build Alternative			
		A	B	Preferred	C**
1	Austal Facility	X	X	X	X
2	Harrison Brothers (Tomley Barge)	X	X	X	
3	Austal (Formerly Mobile Abrasives)		X	X	
4	ALDOT (Formerly Bender) Property		X	X	
5	Buffalo Marine	X	X	X	
6	J&U Properties	X	X	X	
7	GP Investments	X	X	X	
8	Nellena & Stokley	X	X	X	
9	Irwin (Formerly Rogers) Property	X	X	X	
10	Hardee Property	X	X	X	
11	C.E., LLC Properties	X	X	X	
12	Shell Station	X	X	X	X
**Other sites previously identified in DEIS					4
	Total	10	12	12	6

** Site Number based on Preliminary Investigation conducted in 2017 and shown on Figure 19.*
*** Alternative C would impact four additional sites presented in the DEIS that were not included in the 2017 preliminary investigation for the Preferred Alternative.*

LEGEND

Potential Hazardous Materials Sites

1 - Austal Facility
2 - Harrison Brothers Property
3 - Austal (Former Mobile Abrasives) Property
4 - ALDOT (Former Bender) Property
5 - Buffalo Property
6 - J & U Properties
7 - GP Investments Property
8 - Nellena & Strokley Property
9 - Irwin (Former Rogers) Property
10 - Hardee Property
11 - C.E. LLC Properties
12 - Shell Station Properties

Proposed HLA and Main Span Corridor

Parcel Line

1:12,000

400 0 400 Feet

1 inch = 1,000 feet

Mobile County Revenue Commissioner Parcel Lines, April 2012 - **NOT A SURVEY**
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

ALABAMA DEPARTMENT OF TRANSPORTATION
I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

Department Of Transportation

thompson

MOTT MACDONALD

HDR

FIGURE 19
POTENTIAL HAZARDOUS MATERIALS SITES

PROJECT NO.: 15-1101-00300

DATE: JANUARY 2019

Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,968,500.0000
False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.9999
Latitude Of Origin: 30.0000
Units: Foot US

The management summary from the Preliminary Investigation Report is contained in **Appendix C**. The entire report is available for review at the ALDOT's Central Office and ALDOT's Southwest Region office and is available on the project website at www.mobileriverbridge.com. The sites were evaluated for soil and groundwater contamination, as appropriate for the site conditions.

Based upon the investigation, dust suppression efforts to minimize dust inhalation is recommended at the following sites: Site 2: Harrison Brothers (Tomly Barge), Site 3: Austal (former Mobile Abrasives), and Site 12: Shell Station.

Groundwater encountered during construction should not be used for potable purposes at any site. Site 3: Austal (former Mobile Abrasives) may require re-evaluation for groundwater contamination once more detailed design plans are available. At the time the hazardous materials investigation was performed, groundwater could not be sampled at this location due to concrete rubble and material that covered the site.

Fuel lines are believed to still be in place on Site 7: Nellena & Stokley Property. An Underground Storage Tank Closure Assessment will be conducted in accordance with ADEM regulations and guidelines after acquisition and as part of the demolition process.

By letter dated March 29, 2017, ALDOT's Bureau of Materials and Tests agreed with the findings of the report and determined that no major contamination issues were identified, and there are limited areas of soil and/or groundwater impacts which will require consideration during construction (**Appendix C**). ALDOT's letter also states that the potential cost of remediation should not affect the proposed alignment of this project or the acquisition of proposed parcels for right-of-way. A worst-case cost, if all sites were to require some remediation, is expected to be within the range of $100,000 to $200,000.

4.4 Economic Impacts

4.4.1 Tolling

The DEIS did not evaluate the potential impacts of tolling, as tolling was not proposed at the time the DEIS was prepared. As noted in Section 3.7 and shown on **Figure 15**, Virginia Street to the US-90/US-98 interchange in Daphne on I-10 would be tolled. I-10 Business from Canal Street/Water Street through the Wallace Tunnel to its connection with the Bayway would also be tolled. All of the Build Alternatives would be tolled and would result in similar impacts due to tolling.

The proposed project would use all-electronic tolling, allowing drivers to travel through the facilities at highway speeds without having to stop to pay a toll. Electronic toll gantries would span the roadway and initiate the toll collection process via an account-based transponder located on the vehicle or license plate image. Users would be able to pay for tolls by opening an account and pre-paying tolls, or paying online, over the phone, by mail, at a walk-in center, or other approved payment methods available on the market. For the public's convenience, a local walk-in center will be opened in both Mobile and Baldwin Counties. Alabama has been coordinating with neighboring states to develop a cooperative interoperability agreement for toll users who may already have toll accounts in place in other states, such as Florida, Georgia, or Texas.

ALDOT has established a toll policy for the project that sets a maximum toll that can be charged and may be adjusted annually with inflation. The maximum toll rate included in the toll policy ranges from $3 to $6 (in 2020 dollars). The Concessionaire will determine the final toll rate in accordance with the toll policy. Factors that may influence toll rates include traffic volumes, existing travel conditions, forecasted travel conditions, and costs for construction, operations and maintenance. It is anticipated that the tolled lanes will be divided into toll segments so that drivers only pay for the portion of the tolled facility that they use. As shown in **Table 9**, the proposed maximum toll rate for the entire length of the tolled corridor for a passenger vehicle is $6 (in 2020 dollars). Toll rates will vary depending on the classification of the vehicles.

TABLE 9: PROPOSED MAXIMUM TOLL RATES – ENTIRE TOLLED CORRIDOR*

Shape Examples	Vehicle Class	Description	Size	Proposed Maximum Toll Rate (2020 dollars)
	0	Exempt Vehicles (law enforcement and emergency vehicles, school buses)	Not applicable	$0
	1	Passenger car, pickup truck, small van, SUV, motorcycle	Not larger than: 7 feet in height, or 20 feet in length, or 8.5 feet in width	$6
	2	Class 1 vehicle pulling one or more trailers	Combined dimensions do not exceed: 14 feet in height, or 73.5 feet in length, or 8.5 feet in width	$12
	3	Large trucks, buses, recreational vehicles	Dimensions do not exceed: 14 feet in height, or 46 feet in length, or 8.5 feet in width	$18
	4	Extra-Large Trucks and Buses or Class 3 pulling one trailer	Dimensions do not exceed: 14 feet in height, or 73.5 feet in length, or 8.5 feet in width	$24
	5	Class 4 pulling one or more trailers	Combined dimensions do not exceed: 14 feet in height, or 73.5 feet in length, or 8.5 feet in width	$30
	6	Larger than a Truck or a Special Permit Vehicle	Larger than: 14 feet in height, or 73.5 feet in length, or 8.5 feet in width, or weighs more than 80,000 pounds, or requires Special Permit	$36

** Proposed maximum toll rates shown are based on a vehicle traveling the entire tolled corridor from Virginia Street to Daphne via I-10 or I-10 Business from Canal Street/Water Street through the Wallace Tunnel to its connection with the Bayway with a properly-mounted transponder. Additional fees will apply for vehicles without transponders.*

Transponders allow tolling equipment to quickly and accurately identify toll users to pre-pay for tolls. Each time a person with a transponder drives through a toll gantry, the transponder is scanned, and the amount of the toll is deducted from the driver's account. The maximum cost of a transponder is expected to be between $5.00 and $10.00 (2020 dollars) depending on the final technology selected. A surcharge of up to

50% may be placed on tolls for users who do not have an account and a properly mounted transponder. This surcharge is in place to cover the additional costs associated with capturing an image of the license plate, reading, and looking up addresses. For example, if the toll is set at the upper end of the acceptable range, a driver in a passenger vehicle using the entire tolled route without a transponder would pay the $6.00 toll (2020 dollars) plus an additional $3.00 surcharge. If the toll is not otherwise paid, a monthly bill will be mailed to the vehicle's registered address and may include a mailing fee up to $5.00 to cover the cost of mailing and processing. If tolls are not paid by the due date on the notice, additional administrative fees and penalties may also apply.

Paying tolls will result in a new expense to travelers on the I-10 corridor. However, drivers will have the option to take the non-tolled route to avoid paying the toll. While users would pay a toll to use I-10 from Virginia Street to the US-90/US-98 interchange in Daphne and I-10 Business from Canal Street/Water Street through the Wallace Tunnel to its connection with the Bayway, they would receive a benefit of reduced congestion and more reliable travel times on I-10. Detailed information on impacts on EJ populations resulting from tolling is contained in Section 4.6.

The implementation of a toll would affect users from the trucking industry and the general public, which includes minority and low-income users. For the general public, tolls will represent a new cost in their household budget. The daily, weekly, monthly, and annual expenditure resulting from paying a toll would be directly attributable to the number of times the driver uses the tolled route per day. For example, for people who use the entire tolled route twice per weekday to commute for work, the toll would cost approximately $60 per week (if the toll is set at the upper end of the acceptable range). ALDOT will incorporate a frequent user discount program into their toll policy. ALDOT's frequent user discount would be similar to discounts provided on other tolled routes around the country. For example, Florida's Sunshine Skyway provides a 10% discount on all transactions in a month with 40 or more transactions. Maine's Turnpike Authority

provides a 25% discount on all transactions in a month with more than 30 transactions. Currently, ALDOT is evaluating a 15% discount when 20 or more trips are taken in a month.

The trucking industry would also be affected by the implementation of a toll on I-10. A 2011 report prepared by the National Cooperative Freight Research Program and the National Cooperative Highway Research Program (NCHRP) entitled *Truck Tolling: Understanding Industry Tradeoffs When Using or Avoiding Toll Facilities* found that the trucking industry as a whole has a "negative view of toll roads" (NCRHP, 2011). The Transportation Policy Research Center's 2015 report entitled *Incentives for Truck Use of SH 130* found that "numerous factors influence decision-making, but most trucking firms seek to minimize their overall cost per trip" (TPRC, 2015). Based upon research conducted by the NCHRP, TPRC, ATRI, and others, the primary factors influencing a truck driver's decision to use a tolled or non-tolled route include: the size of the truck, its origin and destination, scheduling opportunities, travel time reliability, the type of load or freight being moved, and user cost. The proposed Mobile River Bridge and Bayway Project would provide trucks with a more direct, less congested route across Mobile River and Mobile Bay. Trucks transporting hazardous materials would no longer be routed to I-65, I-165, and the Cochrane-Africatown USA Bridge to cross the Mobile River but will be able to use a direct, non-congested route. ALDOT has committed to maintaining a non-tolled route across both the Mobile River and the Mobile Bay for trucks and other users who do not want to pay a toll.

In addition to the impacts associated with users of the tolled facility, the potential impacts on businesses along a tolled or non-tolled route were also considered. Conclusions regarding the economic effects of tolling on businesses along a tolled or non-tolled route vary depending upon a project's location and setting. Based on the results of the IMR, the proposed project is expected to result in increased traffic along Bay Bridge Road, the Cochrane-Africatown USA Bridge, US-90 between the Cochrane-Africatown USA Bridge and the Bankhead Tunnel, and the US-90/US-98 Causeway.

Bay Bridge Road runs east-west through the Africatown/Plateau community, which is a predominantly minority community, and connects I-165 to the Cochrane-Africatown USA Bridge and US-90 on the east side of Mobile River. The potential impacts to this community and mitigation measures to offset those impacts are discussed in more detail in Section 4.6.

The area located along US-90 between the Cochrane-Africatown USA Bridge and the Bankhead Tunnel is primarily industrial.. Increased traffic could result in increased congestion along these routes. For the industrial area along US-90, increased congestion may make it more difficult for trucks turning into and out of businesses to make those movements. ALDOT already has a planned project to add a continuous two-way left-turn lane between the Cochrane-Africatown USA Bridge and the Bankhead Tunnel which would assist vehicles in making those turns. The turn-lane project is currently being pursued by ALDOT as a safety project independently of the Mobile River Bridge project. The turn-lane project would be constructed primarily within existing ALDOT right-of-way. No significant environmental impacts are expected from these improvements.

Along the US-90/US-98 Causeway, commercial development primarily consists of restaurants. Other development includes the recreational areas or tourist attractions such as the USS ALABAMA Battleship Memorial Park, Five Rivers, and Meaher State Park. Increased congestion could result in adverse impacts on these facilities should the congestion result in access issues. ALDOT will develop an access management plan to help facilitate access to and from destinations along the US-90/US-98 Causeway. Strategies included in this access management plan may include installing traffic signals, medians with U-turns, mid-block signals, as well as other appropriate techniques. The access management plan will be implemented prior to tolling commencement. It is anticipated that the potential improvements along the US-90/US-98 Causeway would be constructed within existing ALDOT right-of-way and would not result in additional environmental impacts beyond what is presented in this Supplemental DEIS.

4.4.2 Potential Economic Impacts on Shipyards

The DEIS contains a detailed discussion regarding potential economic impacts on shipyards that could result from the proposed project. Refinements to the project design and coordination with maritime entities have resulted in changes to potential impacts resulting from the construction of the proposed project.

The DEIS noted concerns about the loss of parking areas for employees at Austal. Since the DEIS was signed, ALDOT has worked with Austal to develop mitigation that will offset the parking impacts as part of the right-of-way acquisition process at Austal's facility. It is anticipated that Austal will use the compensation from the right-of-way acquisition process to replace the parking spaces that will be lost as a result of the proposed project. Additionally, ALDOT has agreed to develop a lease agreement with Austal to allow them to use the parking spaces under the high level approaches crossing over Austal's property once construction of the proposed project is complete. These mitigation measures offset the adverse economic impacts associated with the potential loss of parking described in the DEIS. While the specific number of parking spaces that would be impacted at Austal would vary depending on the Build Alternative, with Alternative C impacting fewer parking spaces than the other Build Alternatives, the above-listed conditions to offset those impacts would be applicable under any of the Build Alternatives.

The DEIS also stated that Austal could experience impacts related to inefficiencies of transporting ship modules around the bridge support structures between Austal's manufacturing and assembly facilities. In order to minimize these impacts, ALDOT has committed to maintaining continuous access to Dunlap Drive and Addsco Road at all times unless approval from Austal is obtained at least 30 days prior to required road closures. This approach will allow Austal to accommodate construction activities with minimal disruption to Austal's operations, reducing the adverse economic impacts noted in the DEIS. This agreement would be applicable under any of the Build Alternatives.

4.4.3 Other Economic Impacts

Retail and Tourism

The potential economic impacts to retail sales and tourism described in the DEIS have been evaluated for potential changes that may result from the implementation of a toll. Section 4.3.1 of the DEIS concluded that the No Build Alternative would adversely affect retail sales and tourism due to inconveniences associated with increased congestion and traffic delays. In contrast, improved traffic flow and reduced delays associated with the Build Alternatives should be beneficial to retail sales and tourism. The DEIS also found that improved transportation conditions within the project study area would make tourist attractions within the area more easily accessible. The DEIS also acknowledges that there are groups who believe the bridge would be detrimental to tourism while others believe the bridge may become a tourist attraction in itself. The addition of tolling to fund the project may result in benefits to retail sales and tourism due to improved congestion and reliability in travel times on I-10, depending upon the route used by shoppers and tourists to reach those destinations. Increased congestion along the non-interstate, non-tolled route, particularly along the US-90/US-98 Causeway which is home to restaurants and tourist attractions, could result in adverse impacts on businesses and facilities located along the non-tolled route. In order to manage congestion on the non-tolled route and offset adverse impacts, ALDOT has committed to develop an access management plan to help facilitate access to and from destinations along the US-90/US-98 Causeway that will be implemented prior to tolling commencement.

Transportation and Marginal Costs/Benefit Considerations

Section 4.3.7 of the DEIS presents considerations related to transportation costs associated with the Build Alternatives. While these considerations are still applicable, the introduction of a toll may reduce the savings that would be experienced by drivers who choose to pay the toll.

Construction Benefits

Section 4.3.8 of the DEIS presents estimated construction benefits that are expected to be experienced over a five-year construction period. The one-time construction benefits are expected to be around $360 million for any of the Build Alternatives. These benefits may be higher than what was presented in the DEIS due to the use of additional materials required to replace rather than widen the Bayway, the increase in construction costs, and due to the addition of tolling which will include the construction of additional infrastructure and facilities to accommodate tolling that were not contemplated in the DEIS.

Congestion Costs

As discussed in Section 4.3.9 of the DEIS, studies indicate that congestion costs can impact a region's ability to maintain and grow. Increased congestion especially affects commuter and freight traffic. While the proposed project will result in an increased cost to users who pay a toll, the beneficial effects of reduced traffic congestion for travelers on I-10 include time savings, improved fuel efficiency, and transportation cost reductions compared to the No Build scenario.

4.4.4 Project Cost

In accordance with FHWA's *Major Project Program Cost Estimating Guidance* dated January 2007, FHWA conducted a Cost Estimate Review for the proposed project on August 21 through August 23, 2018. Cost Estimate Reviews are required for major projects. FHWA defines a major project as "a project that receives any amount of Federal financial assistance and has an estimated total program cost greater than $500 million (expressed in year-of-expenditure dollars), or other projects identified as a major project by the FHWA." Major projects are typically more complex and contain more risk elements than other projects.

The total cost estimate for the proposed Mobile River Bridge and Bayway Project contains the following project components: main span unit; high level approaches; full

replacement of the Bayway; interchange modifications at Virginia Street, Canal Street/Water Street, US-90/US-98 East Tunnel, US-90/US-98 Mid-Bay, and US-90/US-98 Eastern Shore; roadway, bridge, and aesthetic lighting; tolling infrastructure; bicycle and pedestrian facilities; replacement of intelligent transportation system along the Bayway; utility relocations; Wallace Tunnel upgrades; environmental mitigation; engineering and design; right-of-way acquisition; and other components.

All of these cost items associated with the above-listed project components would be applicable to all of the Build Alternatives evaluated in the DEIS. Therefore, the cost estimates from the DEIS have been adjusted by the same percentage to reflect the inclusion of the project components listed above. The cost estimate for the Preferred Alternative was approximately $773 million in the DEIS. With the changes to the project since the DEIS, all of the proposed Build Alternatives are estimated to cost approximately $2.1 billion.

4.5 Acquisitions/Right-of-Way Impacts

4.5.1 Early Acquisition

Changes in Federal law (23 U.S.C. 108) allow states to acquire properties prior to completion of NEPA review for a planned project for which the properties could be used. States that carry out early acquisitions entirely with state funds may later seek Federal-aid reimbursement for the costs of those acquisitions as long as they meet the conditions and procedures. Early acquisitions must be reviewed for environmental impacts and must not influence the environmental review of the overall project, the decision relative to the need to construct the project, or the selection of the project design or location.

For this project, ALDOT began to acquire properties after the DEIS was signed and in advance of NEPA approval in order to streamline the project process to allow construction to commence soon after the FEIS/ROD is signed. ALDOT is using state funds to acquire properties that will be needed for the project, with the intent to

request Federal reimbursement for those costs upon approval of the FEIS/ROD. The right-of-way acquisition process is currently underway for the properties listed in **Table 10**.

ALDOT also purchased two properties, the Buffalo Marine property and the Bender Shipbuilding & Repair property, in 2012. These properties are located within the proposed corridor for the project and were placed for sale on the open real estate market. In order to prevent future development of these properties that are located within the proposed corridor for the proposed project, ALDOT used Federal and state funds to make the acquisitions. The locations of these properties are shown in **Appendix D**. Neither of these properties involved the relocation of active businesses; therefore, they are not included in the Preliminary Project Relocation Analysis form contained in **Appendix D**. These properties would be required for any of the Build Alternatives except for Alternative C.

Properties acquired under the early acquisition process are available for demolition to remove vacant buildings so that environmental studies such as cultural resources investigations can be conducted prior to obtaining a FEIS/ROD. ALDOT is removing structures on acquired parcels for safety and liability purposes and to allow for cultural resources and hazardous materials investigations to be performed on parcels that were previously inaccessible due to buildings on-site.

4.5.2 Acquisitions

The DEIS identified two business acquisitions for Alternative A; thirteen business relocations for Alternative B; twelve business relocations for the Preferred Alternative; and four residential and thirteen business relocations for Alternative C.

Since the DEIS, design refinements to the interchange concept at Virginia Street and the shift in the mainline I-10 alignment to the east resulted in additional relocations from Virginia Street to Texas Street. As a result, the total potential acquisitions increased from 12 to 26 for the Preferred Alternative. The locations of these properties are shown

on maps in **Appendix D**. An updated Preliminary Project Relocation Analysis for the Preferred Alternative is included in **Appendix D**. Alternatives A and B are expected to have similar increases in relocations due to their proximity to the Preferred Alternative and similar design refinements in the alignment and interchange concepts. Limited changes are anticipated for Alternative C.

Table 10 displays a summary of potential acquisitions for the Preferred Alternative and the Preferred Alternative.

TABLE 10: POTENTIAL BUSINESS ACQUISITIONS – PREFERRED ALTERNATIVE

Site Name	**Type of Acquisition**
Coastal Security Taskforce	Full
Bandit Bail Bonds	Full
Bail Out Bonding, LLC	Full
Delta Bail Bonds	Full
Hurricane Bail Bonds	Full
James Bond Bail Bonds	Full
Outlaw Bail Bonds	Full
Jason Darley, Attorney at Law	Full
Greene & Phillips	Full
Johnathan Mabire, Attorney at Law	Full
Blackwell's Towing	Full
Hero's Towing	Full
Mobile County Public Works Department, Equipment Maintenance Facility	Partial
Virginia Street Shell Station	Full
Wal-Tech Valve	Full
Prism Systems, Inc.	Partial
Carnival Artist's	Full
Jubileescape Properties, LLC	Partial
CE, LLC	Full
Southern Fish & Oyster Company	Full
Austal USA, LLC	Partial
Tomly Barge Company	Partial

Site Name	Type of Acquisition
Maritech Marine & Industrial Services, Inc.	Full
AW Williams Inspection Company	Full
CT Realty Company	Full
Lamar Advertising (Signs)	Full

The Preferred Alternative would not require the acquisition of any residences or non-profit organizations. The Preferred Alternative would displace nine (9) signs. The Preferred Alternative would acquire the partial or full relocation of 26 businesses, of which 19 are owner-occupied and seven (7) are tenant-occupied.

The acquisition and relocation program will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the Alabama State Eminent Domain Procedures Law.

4.6 Environmental Justice

Subsequent to the DEIS, the decision to toll the project has resulted in substantially different impacts to low income and minority communities. In addition, design refinements to the alignment and the new proposed interchange concepts require consideration. As part of the development of the Supplemental DEIS, a new Environmental Justice (EJ) Assessment was prepared to address changes in potential impacts on EJ populations. The EJ Assessment is included as **Appendix E** of this Supplemental DEIS.

In response to Executive Order 12898, FHWA identifies three fundamental EJ principles for transportation projects:

1) To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects on minority populations and low-income populations;
2) To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and

3) To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

The methodology used to conduct the EJ Assessment for the I-10 Mobile River Bridge and Bayway Project is based on requirements set forth in Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*; U.S. Department of Transportation Order 5610.2(a), *Final DOT Environmental Justice Order*; and FHWA Order 6640.23A, *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*.

4.6.1 Areas of EJ Concern

For the purposes of this EJ analysis, the project study area is defined as the planning area covered by the travel demand model for the proposed project. The travel demand model covers the majority of Mobile County and all of Baldwin County, in accordance with the planning areas covered by the Mobile Area Transportation Study and the Baldwin County Highway Department. Within the travel demand model, areas are broken into traffic analysis zones (TAZs). TAZs are small geographic units used to model where people drive to and from. The travel demand model estimates future travel patterns and traffic volumes in future years with and without the proposed project.

Census block groups were found to closely align with TAZ boundaries. Socio-economic data from the U.S. Census Bureau's 2015 American Community Survey were used to develop the demographic profile for the project study area. Data were collected for each Census block group within the project study area. The demographic profile developed for the project was used to identify EJ populations broken into the following categories: minority, low-income, and minority and low-income. The full demographic profile is contained in **Appendix E**.

Table 11 presents a summary of the demographics for the project study area as a whole, while **Appendix E** contains the demographic profile broken down by block group and TAZ.

TABLE 11: SUMMARY OF DEMOGRAPHIC PROFILE FOR PROJECT STUDY AREA

Total Population	609,372
Minority Population	192,160
Non-Minority Population	417,212
% Minority	31.53%
Median Household Income	$41,705
Average Household Size	2.6
Low-Income Population	26,717
% Low-Income	4%

Source: U.S. Census Bureau, 2015

For the purposes of this assessment, Census block groups where the minority population is greater than 50% are considered high concentration minority areas. This is consistent with the "Fifty Percent Analysis" described in the Council on Environmental Quality's Report "Environmental Justice under the National Environmental Policy Act." This methodology is generally considered a conservative measure to identify minority populations when they comprise a majority of a geographic unit of analysis (i.e., block group).

In accordance with FHWA's *Environmental Justice Reference Guide*, Census block groups are considered low-income when the median household income is lower than the U.S. Department of Health and Human Services (HHS) poverty guidelines for the respective average household size. The average household size and median income for each Census block group were compared to the HHS Poverty Guidelines for that household size. **Table 12** displays the 2015 HHS Poverty Guidelines for reference.

TABLE 12: 2015 HHS POVERTY GUIDELINES

Persons in Household	Poverty Guideline
1	$11,770
2	$15,930
3	$20,090
4	$24,250
5	$28,410
6	$32,570
7	$36,730
8	$40,890
For households with more than 8 persons, add $4,160 per additional person	

Source: HHS, 2015

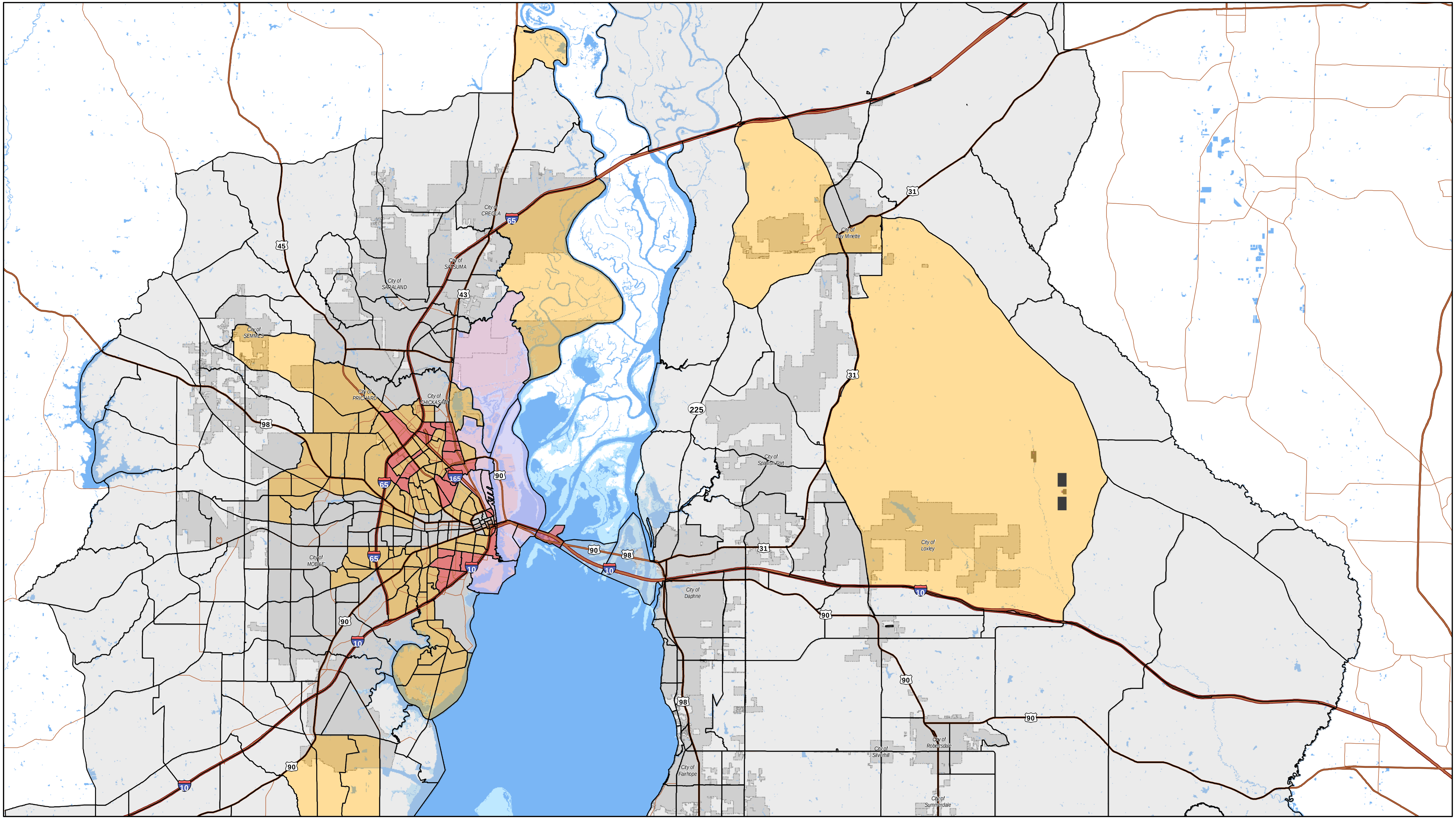
Normal rounding up or down to the nearest whole number was used. For example, if the Census Bureau indicated that a Census block group's average household size was 3.6, then the average household size for that Census block group was rounded up to a household size of 4.

The following data were input into a Microsoft Excel spreadsheet to identify areas with high concentrations of low-income and/or minority populations: TAZ, Census tract, Census block group, percent non-white, total population by race, median household income in last 12 months, average household size of occupied housing units by tenure, and HHS 2015 Poverty Guidelines for Household Size.

Of the 486 TAZs included in the analysis, 87 TAZs were identified as minority and 37 TAZs were identified as both minority and low-income. None of the TAZs were identified as low-income only. Areas with high concentrations of minority and/or low-income populations, also referred to as areas of EJ concern, were mapped and are shown on **Figure 20**.

Within the areas of EJ concern, specific areas that are most likely to experience impacts from the proposed project were identified. These areas include the Africatown/Plateau, Texas Street, and Oakdale communities. The Africatown/Plateau community is located approximately three miles north of the proposed project along Bay Bridge Road (**Figure 20A**). This community is the only EJ area of concern located along a road that is expected to experience increased traffic due to drivers avoiding the toll on I-10. The Texas Street and Oakdale communities were included because they are located adjacent to existing I-10 near downtown Mobile (**Figure 20B**).

It should be noted that while the identified areas of EJ concern have high concentrations of minority and/or low-income populations, there may be non-minority and non-low-income populations within these areas, and vice versa. Minority and/or low-income populations may also be located in areas that are not readily identifiable as minority and/or low-income based on limitations of available Census data.



ALABAMA DEPARTMENT OF TRANSPORTATION
I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

DEPARTMENT OF TRANSPORTATION

thompson

0 2 4 Miles

Service Layer Credits:

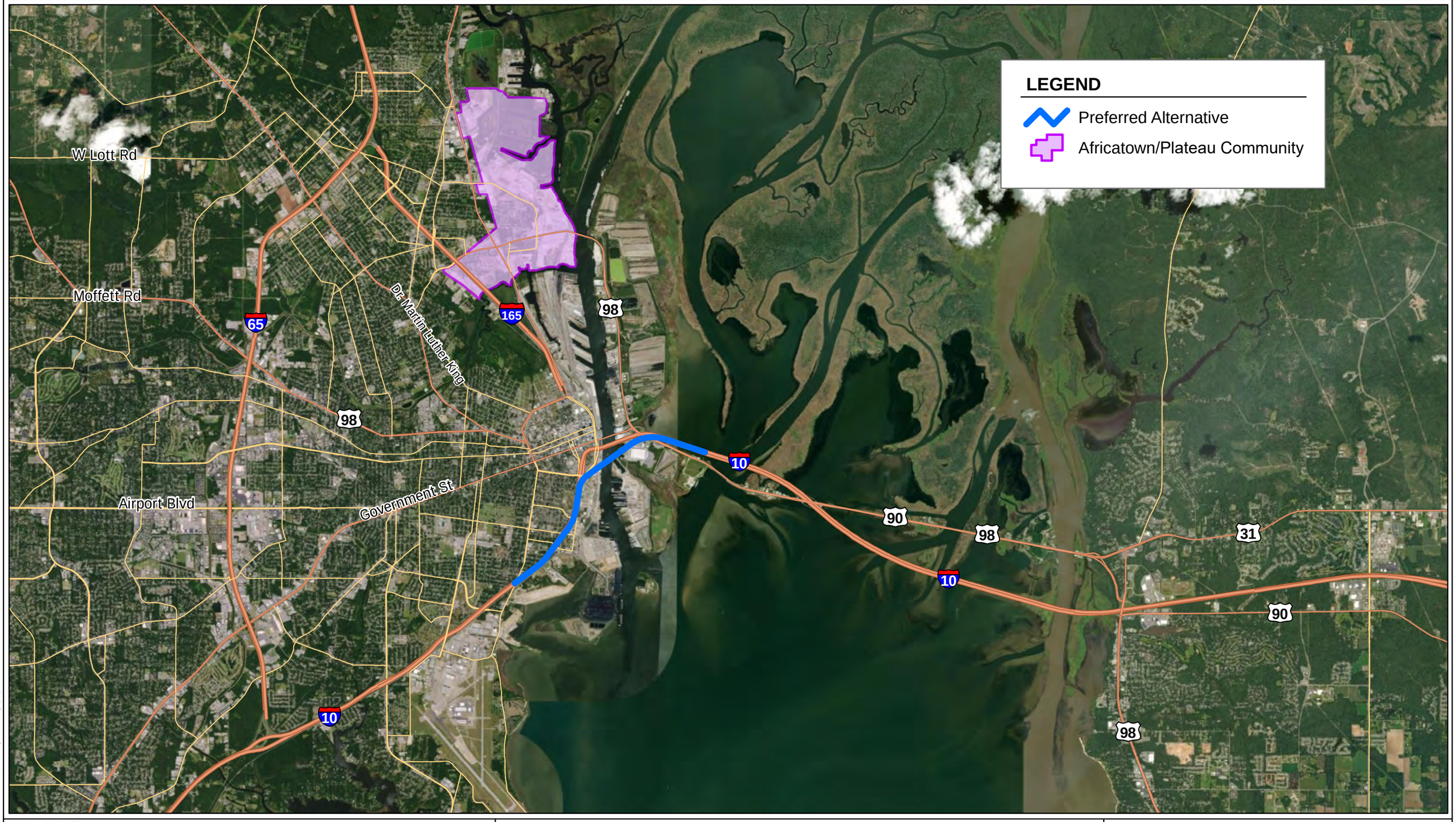
TRAFFIC ANALYSIS ZONES (TAZs)
- Area of EJ Concern - Minority
- Area of EJ Concern - Minority and Low-Income
- Excluded - Commercial Use
- Other TAZ Boundary - Not Minority or Low-Income

FIGURE 20
EJ AREAS OF CONCERN

PROJECT NO.: 15-1101-0300

DATE: JANUARY 2019

Date: 2/6/2019



ALABAMA DEPARTMENT OF TRANSPORTATION
I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

DEPARTMENT OF TRANSPORTATION

MOTT MACDONALD

thompson ENGINEERING

HDR

N W E S

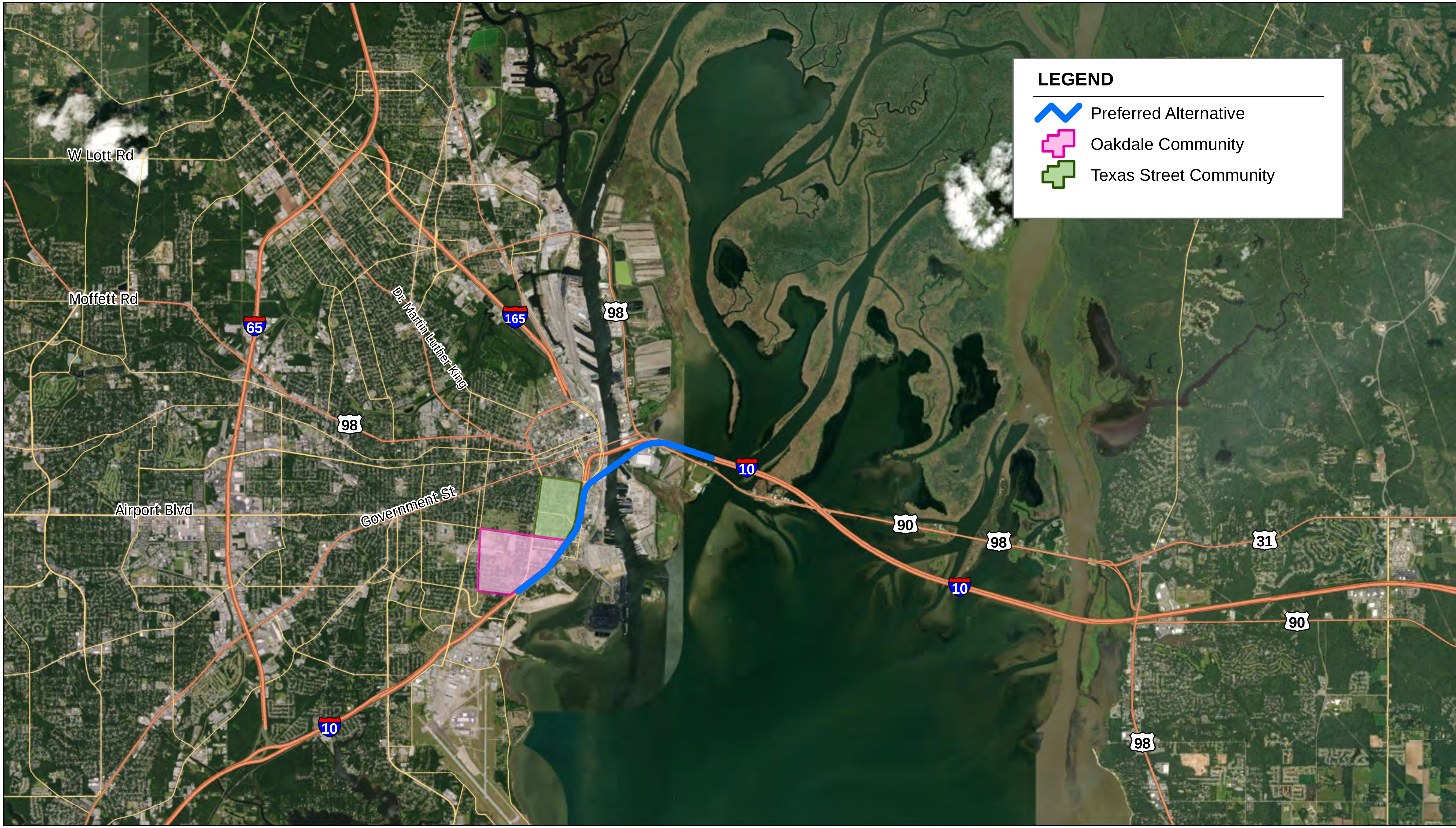
0 2 4 Miles

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Digital Globe 2017

FIGURE 20A
AFRICATOWN / PLATEAU COMMUNITY

PROJECT NO.:	DATE:	
15-1101-0300	FEBRUARY 2019	Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet Projection: Transverse Mercator Datum: North American 1983 False Easting: 1,640,416.6000 False Northing: 0.0000 Central Meridian: -87.5000 Scale Factor: 0.9996 Latitude Of Origin: 30.4000 Units: Feet US

Date: 2/20/2019



ALABAMA DEPARTMENT OF TRANSPORTATION
I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

0 2 4 Miles

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Digital Globe 2017

FIGURE 20B
TEXAS STREET / OAKDALE COMMUNITIES

PROJECT NO.: 15-1101-0300

DATE: FEBRUARY 2019

Date: 2/20/2019

4.6.2 Potential Impacts on Areas of EJ Concern

Per the USDOT Order 5610.2(a) and FHWA Order 6640.23A, all reasonably foreseeable adverse social, economic, and environmental effects on minority and low-income populations must be identified and addressed. Construction of a new transportation facility includes a variety of potential social, economic, and environmental impacts. Based upon the EJ Assessment, the proposed project is expected to result in both adverse and beneficial impacts on EJ populations. These impacts are summarized in **Table 13**.

TABLE 13: SUMMARY OF POTENTIAL IMPACTS ON AREAS OF EJ CONCERN

Impact Category	Impact on Areas of EJ Concern*	Comments
Air	No	The Air Quality Analysis contained in the Supplemental DEIS indicates that the proposed project will not result in air quality impacts exceeding the National Ambient Air Quality Standards (NAAQS). The maximum one-hour concentration of carbon monoxide for the worst-case intersection on Bay Bridge Road (in the Africatown/Plateau community) was modeled at 4.8 parts per million, which is well below the USEPA's one-hour criteria of 35 parts per million.
Changes in health (air) for residents near alternative routes that have degradation in level of service	No	
Noise	Yes, but expected to be minimal; therefore, not a disproportionately high and adverse concern	An addendum to the traffic noise analysis in **Appendix L** evaluated traffic noise impacts for the proposed project using updated traffic projections. The noise analysis indicates that the areas adjacent to I-10, which include the Oakdale and Texas Street communities, currently experience noise impacts and will continue to experience noise impacts in 2040 No Build and 2040 Build scenarios due to their proximity to I-10. The noise analysis indicates that 186 receptors in this area would experience noise impacts in the existing/pre-build scenario. A total of 213 receptors would experience noise impacts in the 2040 No Build scenario. The proposed project would result in noise impacts at 170 receptors in this area in the 2040 Build scenario. The difference in noise levels between existing/pre-build (2020) and the 2040 No Build scenario ranges from a decrease of 1.5 dBA to an increase of 4.1 dBA, while the difference in noise levels between the existing/pre-build (2020) and the 2040 Build scenario ranges from a decrease of 4.1 dBA to an increase of 4.2 dBA. Changes in noise levels of 3 dBA or more between existing and the 2040

		condition would be perceptible to the human ear, with or without the proposed project. Compared to the 2040 No Build scenario, the 2040 Build scenario would result in a decrease in noise levels ranging from 0.1 to 4.8 dBA at 157 impacted receptors, an increase in noise levels ranging from 0.1 to 1.9 dBA at 12 impacted receptors, and no change at one impacted receptor. According to FHWA's Highway Traffic Noise: Analysis and Abatement Guidance, 2011, changes in noise levels of less than 3 dBA are barely perceptible to the human ear. The decrease in impacts and noise levels is primarily a result of lower traffic volumes using I-10 in 2040 because of the toll and a shift in the I-10 alignment to the east further away from the residential areas. While the majority of these impacted receptors are located within areas of EJ concern, all of these impacted receptors may not be occupied by EJ individuals. Because the increases in projected noise levels at impacted receptors between the 2040 Build and 2040 No Build scenarios would be barely perceptible to the human ear, and because the proposed project would result in lower noise levels at 157 of the 170 impacted receptors compared to the 2040 No Build, the impacts are considered minimal.
Changes in health (noise) for residents near alternative routes that have degradation in level of service	Yes, but expected to be minimal; therefore, not a disproportionately high and adverse concern	The addendum to the traffic noise analysis in **Appendix L** evaluated a new area along Bay Bridge Road, which includes the Africatown/Plateau community, to determine the potential impacts of increased traffic diverting from the tolled route to the non-tolled route. The noise analysis indicates that the Africatown/Plateau community currently experiences noise impacts and will continue to experience noise impacts in 2040 No Build and 2040 Build scenarios due to projected increases in traffic volumes along Bay Bridge Road. The traffic noise analysis found that 5 receptors experience noise impacts in the existing (2016) condition. A total of 72 receptors would experience noise impacts along Bay Bridge Road in the 2040 No Build scenario. The proposed project would result in noise impacts at 88 receptors along Bay Bridge Road in the 2040 Build scenario. The difference in noise levels between existing and the 2040 No Build scenario ranges from 3.3 to 7.3 dBA, while the difference in noise levels between existing and the 2040 Build scenario ranges from 4.9 to 8.8 dBA. Changes in noise levels between the existing and the 2040 condition would be perceptible to the human ear, with or without the proposed project. Compared to the 2040 No Build scenario, the 2040 Build scenario would result in an increase in noise levels ranging from 0 to 1.6 dBA at 88

		receptors. According to FHWA's Highway Traffic Noise: Analysis and Abatement Guidance, 2011, changes in noise levels of less than 3 dBA are barely perceptible to the human ear. Because the increases in projected noise levels at impacted receptors between the 2040 Build and 2040 No Build scenarios would be barely perceptible to the human ear, the impacts are considered minimal.
Vibrations	No	Based upon the *Final Report on Vibrations Due to Pile Driving at the Mobile River Bridge Site*, modern structures within 150 feet of the proposed project and historic structures within 250 feet of the proposed project are to be monitored for damage due to vibrations. The closest structure in the Texas Street community is approximately 159 feet from the nearest proposed bridge foundation. The closest structure in the Oakdale community is approximately 340 feet from the nearest proposed bridge foundation. Structures within these communities that are within the recommended radii for vibration monitoring will be identified and included in the vibration monitoring plan to be implemented as part of the construction phase. Another component of vibrations is the distance at which vibrations can be felt by humans. The vibrations study concluded that people within 150 feet of pile driving activities may experience vibrations that are considered annoying to humans. Both the Texas Street and Oakdale communities are more than 150 feet away from the closest proposed foundations that would require pile driving activities; therefore, neither of these communities should experience vibrations at a level that is considered annoying to humans.
Changes in health (vibrations) for residents near alternative routes that have degradation in level of service	No	The Africatown/Plateau community is located approximately three miles north of the proposed Mobile River Bridge; therefore, the area should not be able to feel the vibrations from pile-driving activities.
Hazardous Materials	No	Vehicles transporting hazardous materials are currently prohibited from using the tunnels. Therefore, they must use I-165, Bay Bridge Road (Africatown/Plateau community), and the Cochrane-Africatown USA Bridge to avoid the tunnels. The proposed project would provide a more direct, less congested route for trucks traveling on I-10 to cross Mobile River.
Water Quality	No	Impacts to water quality in areas of EJ concern are not anticipated. Implementation of Best Management Practices (BMPs) will prevent adverse effects on water quality. The 303(d) impaired water bodies that would be crossed by the proposed project are located in Baldwin County, not in proximity to areas of EJ concern. The proposed project would not alter the use designations of the water bodies within the project study area.

Waters of the U.S.	No	The project would not affect Waters of the U.S. in the areas of EJ concern.
T&E Species	No	The threatened and endangered species that could be affected by the proposed project are located along the portion of the project that would involve reconstruction of the Bayway, not within areas of EJ concern.
Drainage	No	Past discussions with the Texas Street and Oakdale communities indicated concerns about potential flooding from increased impervious surfaces. Subsequent to those discussions, the City of Mobile constructed drainage improvements to help alleviate the historical flooding issues in the area. Drainage infrastructure will be constructed as part of the proposed project to ensure that the pre and post-construction runoff rates are the same or lower than what currently exist, avoiding impacts on these areas.
Visual/Aesthetics	Yes	The Oakdale and Texas Street communities are located adjacent to existing I-10. These communities would have a view of the new approach structures leading up to the new bridge and the new Mobile River Bridge itself. The communities have expressed concerns about roadway lighting impacts and light spill onto residences adjacent to I-10.
Community Cohesion	Yes	The proposed project would not introduce new transportation facilities that would bisect EJ neighborhoods. The Africatown/Plateau community is currently bisected by Bay Bridge Road, which runs east-west through the community. I-10 currently runs along the eastern border of the Texas Street and Oakdale communities. The proposed project is expected to improve community cohesion for Texas Street and Oakdale by improving at-grade connections for vehicles, bicyclists, and pedestrians crossing I-10. Improved bicycle and pedestrian connectivity will also occur at the Virginia Street interchange. The proposed project is projected to cause increased congestion at intersections along Bay Bridge Road (in the Africatown/Plateau community) due to traffic avoiding the toll. Increased congestion is expected to result in worsening LOS and longer wait times at intersections along the non-tolled route during peak traffic hours. The intersection of Bay Bridge Road and Butts Street is expected to go from a LOS B in the 2016 existing and 2020 No Build scenarios to a LOS F in the 2020 and 2040 Build scenarios. It should be noted that congestion at this intersection is expected to be a LOS E in the 2040 No Build condition. Increased congestion could result in queues backing up over 1,600 feet in the 2040 Build condition during the periods of highest congestion. Existing queues

		at this location reach up to approximately 331 feet, and queues are projected to reach approximately 1,300 feet in the 2020 Build scenario and 995 feet in the 2040 No Build condition. Increased congestion may make it more difficult for residents to cross Bay Bridge Road or to turn onto Bay Bridge Road. Passenger vehicles and trucks currently use this route and are expected to continue to use this route with the implementation of the proposed project. During peak travel times, it can be difficult for local residents to cross from one side of Bay Bridge Road to the other, particularly at locations without traffic signals.
Economic Vitality	No	The proposed project is compatible with plans for economic development and tourism opportunities identified in Africatown's *Neighborhood Plan*, which was developed in conjunction with the City of Mobile in 2016.
Access and Availability of Public and Private Facilities and Service	No	Access to public and private facilities and services will be maintained during construction.
Employment Effects	Yes, beneficial impact	As discussed in the 2014 DEIS, construction of the proposed project is expected to create new jobs, which could be a beneficial effect of the proposed project.
Change in household disposable income and change in household financial burden	Yes	For EJ users who choose to use the tolled route, the expense of the toll would result in a decrease in their household income. The daily, weekly, monthly, and annual expenditure resulting from paying a toll would be directly attributable to the number of times the driver uses the tolled route per day. For example, if the toll is set at the upper end of the acceptable range, people in passenger vehicles who use the entire tolled route to make one trip between Mobile and Daphne would pay approximately $6 (in 2020 dollars) one-way. For comparison purposes, people who use the entire tolled route twice per weekday to commute for work would pay approximately $60 per week (if the toll is set at the upper end of the acceptable range). ALDOT will incorporate a frequent user discount program into their toll policy. More details on ALDOT's toll policy are included in Section 4.4.1 of the Supplemental DEIS.
Displacement of Persons, Businesses, Farms, and/or NPOs	Yes	As discussed in Section 4.5, one business with a minority tenant is expected to be relocated by the Preferred Alternative. As discussed in the DEIS, Alternative C would result in the acquisition of one minority-owned residence and three minority-tenant occupied residences.
Traffic Changes	Yes, but expected to be minimal; therefore, not a disproportionately high and adverse concern	The existing I-10 westbound off-ramp and I-10 eastbound on-ramp at the Texas Street interchange will be removed. According to the IMR, these ramps currently experience a low number of users. Removal of the ramps will prevent undesirable weave conditions between these ramps and the Canal Street/Water Street interchange. With the closure of these ramps, Texas Street traffic to and from I-10

		would use city streets or the I-10 interchanges at either the Virginia Street or the Canal Street/Water Street. The travel distance from the Texas Street off ramp to I-10 at Virginia Street via Texas Street and Washington Street is approximately 0.9 mile which equates to just under 2 minutes in travel time, based upon a posted speed limit of 30 miles per hour. The travel distance from the Texas Street off ramp to I-10 at Canal Street/Water Street is approximately 1.1 miles which equates to just over 2 minutes in travel time, based upon a posted speed limit of 30 miles per hour.
Change in road use patterns (diversions to alternative routes or modes)	Yes	As discussed in this EJ Analysis, the select link analysis indicates that none of the trips originating the Africatown/Plateau community would use the new Mobile River Bridge to cross the Mobile River. This is largely attributed to the fact that the Africatown/Plateau community is located directly along the non-tolled route, making it more convenient to use the non-tolled route than the tolled route. There are limited crossings of the Mobile River, and the two crossings closest to the Africatown/Plateau community (Cochrane-Africatown USA Bridge and Bankhead Tunnel) will be part of the non-tolled system. Changes in road use patterns would affect other areas of EJ concern by diverting EJ users from I-10 to the non-tolled routes that will be more congested. As shown in Table EJ-3 in **Appendix E**, total trips crossing the Mobile River and the Mobile Bay by EJ users are expected to decrease between the 2020 No Build and 2020 Build scenarios. The total trips crossing the Mobile River and the Mobile Bay by drivers from areas identified as low-income are also projected to be reduced between the No Build and Build scenarios for the years 2020, 2030, and 2040.
Increased travel on alternative routes or modes leads to degradation of level of service on the alternative routes or modes	Yes	The IMR indicates that congestion along Bay Bridge Road, the Cochrane-Africatown USA Bridge, US-90 between the Cochrane-Africatown USA Bridge and the Bankhead Tunnel, and the US-90/US-98 Causeway would be experienced beginning with the commencement of tolling under the Build scenario, impacting all users avoiding the tolled route. Increased congestion is expected to result in worsening LOS and longer wait times at intersections along the non-tolled route during peak traffic hours. The intersection of Bay Bridge Road and Butts Street is expected to go from a LOS B in the 2016 existing and 2020 No Build scenarios to a LOS F in the 2020 and 2040 Build scenarios. It should be noted that congestion at this intersection is expected to be a LOS E in the 2040 No Build condition. Increased congestion could result in traffic queues backing up over 1,600 feet in the 2040 Build condition during the periods of

		highest congestion. Existing queues at this location reach up to approximately 331 feet, and queues are projected to reach approximately 1,300 feet in the 2020 Build scenario and 995 feet in the 2040 No Build condition. These increases in congestion would impact the Africatown/ Plateau community. Additional details on LOS and congestion are contained in **Table 4**.
Denial of, reduction in, or significant delay in receipt of benefits of Federal programs, policies, or actions	No	The proposed project would be available to all users at their discretion. The proposed project would not result in the denial of, reduction in, or significant delay in receipt of benefits of other Federal programs, policies, or actions.
Bicycle/Pedestrian Facilities	Yes, beneficial impact	Currently, bicyclists and pedestrians in the Africatown/Plateau community who want to cross the Mobile River use the shoulders of the Cochrane-Africatown USA Bridge and existing sidewalks along Bay Bridge Road. The corridor does not contain crosswalks tied to signals along Bay Bridge Road to allow pedestrians and bicyclists to cross from one side of Bay Bridge Road to the other. The projected increases in traffic and congestion would likely make it more difficult for pedestrians and bicyclists to safely share the road with motorists and safely cross Bay Bridge Road. Residents in the Texas Street and Oakdale communities currently cross I-10 under existing bridges. However, many of these areas lack bicyclist and pedestrian facilities that meet current design criteria.

** Note: Areas of EJ concern shown on Figure 20 are based on Census data available at the block group level for each TAZ. Due to limitations in Census data, low-income and/or minority populations may also exist in other TAZs not identified as areas of EJ concern. The reverse is also true in that non-minority and non-low-income populations may also exist in areas of EJ concern.*

The impacts presented in **Table 13** would be experienced with any of the Build Alternatives. All of the Build Alternatives would require tolling and would result in traffic diverting to the non-tolled route. Alternatives A, B, and the Preferred Alternative would leave the mainline I-10 and I-10 Business running parallel to the Texas Street and Oakdale communities. Alternative C would move the mainline I-10 alignment further away from the Texas Street community, but I-10 Business would continue to exist in proximity to the Texas Street community.

4.6.3 Determination of Disproportionately High and Adverse Effects

When adverse effects on EJ populations are identified, a determination regarding whether they are disproportionately high and adverse must be made. The FHWA and USDOT EJ Orders state that "disproportionately high and adverse" refers to an adverse effect that:

1) Is predominately borne by a minority population and/or a low-income population; or
2) Will be suffered by the minority and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority and/or non-low-income population.

In order to make a determination regarding whether the adverse impacts on EJ populations would be "disproportionately high and adverse," the adverse impacts listed in **Table 13** were compared to the impacts that would be experienced by non-EJ populations. This comparison is detailed in **Appendix E**.

Based upon the EJ assessment, the projected impacts on the Africatown/Plateau community due to traffic diverting onto the non-tolled route are expected to be disproportionately high and adverse on EJ populations. The impacts that are expected to be disproportionately high and adverse include: community cohesion and degradation of LOS.

Community Cohesion

While the proposed project would not introduce a new transportation facility that would bisect the Africatown/Plateau community, it would result in increased congestion along Bay Bridge Road. As a result, it may be more difficult for residents to cross Bay Bridge Road or turn onto Bay Bridge Road during periods of heavy congestion. Degradation of levels of service along the primary roadway accessing the Africatown/Plateau community will result in access challenges for the community. While congestion is also expected to increase around the Eastern Shore area, the residential population in the affected area is lower. Additionally, there is an area

containing approximately five fish camps that is accessible by the US-90/US-98 Causeway that will also experience high congestion, but the population affected by this congestion is very limited. The Africatown/Plateau community is the only permanent residential area along the non-tolled route that is expected to experience impacts to the primary route used to access its community as a result of traffic diversion. Therefore, it has been determined that these effects will be predominately borne by the EJ population in the Africatown/Plateau community, and these impacts would be greater in magnitude than the adverse effect that will be suffered by non-EJ populations.

Degradation of LOS

The IMR indicates that the LOS along Bay Bridge Road, the Cochrane-Africatown USA Bridge, US-90 between the Cochrane-Africatown USA Bridge and the Bankhead Tunnel, and the US-90/US-98 Causeway is expected to worsen by 2040 without the proposed project because drivers will use alternate routes to avoid congestion on I-10, particularly to avoid the Wallace Tunnel.

While the proposed project would not introduce a new transportation facility that would bisect the Africatown/Plateau community, it would result in increased congestion along Bay Bridge Road. As a result, it may be more difficult for residents to cross Bay Bridge Road or turn onto Bay Bridge Road during periods of heavy congestion. Degradation of LOS along the primary roadway accessing the Africatown/Plateau community will result in access challenges for the neighborhood. Increased congestion is expected to result in worsening LOS and longer wait times at intersections along the non-tolled route during peak traffic hours. The intersection of Bay Bridge Road and Butts Street in the Africatown/Plateau community is expected to go from a LOS B in the 2016 existing and 2020 No Build scenarios to a LOS F in the 2020 and 2040 Build scenarios. It should be noted that congestion at this intersection is expected to be a LOS E in the 2040 No Build condition.

The LOS for the non-tolled route for the 2016 Existing 2040 No Build, 2020 Build, and 2040 Build scenarios are as follows are displayed in **Table 4**.

Increased congestion could result in queues backing up over 1,600 feet in the 2040 Build condition in the 2040 Build condition during the periods of highest congestion. Existing queues at this location reach up to approximately 331 feet, and queues are projected to reach approximately 1,300 feet in the 2020 Build scenario and 995 feet in the 2040 No Build condition. These increases in congestion would impact the Africatown/Plateau community.

While congestion is also expected to increase around the Eastern Shore area, the residential population in the affected area is lower. Additionally, there is an area containing approximately five fish camps that is accessible by the US-90/US-98 Causeway that will also experience high congestion, but the population affected by this congestion is very limited. The Africatown/Plateau community is the only permanent residential area along the non-tolled route that is expected to experience impacts to the primary route used to access its community as a result of traffic diversion. Therefore, it has been determined that these impacts would be predominantly borne by the EJ population in the Africatown/Plateau communities, and these impacts would be greater in magnitude than the adverse effect experienced by non-EJ populations.

4.6.4 EJ Community Outreach

Engagement with affected EJ communities is an important part of the process used to identify potential impacts on those communities and to develop appropriate mitigation measures.

As discussed in Section 6.7, ALDOT conducted community workshops in EJ areas that could be affected by the proposed project on June 18 and 19, 2018, from 5:00-7:00 p.m. These workshops focused on discussing potential impacts of the proposed project, including traffic and tolling, with members of the EJ communities. More than 5,000 postcards were mailed directly to residents and property owners in the community to

invite them to the workshops. Postcards were also placed in local community centers and churches. Attendance at these workshops was low, with nine citizens at the Texas Street/Oakdale workshop and thirteen citizens at the Africatown/Plateau workshop.

In an effort to reach more affected citizens from the Africatown/Plateau community and the Texas Street/Oakdale community, ALDOT reached out to the City Councilman who represents those areas to arrange community meetings. The Africatown community meeting was held on March 19, 2019, at the Union Missionary Baptist Church. A total of 49 citizens signed in at the meeting. ALDOT presented information about the project, its potential impacts, and mitigation measures to be implemented for the community. Attendees were provided with a project information sheet and comment form and were encouraged to provide comments to ALDOT. At the time this Supplemental DEIS was prepared, the comment period was still open. Comments received from the Africatown community and responses to those comments, along with any other community meetings that are held to discuss the project, will be included in the FEIS/ROD.

Table 14 displays a summary of EJ outreach activities that have occurred since the DEIS was signed in 2014, including activities that are currently underway. Input received from additional outreach activities will be included in the FEIS/ROD. Outreach strategies have been adjusted based upon recommendations from members of the EJ communities. These strategies include distributing handouts and surveys through the Africatown CDC, coordinating with local churches, and attending basketball games at local community centers in the community to distribute project flyers and surveys and discuss the project, its potential impacts, and mitigation strategies.

TABLE 14: SUMMARY OF EJ OUTREACH SINCE DEIS

Activity	Topics	Response/Input from EJ Community
Africatown Community Development Corporation (CDC) Meetings	ALDOT, at the request of the CDC, has participated in three CDC meetings since 2016 to provide project updates, including bicyclist/pedestrian facilities, potential impacts, and proposed mitigation measures.	Requested regular attendance at meetings to provide updates on status of project; community leaders indicate that they welcome the project and think it will be good for Africatown/Plateau community and the entire Mobile/Baldwin area.
Bicycle/Pedestrian Public Workshop (October 27, 2016)	Held at James Seals Community Center on Texas Street within EJ community.	Received petition from Africatown/Plateau community with 95 signatures supporting improvement for bicyclist/pedestrian facilities along Bay Bridge Road/Cochrane-Africatown Bridge route.
Texas Street Community Workshop (June 18, 2018)	Held at James Seals Community Center on Texas Street within EJ community.	Sent approximately 5,000 specially designed postcards to invite residents and business owners to the EJ community workshops; distributed flyers to community centers and churches within communities; Received input on potential mitigation measures.
Africatown Community Workshop (June 19, 2018)	Held at Hope Community Center in Africatown.	
Africatown CDC/Business Community Partners (BCP) Holiday Social (December 7, 2018)	Approximately 40 people attended. Attendees appreciated the update and asked to be kept informed of the project's progress.	Received one verbal comment from a resident who recommended putting a signal at the Union Missionary Baptist Church and reaching out to pastor at Union Missionary Baptist Church; also talked about how traffic may help attract services back to Africatown/Plateau community which used to be a thriving community.
Surveys provided to residents via the Africatown CDC and community leaders	Handout provided that explains the purpose of the project; potential impacts that may occur; and proposed mitigation measures. Survey requests feedback from the community on both impacts and mitigation measures. A copy of the handout with the survey is contained **Appendix E**.	
Requested opportunities to meet with Africatown Clean Healthy Educated Safe and Sustainable (CHESS) organization	ALDOT has reached out via e-mail and telephone to participate in CHESS meetings to discuss project, potential impacts, and mitigation measures.	

Activity	Topics	Response/Input from EJ Community
Tabling Events within EJ Community	Attended basketball practices and games at Hope Community Center to discuss project with members of the community in February 2019.	Talked to residents about project and asked for input on potential impacts and mitigation measures.
Community Meeting at Union Missionary Baptist Church	Joint meeting with Councilman Manzie to discuss project, potential impacts, and mitigation measures.	Held on March 19, 2019.
Community Meeting for Texas Street/Oakdale Community	Joint meeting with Councilman Manzie to discuss project, potential impacts, and mitigation measures.	ALDOT is working with Councilman Manzie to schedule this meeting.

In order to reach minority and low-income populations in areas that may be affected by the proposed project, ALDOT has implemented an EJ outreach program using the types of activities listed in **Table 14** to reach the EJ communities. The goal of this program is to further develop relationships with the communities and promote involvement in the project as it moves through the environmental, design, construction, and post-construction phases. The overall objective of EJ outreach is to make sure that minority and/or low-income individuals are given opportunities to provide meaningful input on projects that may affect their environment or health. The outreach strategies are focused on encouraging dialogue and two-way conversations rather than presenter/ observer settings. The strategies offer avenues to engage with community members and leaders in settings that are comfortable and convenient to them, provide accurate information in a timely manner, educate audiences on the project and how it may affect communities, seek feedback, and support transparency.

4.6.5 Mitigation Measures

To mitigate adverse impacts resulting from traffic diverting to the non-tolled route within the Africatown/Plateau community, ALDOT will implement the mitigation measures presented in **Table 15**.

TABLE 15: SUMMARY OF EJ MITIGATION MEASURES

Type of Impact	Mitigation Measure	Benefits to Africatown/Plateau Community
Traffic congestion resulting from traffic	ALDOT will adjust signal timing along the non-tolled route, including	Will minimize interruptions to the primary roadway used to access the

Type of Impact	Mitigation Measure	Benefits to Africatown/Plateau Community
diversion on non-tolled route (degradation of level of service)	Bay Bridge Road, to better accommodate local traffic movements.	Africatown/Plateau community and will ensure ingress and egress to the community
	Based on current traffic projections, ALDOT will develop an access management plan to help facilitate access to and from destinations along the US-90/US-98 Causeway. Strategies included in this access management plan may include installing traffic signals, medians with U-turns, mid-block signals, as well as other appropriate techniques. The access management plan will be implemented prior to tolling commencement.	Will help maintain traffic flow along the preferred route used by residents of the Africatown/Plateau community to cross Mobile Bay
Community Cohesion	ALDOT will provide traffic signals at Union Missionary Baptist Church and Bay Bridge Road Cutoff.	Will improve access to and from the church located on Bay Bridge Road in the Africatown/Plateau community and will improve connectivity between destinations north and south of Bay Bridge Road
	ALDOT will construct the Cochrane-Africatown USA Bridge Shared Use Path from the I-165 ramp at Bay Bridge Road to US-90 on east side of Mobile River and will work with local municipalities to provide future extensions from downtown to the USS ALABAMA Battleship Memorial Park.	Will improve bicycle and pedestrian access to and from the Africatown/ Plateau community and will provide stronger separation from vehicular traffic. At the October 2015 bicycle and pedestrian public workshop, the Africatown/Plateau community voiced their support for the Cochrane-Africatown USA Shared Use Path to cross the Mobile River. The community submitted a petition with 95 signatures in favor of this route. This path would provide connectivity to various points of interest proposed as part of the 2016 Africatown *Neighborhood Plan* developed by the City of Mobile and Africatown residents and community stakeholders. It would also provide connectivity to the Africatown Connections Blueway, which will include a recreation facility on the west side of the Mobile River in close proximity to the Cochrane-Africatown USA Bridge.
	Crosswalks at signals along Bay Bridge Road will be provided to help pedestrians and cyclists cross from	Will improve connectivity and safety for bicyclist and pedestrian traffic crossing Bay Bridge Road

Type of Impact	Mitigation Measure	Benefits to Africatown/Plateau Community
	one side of Bay Bridge Road to the other.	
	Landscaping and historical/interpretive signage will be included along the Cochrane-Africatown USA Shared Use Path.	Will satisfy short-term actions listed in the Africatown *Neighborhood Plan* to provide streetscape/gateway improvements on Bay Bridge Road and to support the area's heritage tourism plan
	Paper Mill Road will be resurfaced from Bay Bridge Road to US 43. Streetscaping will be included along this route.	Will improve condition of a roadway that is commonly used by Africatown/Plateau residents to reach I-65 and employment centers in areas north and south of the Africatown/ Plateau community. Streetscaping along this route will fulfill an action item in Africatown's *Neighborhood Plan*.

Mitigation measures were presented to the Africatown/Plateau community at the EJ Workshop on June 19, 2018, at the Africatown CDC/BCP holiday social on December 7, 2018, and at the Africatown community meeting on March 19, 2019. Members of the community indicated that they were in support of the mitigation measures, and the commitment to resurface Paper Mill Road from Bay Bridge Road to US 43 was added as a result of the feedback from the EJ Workshop. In addition to soliciting input from the community at the EJ Workshops, feedback from the community on the mitigation measures was requested in surveys that have been distributed to the community via the Africatown CDC, at local tabling events at the community centers, and through churches in Africatown. A copy of the survey is in **Appendix E**.

Implementation of the mitigation measures will not offset the identified disproportionately high and adverse impacts on EJ populations. There is no practicable alternative that would avoid or reduce the disproportionately high and adverse impacts. There is a substantial need for the project based on the best overall public interest, as congestion on the I-10 corridor continues to grow due to lack of adequate capacity. The mitigation measures will provide a benefit to the Africatown/Plateau community by addressing access, congestion, and speed issues that are currently experienced and would continue to be experienced without the project, as well as those

that are projected to result from the project. ALDOT will work with the Africatown/Plateau community to implement the mitigation measures through community outreach, public meetings, and/or a steering committee. This will provide continued opportunities for involvement of Africatown/Plateau representatives to promote compatibility with plans for the Africatown/Plateau community's development and growth.

4.7 Wetlands, Submerged Aquatic Vegetation, and Essential Fish Habitat

This section contains the following updates that have occurred since the 2014 DEIS:

- New wetland and submerged aquatic vegetation (SAV) surveys,
- Change from widening the existing Bayway to replacing the entire Bayway,
- Impacts of dredging between existing Bayway bridges for construction,
- Preparation of a Draft Mitigation Plan, and
- Updates to environmental commitments.

4.7.1 Wetlands

The DEIS was based on wetland surveys performed in 2000 and 2001. Subsequent to the DEIS, biologists performed updated surveys to identify wetlands within and adjacent to the proposed project in 2015 and 2016 (**Figure 21**). Approximately 55 acres of wetlands were identified within ALDOT's existing right-of-way and/or within the proposed right-of-way for the project.

Construction of the new Bayway under any of the Build Alternatives is expected to result in shading of approximately 3.9 acres of wetlands. These shading impacts would likely result in some reduction in vegetation density and productivity; however, permanent excavation or filling of wetland habitat between the existing Bayway bridges is not anticipated. While dredging may occur between the existing Bayway bridges in areas where water depths are less than six feet, there will be no impacts to wetlands as

a result of dredging because dredging will not be allowed in areas where wetlands are present.

In order maintain traffic at the interchanges along the Bayway, it is anticipated that construction of on and off ramps may be required outside of the existing footprint of the Bayway bridges. This construction would occur within ALDOT's existing right-of-way at the US-90/US-98 East Tunnel, US-90/US-98 Mid-Bay, and US-90/US-98 Eastern Shore interchanges. Permanent impacts to wetlands in these locations are expected to total approximately 2.1 acres of herbaceous marsh and 1.3 acres of scrub-shrub and forested wetlands.

Based upon the updated wetland surveys, construction of the new Bayway is expected to result in impacts to approximately 6 acres of estuarine emergent wetlands (**Figures 21A through 21C**). These predominantly herbaceous wetlands consist of good quality, tidally-influenced habitat, mostly comprised of southern wild rice (*Zizania aquatica*), bulltongue arrowhead (*Sagittaria lancifolia*), southern cattail (*Typha domingensis*), and softstem bulrush (*Schoenoplectus tabernaemontani*). An additional 1.3 acres of scrub-shrub and forested wetlands may also be impacted by the construction of new ramps at the interchanges along the Bayway.

Alternatives A and B would result in the same wetland impacts as the Preferred Alternative. Alternative C would result in approximately 5 acres of wetland impacts at Pinto Pass that would not be impacted by Alternatives A, B, or the Preferred Alternative.

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I-10 MOBILE RIVER BRIDGE
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MOBILE AND BALDWIN COUNTIES, ALABAMA

2,000 0 2,000 4,000 Feet

0 1 2 Miles

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

LEGEND

- Submerged Aquatic Vegetation (SAV)*
- Wetlands*
- I-10 Existing ROW
- Preferred Alternative**

* Vittor Wetland and SAV Delineation.
** For representational purposes only. Not actual project width.

FIGURE 21
WETLANDS AND SUBMERGED AQUATIC VEGETATION

PROJECT NO.:	DATE:
15-1101-0300	NOVEMBER 2019

Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,968,500.0000
False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.9999
Latitude Of Origin: 30.0000
Units: Foot US

Date 1/24/2019

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I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

500 0 500 1,000 Feet

0 0.25 0.5 Miles

*NOT A SURVEY - For representation purposes only.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data. Data Refreshed July, 2017.

LEGEND
- Wetlands
- Potentially Impacted Wetlands
- ALDOT Existing ROW*

FIGURE 21A
WETLANDS

PROJECT NO.:	DATE:
15-1101-0300	JANUARY 2019

Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,968,500.0000
False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.9999
Latitude Of Origin: 30.0000
Units: Foot US

Date 1/24/2019

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500 0 500 1,000 Feet

0 0.25 0.5 Miles

*NOT A SURVEY - For representation purposes only.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data. Data Refreshed July, 2017.

LEGEND
- Wetlands
- Potentially Impacted Wetlands
- ALDOT Existing ROW*

FIGURE 21B
WETLANDS

PROJECT NO.:	DATE:	
15-1101-0300	JANUARY 2019	Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet Projection: Transverse Mercator Datum: North American 1983 False Easting: 1,968,500.0000 False Northing: 0.0000 Central Meridian: -87.5000 Scale Factor: 0.9999 Latitude Of Origin: 30.0000 Units: Foot US

Date 1/24/2019

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500 0 500 1,000 Feet

0 0.25 0.5 Miles

*NOT A SURVEY - For representation purposes only.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data. Data Refreshed July, 2017.

LEGEND
- Wetlands
- Potentially Impacted Wetlands
- ALDOT Existing ROW*

FIGURE 21C
WETLANDS

PROJECT NO.: 15-1101-0300

DATE: JANUARY 2019

Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,968,500.0000
False Northing: 0.0000
Central Meridian: -87.9000
Scale Factor: 0.9999
Latitude Of Origin: 30.0000
Units: Foot US

Date 1/24/2019

Figures showing more details on the locations of potentially impacted wetlands along the Bayway are included in **Appendix F**.

4.7.2 Submerged Aquatic Vegetation

The DEIS assumed that submerged aquatic vegetation (SAV) existed in all of the open water areas between the existing Bayway bridges. Since the DEIS, surveys for SAV, including Mobile Bay water bottoms under the existing Bayway spans, were performed in 2015 and 2016. The surveys found no SAV under the existing Bayway spans. Approximately 79 acres of SAV were mapped within ALDOT's existing right-of-way during the 2016 survey, with approximately 12.2 acres of SAV occurring between the existing Bayway bridges.

It is assumed that 100 percent of the SAV between the existing Bayway bridge would be impacted either from shading or dredging. Even though the new Bayway would be elevated up to 8 feet higher than the existing Bayway which would allow more sunlight to reach areas underneath the bridges, the shading caused by the new Bayway bridges is expected to have an adverse impact on SAV (see **Figure 14** for typical section). Additionally, a total of 3.9 acres of SAV may be impacted due to shading underneath new ramps at the US-90/US-98 East Tunnel, US-90/US-98 Mid-Bay, and US-90/US-98 Eastern Shore interchanges.

Approximately 16.1 acres of SAV are expected to be impacted by the proposed project (**Figures 21D through 21F**). Submerged grassbeds contain mostly wild celery (*Vallisneria neotropicalis*), Eurasian watermilfoil (*Myriophyllum spicatum*), and southern naiad (*Najas guadalupensis*). These same species also occur in the areas immediately adjacent to and outside of the existing Bayway bridges, along with water stargrass (*Heteranthera dubia*) and coon's tail (*Ceratophyllum demersum*), with lesser amounts of small pondweed (*Potamogeton pusillus*).

Figures showing more details on the locations of the potentially impacted SAV are included in **Appendix F**.

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500 0 500 1,000 Feet

0 0.25 0.5 Miles

*NOT A SURVEY - For representation purposes only.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data. Data Refreshed July, 2017.

LEGEND
- Submerged Aquatic Vegetation (SAV)
- Potentially Impacted SAV
- ALDOT Existing ROW*

FIGURE 21D
SUBMERGED AQUATIC VEGETATION

PROJECT NO.: 15-1101-0300

DATE: JANUARY 2019

Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,640,416.6000
False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.9999
Latitude Of Origin: 30.4000
Units: Feet US

Date: 1/24/2019

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500 0 500 1,000 Feet
0 0.25 0.5 Miles

LEGEND
Submerged Aquatic Vegetation (SAV)
Potentially Impacted SAV
ALDOT Existing ROW*

*NOT A SURVEY - For representation purposes only.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data. Data Refreshed July, 2017.

FIGURE 21E
SUBMERGED AQUATIC VEGETATION

PROJECT NO.: 15-1101-0300
DATE: JANUARY 2019

Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,968,500.0000
False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.9999
Latitude Of Origin: 30.0000
Units: Foot US

Date: 1/24/2019

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MOBILE AND BALDWIN COUNTIES, ALABAMA

Department Of Transportation

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500 0 500 1,000 Feet

0 0.25 0.5 Miles

LEGEND

- Submerged Aquatic Vegetation (SAV)
- Potentially Impacted SAV
- ALDOT Existing ROW*

*NOT A SURVEY - For representation purposes only.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data. Data Refreshed July, 2017.

FIGURE 21F
SUBMERGED AQUATIC VEGETATION

PROJECT NO.: 15-1101-0300

DATE: JANUARY 2019

Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,968,500.0000
False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.9999
Latitude Of Origin: 30.0000
Units: Foot US

Date: 1/24/2019

4.7.3 Essential Fish Habitat

Essential Fish Habitat (EFH) includes all types of aquatic habitat used by fish to spawn, breed, feed, and/or grow. Types of EFH existing within the area that would be crossed by the proposed project include wetlands, SAV, and rivers. The proposed project would result in impacts to approximately 6 acres of estuarine emergent wetlands and 16.1 acres of SAV that currently provide habitat for fish species, for a total of approximately 22.1 acres for Alternatives A, B, and B' (Preferred). Alternative C would result in approximately 27.1 acres of EFH impacts due to the additional wetlands it would impact at Pinto Pass.

Pile driving operations may result in impacts to aquatic species, including fish, that inhabit the area where construction will take place. Coordination with the USFWS indicates that these impacts would be temporary in nature, and special mitigation measures are not required (**Appendix I**). In order minimize potential impacts on aquatic species, the Concessionaire will be required to use a ramp-up pile driving procedure will be used during the installation of piles in water. This procedure allows for a gradual increase in noise levels so that species have time to leave the area prior to full noise levels being released by pile driving. Additionally, the Concessionaire will be required to implement an Erosion and Sediment Control Plan to minimize the suspension of sediments in the water during construction to minimize impacts on aquatic species.

In addition to the mitigation measures contained in the Draft Mitigation Plan described in Section 4.7.4, ALDOT has committed to working with the ADCNR, Marine Resources Division, to use some of the concrete material from the Bayway to create fish habitat structures as part of the "Roads to Reef" program. The DEIS committed to using the concrete barrier rail that would be removed due to widening of the Bayway for reef creation. The DEIS commitment did not specify a volume of material to be used for this program. However, since the project has changed from widening to replacing the Bayway, additional concrete may be available for disposal as part of the ADCNR's "Roads

to Reef" program. ALDOT will coordinate with the ADCNR to determine the appropriate location for placement of this material.

4.7.4 Draft Mitigation Plan

Efforts have been made to avoid and/or minimize impacts to wetlands, SAV, and EFH. These efforts include constructing the new Bayway within the footprint bounded by the existing Bayway structures. Another minimization effort proposed is the use of longer spans on the new Bayway to minimize bottom disturbance impacts from pier placement. By raising the elevation of the new Bayway, the shading impacts of the new Bayway structure should produce less shading below because more sunlight will be able to reach areas beneath the bridges. With additional sunlight entering the water, aquatic vegetation should benefit, especially with the removal of the existing Bayway structures. By constructing the new Bayway within the footprint of the existing Bayway bridges, except at the interchange ramps, impacts are limited to previously disturbed areas of wetlands, SAV, and EFH. Impacts at the interchange ramps (US-90/US-98 East Tunnel, US-90/US-98 Mid-Bay and US-90/US-98 Eastern Shore) will be outside the previously disturbed areas, but limited to ALDOT right-of-way shown in **Figure 21**. Dredging will not occur in areas where wetlands exist. Due to the location of the project across Mobile Bay, however, some impacts are unavoidable.

A Draft Mitigation Plan for wetland, SAV, and EFH impacts has been prepared in consultation with the regulatory and resource agencies. The Draft Mitigation Plan is included in **Appendix F**. More detailed information on interagency coordination regarding the Draft Mitigation Plan is contained in Chapter 6.0 and **Appendix F** of this Supplemental DEIS.

Compensatory mitigation for the potential loss of approximately 6 acres of tidal marsh or marsh productivity and approximately 16.1 acres of SAV would involve the creation of approximately 41.2 acres of tidally influenced emergent wetland and SAV habitat. This acreage was developed in consultation with regulatory and resource agencies. As a

result of this consultation, ALDOT committed to a mitigation ratio of 1.5:1 for wetlands and a mitigation ratio of 2:1 for SAV. This means for every acre of impacted marsh, 1.5 acres of new marsh will be created, and for every acre of impacted SAV, 2 acres of new SAV habitat will be created.

The proposed mitigation approach is to create approximately 9 acres of marsh and approximately 32.2 acres of SAV habitat at a suitable location north of the Mobile Bay Causeway. Emergent marsh and SAV habitat could be created by placing dredged material in shallow Bay bottoms to achieve appropriate subtidal and intertidal elevations for wetlands sustainable under anticipated sea level rise. It is anticipated that the dredged material would be beneficially used to create the marsh island mitigation site described in the Draft Mitigation Plan (**Appendix F**). Native marsh vegetation would be planted to achieve 9 acres of emergent wetlands. The proposed approach would promote SAV establishment by creating subtidal depths suitable for colonization by SAV species occurring naturally at nearby locations.

Potential permanent impacts to 1.3 acres of scrub-shrub forested wetlands would be mitigated through the purchase of an appropriate number of credits from a USACE-approved mitigation bank that services Mobile and Baldwin Counties. The number of credits to be purchased and the location will not be determined until the Final Mitigation Plan when impact locations and quantities have been finalized.

A Final Mitigation Plan will be developed following the FEIS/ROD when more detailed design information is available. Prior to submitting a permit application to the USACE, updated wetland and SAV surveys to delineate resources that will be impacted will be performed to provide a basis for finalizing mitigation measures in the Final Mitigation Plan. The Final Mitigation Plan will be coordinated with the regulatory and resource agencies that have been involved in the identification of appropriate mitigation ratios and the development of the Draft Mitigation Plan. The Draft Mitigation Plan will serve as the basis for the Final Mitigation Plan which will be required as part of the permitting process prior to beginning construction.

4.8 Water Quality and Water Resources

4.8.1 ADEM 303(d) Impaired Waterbodies

The DEIS lists the Mobile River as an impaired waterbody due to mercury from atmospheric deposition, but the Final 2018 Alabama 303(d) list does not include the portion of the Mobile River that would be crossed by the proposed project. The Bayway crosses one waterbody, Joe's Branch, which is listed as a 303(d) impaired waterbody, and is in close proximity to another listed waterbody, D'Olive Creek. The impaired portions of these waterbodies are Joe's Branch from its source to D'Olive Creek and D'Olive Creek from its source to D'Olive Bay (**Figure 22**). Joe's Branch and D'Olive Creek are both located in Baldwin County and are listed as impaired due to siltation (habitat alteration) due to land development. Both of these waterbodies are classified for fish and wildlife use. Total Maximum Daily Loads (TMDLs) have not yet been established. BMPs and a monitoring plan, including special provisions to adhere to ADEM requirements for a priority construction site that crosses impaired waterbodies listed pursuant to Section 303(d) of the CWA, will be required. The proposed project will be required to provide 80 percent sediment reduction for all work in D'Olive Creek Watershed.

4.8.2 Stormwater Runoff

The DEIS contained limited information on stormwater runoff and drainage. The DEIS stated that the project would not create additional runoff and the amount of pollutants would be reduced. The stormwater runoff section has been reevaluated since the DEIS and new information is provided in the following paragraphs to address comments received on the DEIS and to describe ALDOT's approach to minimizing stormwater runoff and establishing requirements for roadway and bridge drainage systems.

The proposed project will result in approximately 100 acres of additional impervious area throughout the project corridor regardless of the Build Alternative. The proposed project would involve runoff from roadways as well as bridges. A Drainage Master Plan

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2,000 0 2,000 4,000 Feet

0 1 2 Miles

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community NAIP 2015 - 1 Meter Resolution

LEGEND

- Preferred Alternative
- 303(d) Impaired Waterbody
- Streams

* Vittor Wetland and SAV Delineation
TE Corridor Improvementts - Aug 2016

FIGURE 22
2018 ADEM 303(d)
IMPAIRED WATERBODIES

PROJECT NO.:	DATE:
15-1101-0300	JANUARY 2019

Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,968,500.0000
False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.9999
Latitude Of Origin: 30.0000
Units: Foot US

Date 1/24/2019

and a Drainage Design Plan will be required for the proposed project during the final design phase when detailed drainage calculations and more detailed design is available. The two sources of runoff are addressed separately in the following paragraphs.

Roadway Drainage

The roadway drainage system would be designed in a manner that accounts for all drainage areas that are crossed by the proposed project's right-of-way. For drainage areas discharging to the proposed right-of-way, the drainage design for the proposed project must also account for future land use plans and potential land uses from applicable governmental entities using their zoning plans at a minimum.

Runoff from bridge decks over roadways is considered roadway drainage because it is conveyed off of the bridge and into the adjacent roadway drainage system. The roadway drainage design must include drains to intercept gutter flow at each end of the bridge. Stormwater flowing toward the bridge must be intercepted upstream from the approach slab. The design of drainage facilities shall accommodate all sources of runoff that may reach the proposed project, whether originating within or outside of the project right-of-way. Stormwater storage facilities shall be designed to comply with the requirements for water quality, water quantity, and rate control, as determined by ALDOT design requirements, the National Pollutant Discharge Elimination System (NPDES) Construction General Permit that will be obtained for the proposed project, and ALDOT's most current Municipal Separate Storm Sewer System (MS4) Permit issued by ADEM. The drainage system shall be designed such that post-project flow conditions do not exceed pre-project flow conditions.

Bridge Drainage

A technical memorandum addressing stormwater runoff treatment from the Mobile River Bridge and Bayway bridges was prepared for the proposed project and is included in **Appendix H**. The recommendations identified in the technical memorandum are based largely NCHRP's *Report 778 – Bridge Stormwater Runoff Analysis and Treatment*

Options (NCHRP Report 778). In summary, NCHRP Report 778 looked at the impact of bridge deck runoff on receiving waters. The studies found little evidence of water quality or ecosystem degradation resulting from stormwater runoff from bridge decks being released directly into receiving waters. However, the report noted that the decision-maker must be the steward of public funding and environment, balancing the objectives of each to ensure sustainability.

NCHRP Report 778 identified a variety of potential treatment measures that could be constructed on new or reconstructed bridges. The report found, however, that conveying bridge deck runoff on long bridges (over 400 feet) is usually not considered practicable. Bridge deck conveyance systems possess technical design issues that may increase design, construction, operation, and maintenance costs. These issues include the following and would likely pertain to the Mobile River Bridge main span and the Bayway bridges:

1) Longitudinal slopes on bridges can be very low, requiring increased pipe size or increased deck area in the shoulder to convey runoff;
2) Deck drain and pipe systems are prone to clogging and/or freezing due to relatively small conveyance areas;
3) Pipe joints must have sufficient flexibility to move consistently with the allowable expansion of the bridge joints;
4) Pipe systems may not be compatible with the aesthetics of the bridge;
5) The additional weight of the pipe system may require a larger bridge cross section;
6) Deck drain or scupper maintenance is hazardous and may interrupt traffic flow due to limited shoulder area to work; and
7) Pipe materials can corrode and leak.

Based on the conclusions of the NCHRP Report 778, it has been determined that stormwater from the proposed main span of the Mobile River Bridge and the new Bayway bridges will be allowed to fall freely to the ground or receiving waters through

deck scuppers except at the following locations: directly over pier caps; directly above or within 100 feet of roadways, sidewalks, buildings, railroad right-of-way; and over the former Austal property. At those locations, a closed system would be required for conveying stormwater through piping on the bridge. This closed system would be designed to convey the stormwater to the ground where it would be released at an appropriate discharge location.

While treatment BMPs are not required for bridge stormwater runoff, ALDOT has committed to the following environmental stewardship measures to help offset potential impacts that could result from the proposed project:

1) Sweeping on Bayway Bridges: The practice of vacuum sweeping the Bayway bridges to remove particulates that have accumulated on the shoulders of the bridges is a BMP that ALDOT currently utilizes. Vacuum sweeping is currently performed on a monthly basis as part of regularly scheduled maintenance activities and will continue to be performed on a monthly basis.
2) Utilizing Open Grade Friction Course (OGFC) Pavements: ALDOT has already installed OGFC pavements on approximately 156 miles of roadway within the Southwest Region. ALDOT intends to utilize OGFC pavements on all of the I-10 roadway segments on the proposed project, excluding bridges and tunnels. Benefits of OGFC pavements on stormwater include: high removal rates of total suspended solids, metals, oil and grease, as well as reductions in volumes of stormwater runoff (FHWA, 2015).
3) Vegetated Filter Strips: Vegetated filter strips have been researched for their effectiveness on removing pollutants from stormwater runoff. For the proposed project, the use of vegetated filter strips on the shoulders and slopes will be evaluated and utilized where practicable.
4) Environmental Stewardship Projects: ALDOT participated in the Joe's Branch Stream Restoration Project in the vicinity of the western terminus of the proposed project. Joe's Branch is a 303(d) impaired waterbody that will be crossed by the proposed project. ALDOT was a participant in this first-of-its-kind

project in Alabama to remediate the effects of erosion and sedimentation and to improve water quality in Joe's Branch and D'Olive Bay. ALDOT's participation included providing technical assistance in developing and selecting a progressive solution, partnering with local and state organizations to secure a grant to fund the project, and matching grant funding to implement the restoration project. The Joe's Branch Step Pool Storm Conveyance System (SPSC) system won an International Green Apple Award for Environmental BMP in 2012. ALDOT will continue to partner with local organizations on environmental stewardship projects in a similar manner within the Southwest Region to help improve water quality.

The above-listed measures would be included in the project regardless of the Build Alternative selected.

4.8.3 Erosion Control

A Construction Best Management Practices Plan (CBMPP) that complies with the ADEM Construction General Permit will be prepared as part of the final design and permitting phases. Unless specified otherwise by the *Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas*, all sediment control measures, erosion control measures, and other site management practices included in the CBMPP must be designed and maintained to minimize erosion and maximize sediment removal resulting from a two-year, 24-hour storm event. The CBMPP must include the following:

1) A Phased Erosion and Sediment Control Plan (ESCP) illustrating BMP placement during initial, intermediate, and final stages of construction and
2) 25-foot natural riparian buffers or BMP equivalents.

An Erosion and Sediment Control Plan that includes devices and design for structural controls that conform with applicable ADEM regulations regarding the selection and implementation of BMPs and conform to Alabama Soil and Water Conservation

Committee's *Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas*.

4.8.4 Spill Containment

Concerns about spill containment were raised in comments received on the DEIS. NCHRP Report 778 discusses bridge spill frequency specifically and states that spills of hazardous materials with discharge to waterbodies are extremely rare, less than 0.01 percent of all reported spills for the period of 2003 to 2012. The types of impacts that may occur from a spill vary and depend upon the type and amount of material spilled, as well as the location where the spill occurs.

The Concessionaire will be required to prepare a Spill Response Plan that identifies specific measures for mobilizing resources to contain spills that could occur on the new Mobile River Bridge, Bayway bridges, and other portions of the project. The plan shall be reviewed and updated by the concessionaire at least annually to incorporate advances in technological developments related to spill containment measures.

4.9 Threatened, Endangered, and Other Listed Species

The DEIS includes a discussion of potential impacts on the following threatened and endangered species that may occur within the project study area:

1) Alabama sturgeon (*Scaphirhyncus suttkusi*)
2) Alabama red-bellied turtle (*Pseudemys alabamensi*s)
3) Bald eagle (*Heliaeetus leucocephalus*)
4) Gulf sturgeon (*Acipenser oxyrinchus desotoi*)
5) West Indian manatee (*Trichechus manatus*).

As part of the DEIS, the USFWS issued a Biological Opinion for the Gulf sturgeon and the Alabama red-bellied turtle.

Subsequent to the DEIS, the USFWS requested that a Biological Assessment be prepared for the West Indian manatee. The Biological Assessment for the West Indian manatee

was submitted to the USFWS on May 4, 2017 with a request to reinitiate formal consultation under Section 7 of the Endangered Species Act. The Biological Assessment found that West Indian manatees commonly visit the Mobile Bay and Mobile-Tensaw Delta during warm months. The primary concerns for potential impacts to manatees are related to construction activities. By letter dated October 25, 2017, the USFWS stated that the proposed project is not expected to result in the incidental take of manatees provided that special provisions are implemented to avoid impacts. The special provisions noted in the USFWS letter are listed in Section 4.9.1 below and have been incorporated as environmental commitments for the proposed project. Copies of the Biological Assessment for the West Indian manatee and correspondence with the USFWS are included in **Appendix I**.

4.9.1 Special Provisions for West Indian Manatee

The following special provisions shall be implemented on the proposed project and are listed as formal environmental commitments for the project:

1) The Concessionaire shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel are responsible for observing water-related activities for the presence of manatees. An individual(s) familiar with this species shall be hired to act as a spotter(s) for manatees during in-water activities.
2) The Concessionaire shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973.
3) Siltation barriers shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to, or exit from, essential habitat.
4) All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water

where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

5) If manatees are seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure their protection. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.
6) Any collision with and/or injury to a manatee shall be reported immediately to the U.S. Fish and Wildlife Service in Daphne (251-441-5181).

4.10 Noise Analysis

Appendix J of this Supplemental DEIS includes an addendum to the Noise Analysis Technical Report that was prepared as part of the DEIS. The addendum provides an update to the DEIS noise analysis based on existing conditions, Year 2020, and the Design Year 2040. The addendum to the DEIS Traffic Noise Analysis incorporated changes in projected traffic volumes associated with the addition of tolling to the project. The Noise Analysis was expanded to include additional areas of assessment along Bay Bridge Road and along US-90/US-98 near Daphne. These two areas were added to the noise analysis due to anticipated increases in traffic on non-tolled routes projected to result from traffic pattern changes associated with tolling.

A noise receptor is a location of a noise sensitive area, commonly an exterior area with frequent human activity. Detailed modeling software (TNM 2.5) was used to determine how many of these receptors are impacted and whether a potential noise barrier can be deemed both feasible and reasonable according to ALDOT's Noise Policy.

Section 4.13.4.4 of the DEIS states that, for the Preferred Alternative in the 2030 Build scenario, "noise impacts are predicted to occur at 271 receptor sites representing 275 individual noise sensitive receiver sites." However, the information presented in Table

5-1 of the Traffic Noise Analysis in Appendix H of the DEIS indicates that noise impacts were predicted to occur at 272 receptor sites representing 276 individual noise sensitive receiver sites in the 2030 Build scenario for the Preferred Alternative. Therefore, this Supplemental DEIS refers to 276 impacts from the DEIS.

The overall physical environment consists of natural and manmade features along the I-10 corridor in portions of Mobile and Baldwin Counties. The setting includes the highly-developed urban area of the City of Mobile on the western side, the crossing of the Mobile River, the maritime facilities along the east and west banks of the Mobile River, the upper portion of Mobile Bay along the I-10 Bayway, the Causeway, and the eastern terminus in the vicinity of the I-10/US 90/98 Interchange in Daphne. In this addendum, the setting also includes two new analysis areas. The first is the area along Bay Bridge Road beginning just west of I-165 and continuing to the Cochrane Bridge. This area is a mix of both commercial and residential land uses and is anticipated to receive traffic increases resulting from traffic pattern changes associated with the implementation of tolling. The second is the area approaching the eastern shore of Mobile Bay continuing to the US 98 and US 98 intersection near Spanish Fort and Daphne. The land uses in this area are primarily residential with some undeveloped lands which include Meaher State Park and the southern extent of the W.L. Holland Wildlife Management Area.

Table 16 presents a summary of predicted traffic noise impacts for the Preferred Alternative. Detailed tables showing the results for each receptor are contained in **Appendix J**. Potential noise impacts at Section 4(f) resources, which includes historic and recreational resources, are discussed in Section 5.5.3 of this Supplemental DEIS.

TABLE 16: SUMMARY OF PREDICTED TRAFFIC NOISE IMPACTS FOR PREFERRED ALTERNATIVE

Location	Number of Receptors			
	Analyzed	Existing Impacts	2040 No Build Impacts	2040 Build Impacts
I-10 Corridor	782	186	213	170
Bay Bridge Road	268	5	72	88
US-90/US-98 near Daphne	135	7	14	18
Total	1,185	198	299	276

For comparison purposes, the addendum shows that while the number of receptors analyzed increased from 782 to 1,185 for the Preferred Alternative, the number of impacted receptors in the future 2040 Build condition remained 276. This number reflects a decrease from 276 receptors to 170 in noise impacts along the I-10 corridor. The 276 impacts also account for the 88 noise impacts near Bay Bridge Road and 18 noise impacts along US-90/US-98 near Daphne.

It is noted that some of the receptors predicted to be impacted by traffic noise resulting from the proposed project in the DEIS analysis are no longer predicted impacts. This change is primarily the result of lower predicted traffic volumes on high speed routes than was previously estimated in the DEIS. It is anticipated that all of the Build Alternatives would experience decreases in projected traffic noise impacts along I-10 due to the lower projected traffic volumes with tolling. Similar noise impacts along Bay Bridge Road and US-90/US-98 would be expected with all of the Build Alternatives because all of the Build Alternatives would include tolling which would result in traffic diverting to the non-tolled route to avoid paying the toll.

Consideration of Noise Abatement Measures

Noise abatement measures were evaluated at locations where impacts were predicted to occur under the 2040 Build scenario. The abatement measures were evaluated using FHWA's guidelines as promulgated by 23 CFR Part 772. The abatement measures evaluated included traffic management measures, the alteration of horizontal and vertical alignments, the acquisition of property rights or interests therein, the construction of noise barriers, and noise insulation.

Several different noise barriers were previously found to be feasible in the DEIS, but they were not deemed reasonable based upon ALDOT's Noise Policy. All of the previously deemed feasible barriers remained feasible in the updated design and were reanalyzed for reasonableness. Of these barrier designs, the barrier segments along the west I-10 right-of-way from Broad Street to Tennessee Street showed the greatest potential for meeting the reasonableness criteria. For this area, several designs were considered and compared against the ALDOT's Noise Policy. As shown in **Table 17**, none of the barrier designs met the noise reduction design goals defined in the Policy.

The new areas of study along Bay Bridge Road and along US-90/US-98 were analyzed for traffic noise and were found to have a total of 106 receptors that would be impacted. However, no new noise barriers were found to be feasible in these areas, per ALDOT's Noise Policy.

Noise abatement measures were not deemed reasonable or feasible per ALDOT's Noise Policy. More details on the evaluation of noise abatement measures are included in **Appendix J**.

Information for Local Officials

Section 4.13.7 of the DEIS contains an undeveloped land analysis which did not change as part of the addendum. Noise contours for the undeveloped areas along the US-90/US-98 area near Daphne are shown in **Appendix J** and will be provided to local officials for planning purposes for future development.

TABLE 17: NOISE BARRIER DESIGN SCENARIOS

Attributes of design Scenarios attempted for barrier walls between Broad St. and Tennessee St.				Feasibility				Cost Reasonableness			Design Goal Reasonableness		
					Impacts with Reduction >5dBA			Recipients with Reduction >5dBA			Recipients with Reduction >10dBA		
Length	Height	Area	Cost	Impacts	Count	% of Total	Policy 8.1 MET?	Count	Allowable Costs	Policy 8.2.1 MET?	Count	% of Benefited Receptors	Policy 8.2.2 MET?
2113.56	14	29589.84	$ 739,746	73	51	69.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A
2113.56	18	38044.08	$ 951,102	73	60	82.2%	YES	65	$ 1,625,000	YES	26	40%	NO
2113.56	20	42271.2	$ 1,056,780	73	62	84.9%	YES	69	$ 1,725,000	YES	30	43%	NO
2113.56	22	46498.32	$ 1,162,458	73	64	87.7%	YES	74	$ 1,850,000	YES	31	42%	NO
2113.56	30	63406.8	$ 1,585,170	73	66	90.4%	YES	89	$ 2,225,000	YES	42	47%	NO
2113.56	40	84542.4	$ 2,113,560	73	66	90.4%	YES	94	$ 2,350,000	YES	52	55%	NO
1200.19	28	33605.32	$ 840,133	47	34	72.3%	YES	36	$ 900,000	YES	16	44%	NO
1200.19	32	38406.08	$ 960,152	47	35	74.5%	YES	36	$ 900,000	NO	20	56%	NO

The first scenario in this table shows a design where a noise barrier nearly satisfies the feasible test. This design and any shorter wall heights would not meet ALDOT's Noise Policy Section 8.1 and are not considered for reasonableness evaluation. The remaining scenarios presented in this table summarize a number of wall designs that indicate cost reasonableness and/or feasible build heights will be exceeded before the criteria in Noise Policy Section 8.2.2 is met.

Cumulative Noise Impacts

The potential for cumulative noise impacts was also considered in this Supplemental DEIS. The design year traffic projections used for the noise analysis show decreased traffic on the I-10 corridor even with the planned and programmed projects. As a result, the noise impacts described in this section are reduced and include predicted decreases in noise levels. However, the noise impacts still represent both direct and cumulative noise impacts along the corridor.

The tolling associated with the project is resulting in a redistribution of traffic leading to higher traffic volumes and indirect noise effects beyond the project limits. The traffic is being redistributes to the previously identified areas along Bay Bridge Road and the US-90/US-98 Causeway. As a result, the noise impacts include predicted growth and represent both indirect and cumulative noise impacts.

Construction Noise

Construction noise is anticipated to temporarily increase noise levels in the immediate vicinity of the construction sites for the project. The precise nature of the noise from construction activities is not known at the time. It should be noted that most construction equipment moves frequently, thereby limiting the exposure of any one location to construction noise. Lastly, construction-related noise would be mitigated in accordance with ALDOT procedures and noise ordinances adopted by the City of Mobile, City of Spanish Fort, and City of Daphne.

4.11 Air Quality

An Addendum to the Air Quality Analysis Technical Report from the DEIS was prepared as part of this Supplemental DEIS and is included in **Appendix K**. The addendum provides an update to the air quality analysis based on the latest traffic volume predictions for the 2020 Build and 2040 Build conditions. The traffic volumes used in the addendum have been adjusted to account for the use of tolling to partially fund the

project. The study area of the addendum was expanded to include new areas of study along Bay Bridge Road and in the vicinity of US-90/US-98 near Daphne.

Both Mobile and Baldwin Counties are currently in attainment for carbon monoxide (CO), nitrogen dioxide, and particulate matter (PM 2.5 and PM 10).

4.11.1 Carbon Monoxide (CO)

The DEIS modeled the US-90/US-98 Eastern Shore interchange for air quality impacts because it was the interchange with the worst traffic congestion. The updated traffic study predicts the worst-case traffic congestion along Bay Bridge Road as the peak-hour westbound traffic on Bay Bridge Road is restricted by the merge movements required to travel north on I-165. The congestion includes three intersections to the east of the Bay Bridge Road/I-165 intersection. In accordance with USEPA guidance, signalized intersections with the highest projected traffic volumes the worst project LOS be analyzed for CO impacts. Therefore, the Bay Bridge Road area was modeled in the addendum contained in **Appendix K**.

MOVES2014a was used to predict emission rates for free flow and idle vehicles in the project area for the 2040 Design Year. These rates were then used to predict pollutant concentrations near roadway intersections using CAL3QHC. CAL3QHC is a USEPA-recommended microcomputer-based model that predicts CO concentrations from both moving and idling vehicles at roadway intersections.

The National Ambient Air Quality Standard (NAAQS) for CO is 35 parts per million (ppm) for the 1-hour standard and 9 ppm for the 8-hour standard. Using dispersion modeling, worst-case 1-hour CO concentrations were modeled for multiple receptors located in the vicinity of the most congested intersection within the project study area.

The worst-case intersection for CO concentrations was identified as the right-of-way near the westbound lanes of Bay Bridge Road. The maximum one-hour concentration was 4.8 ppm.

Because the one-hour analysis results were well below the USEPA's one-hour criteria of 35 ppm and below the eight-hour criteria of 9.0 ppm, an eight-hour analysis was not required.

4.11.2 Particulate Matter 2.5

The proposed project is located in an area designated by the USEPA as being in attainment for PM 2.5; therefore, an assessment is not required.

4.11.3 Ozone

The proposed project is located in an area designated by the USEPA as being in attainment for ozone; therefore, an assessment is not required.

4.11.4 Mobile Source Air Toxics (MSAT)

In the DEIS, this project was categorized as needing a qualitative analysis for MSAT. A qualitative analysis was performed and recorded in the DEIS. According to the guidance, "Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents," dated October 18, 2016, this project is still categorized as needing a qualitative analysis. For each Build Alternative, the amount of MSAT emitted would be proportional to the vehicle miles traveled (VMT) assuming that other variables such as fleet mix are the same for each alternative. Because the VMT estimated for the No Build Alternative is higher than the VMT for any of the Build Alternatives, higher levels of MSAT are not expected from any of the Build Alternatives compared to the No Build. It is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of the USEPA's national control programs that are projected to reduce annual MSAT emissions by over 90 percent from 2010 to 2050 (*Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*, Federal Highway Administration, October 12, 2016). Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the USEPA-projected

reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in virtually all locations. Under each alternative there may be localized areas where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. However, even if these increases do occur, they too will be substantially reduced in the future due to implementation of USEPA's vehicle and fuel regulations. In sum, under the Preferred Alternative in the 2040 design year, it is expected there would be reduced MSAT emissions in the immediate area of the project, relative to the No Build Alternative, due to the reduced VMT associated with more direct routing, and due to USEPA's MSAT reduction programs.

4.11.5 Greenhouse Gases

Greenhouse gas emissions were discussed in the DEIS. These emissions are different from other air pollutants evaluated in Federal environmental reviews because their impacts are not localized or regional because of their rapid dispersion into the global atmosphere, which is characteristic of these gases. It is therefore difficult to isolate and understand their impacts for a particular transportation project. Because of the global rather than local nature of the emissions, no national standards or laws have been established regarding levels or analysis of greenhouse gas emission on transportation projects. For these reasons, no further discussion is needed from what is included in the DEIS.

4.12 Lighting Conditions

Subsequent to the DEIS, an Aesthetic Steering Committee was formed to assist in developing lighting guidelines for the project. This section reflects the results of this coordination, including updated environmental commitments related to lighting, as well as additional coordination with the USFWS regarding strobe lighting for migratory birds that occurred since the DEIS.

The entire I-10 corridor from Virginia Street to the US-98/US-90 Eastern Shore interchange contains some form of roadway lighting. The existing roadway lighting system is comprised of a combination of traditional cobra-head style fixtures, high-mast style fixtures, underpass lighting, and wall-mounted lighting for the transition to Wallace Tunnel lighting. The areas adjacent to the existing right-of-way along the I-10 corridor experience a moderate to moderately high level of ambient lighting as a result of roadway lighting and other adjacent light sources from commercial and industrial development.

The I-10 corridor will continue to be lit, and the Mobile River Bridge and its approaches will introduce a new light source that will be visible to commercial and residential areas, as well as historic districts in downtown Mobile. As noted in the DEIS, light pollution has been noted as a concern by the Section 106 Consulting Parties and residents of the neighborhoods adjacent to I-10. ALDOT is committed to designing the roadway and bridge lighting to meet current design criteria for safe roadway lighting while minimizing light pollution to the extent that it is practical. In addition to roadway and bridge lighting, the proposed project will include aesthetic lighting and navigation lighting.

Based upon input from the Section 106 Consulting Parties, SHPO, and the Aesthetic Steering Committee, ALDOT has incorporated the following requirements into the design requirements for lighting along the project corridor to mitigate unavoidable impacts resulting from lighting:

1) The proposed project will have aesthetic lighting, including lighting to illuminate the main span bridge tower(s) above and below deck.
2) The main span bridge tower(s) will be illuminated with down-lighting or surface-mounted fixtures to prevent light spill.
3) All aesthetic lighting must protect the night sky and must avoid light spill into the water or adjacent properties.

4) Aesthetic lighting must not interfere with aerial and marine navigation requirements and should be designed to minimize light spill in the water. Direct lighting of the bridge cables is prohibited.
5) The aesthetic lighting system must be integrated into the lighting control system for the Retirement System of Alabama's building lighting control system for downtown Mobile and allow the downtown Mobile lighting control operator to adjust the aesthetic lighting hue and intensity.
6) High energy efficiency lighting, such as Light Emitting Diode (LED) or metal halide must be used.
7) Roadways should be lit from the center (median or between roadways), where possible.
8) Light poles should be low and arranged in a boulevard formation to minimize light spill onto adjacent properties.
9) Cutoffs to minimize light emissions must be included in elevated sections to minimize light spill.
10) Lighting of roadway signage should utilize down-lighting to minimize light spill.
11) Lighting design must be developed to complement rather than overpower the nighttime sky.
12) Selection of light fixtures will not be made until the final design process in order to incorporate the latest technology available at the time of construction which will help minimize light spill.
13) Light shields will be used to prevent or minimize light spill, where appropriate.
14) The design team will be required to prepare and submit an Aesthetic and Landscape Plan for approval by ALDOT prior to construction. This plan will include lighting requirements. The Aesthetic Steering Committee will review this plan and provide input to ALDOT prior to approval to ensure concerns

regarding light pollution on historic districts and adjacent neighborhoods have been addressed.

15) Lighting will be designed to minimize light spill into the water to avoid and/or minimize impacts on aquatic species.

16) Lighting will be coordinated with the USCG for navigational requirements and the FAA for air traffic requirements. As noted in the telephone memo with the USFWS dated November 1, 2018 in **Appendix I**, USFWS acknowledges that the project must be designed to meet FAA regulations. ALDOT's commitment to request the maximum allowable duration of strobe (beacon) lighting on the bridge tower as part of the FAA permitting process will satisfy USFWS's request regarding migratory birds. No further input or requirements from the USFWS is expected on this issue.

4.13 Historic Resources

Historic properties listed in or are eligible for listing in the National Register of Historic Places (NRHP) are protected under the National Historic Preservation Act (NHPA). Section 4.16 and Appendix J of the DEIS detail the results of the cultural resources surveys performed for the proposed project. Subsequent to the DEIS, the following changes were made:

- Additional consultation with Section 106 Consulting Parties (see Sections 4.13.1 and 4.13.3 and **Appendix L**);
- Revision to Section 106 determination of effects (see Sections 4.13.1 and 4.13.3);
- Draft Section 106 Memorandum of Agreement (MOA) developed (see Section 4.13.1 and **Appendix L**);
- Expansion of APE to include additional historic resources due to potential traffic diversion (see Sections 4.13.2 and 4.13.3);
- Loss of the Union Hall (see Section 4.13.6); and
- Updates to archaeological investigations (see Section 4.13.8).

4.13.1 Historic Resources Consultation

Section 106 of the NHPA requires Federal agencies to take into account the effects of their proposed action on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings. The ACHP is a Section 106 Consulting Party on the proposed project, along with other organizations, individuals, or agencies having an interest in or jurisdiction over potentially affected historic properties.

Subsequent to approval of the DEIS, a Section 106 consultation meeting was held on September 23, 2014 to discuss FHWA's finding of no adverse effect, ALDOT's DEIS environmental commitments, and the next steps in the Section 106 process. During this meeting, Section 106 Consulting Parties disagreed with FHWA's no adverse effect determination and advocated for FHWA to change its finding to an adverse visual effect.

On December 2, 2014, FHWA and ALDOT met with the SHPO and ACHP to resolve the determination of effects decision. Based on these meetings and input from the Section 106 Consulting Parties, FHWA revised its finding of effect from "no adverse effect" to an "adverse visual effect" on the Church Street East Historic District and the Lower Dauphin Street Historic District.

Since that time, FHWA and ALDOT have worked with the SHPO, ACHP, and Section 106 Consulting Parties to develop a Draft Section 106 Memorandum of Agreement (MOA) to identify mitigation measures to address the following areas of concern that have been raised by SHPO and Section 106 Consulting Parties:

1) Adverse visual effects;
2) Potential effects to archaeological sites;
3) Bridge aesthetics;
4) Access to the USS ALABAMA Battleship Memorial Park;
5) Lighting; and
6) Vibrations.

Correspondence with the SHPO and Section 106 Consulting Parties that has occurred since the DEIS is contained in **Appendix L**. Consultation activities are also discussed in Section 6.4 of this Supplemental DEIS.

A Section 106 Consulting Party meeting was held in Mobile on May 8, 2018. The purpose of the meeting was to update the Consulting Parties on changes that have occurred in the project since the DEIS, present additional information that was developed since the DEIS, discuss the Draft Section 106 MOA, and identify the next steps in the consultation process. Dialogue with the Consulting Parties occurred throughout the meeting, and a transcript of the meeting is in **Appendix L**. Following the meeting, comments on the Draft Section 106 MOA were received from Herndon Inge of Stop the Bridge Coalition. A disposition of substantive verbal and written comments received during and after the meeting is included in **Appendix L**.

The most recent Section 106 Consulting Party meeting was held on March 12, 2019 at the ALDOT Southwest Region office. The meeting focused on three primary areas: providing the newer Consulting Parties with an overview of the project and discussing the changes that occurred in the project since the DEIS; discussing topics that are included in the Draft Section 106 MOA; and identifying the next steps in the Section 106 consultation process. Input from the Consulting Parties was also requested so that revisions to the Draft Section 106 MOA could reflect comments received during and after the meeting. The comment period on the Draft Section 106 MOA has not closed at the time this document was prepared. Comments received will be addressed and included in the FEIS/ROD. A summary of the meeting, the presentation from the meeting, and list of attendees, are included **Appendix L**.

Section 106 Consultation will continue with the SHPO and other Section 106 Consulting Parties in an effort to identify mitigation measures to be implemented as part of the proposed project. A revised version of the Draft Section 106 MOA will be transmitted to the Consulting Parties for review and comment. Input received will be used to update

and finalize the Section 106 MOA, which will be signed by the FHWA, ACHP, SHPO, and ALDOT. The Final Section 106 MOA will be completed prior to the combined FEIS/ROD.

4.13.2 Area of Potential Effect

The area of potential effect (APE) shown in the DEIS was developed in consultation with the Section 106 Consulting Parties. The original APE is shown on **Figure 23**. The APE has been expanded for the following reasons:

1) ALDOT has committed to construct bicycle and pedestrian facilities along Bay Bridge Road (which runs east-west through the Africatown Historic District) and the Cochrane-Africatown USA Bridge from I-165 to the east side of the Mobile River and
2) Tolling is expected to result in increased traffic along Bay Bridge Road and the US-90/US-98 Causeway due to traffic avoiding the tolled route.

The expanded APE is shown on **Figure 23A**.

4.13.3 Historic Districts

At the time the DEIS was written, Maysville Historic District and Oakdale Historic District were not listed in the NRHP. They have since been added to the NRHP and are no longer noted as proposed historic districts. In addition, the Africatown Historic District was identified as a historic resource in the expanded APE and is described below.

Africatown Historic District

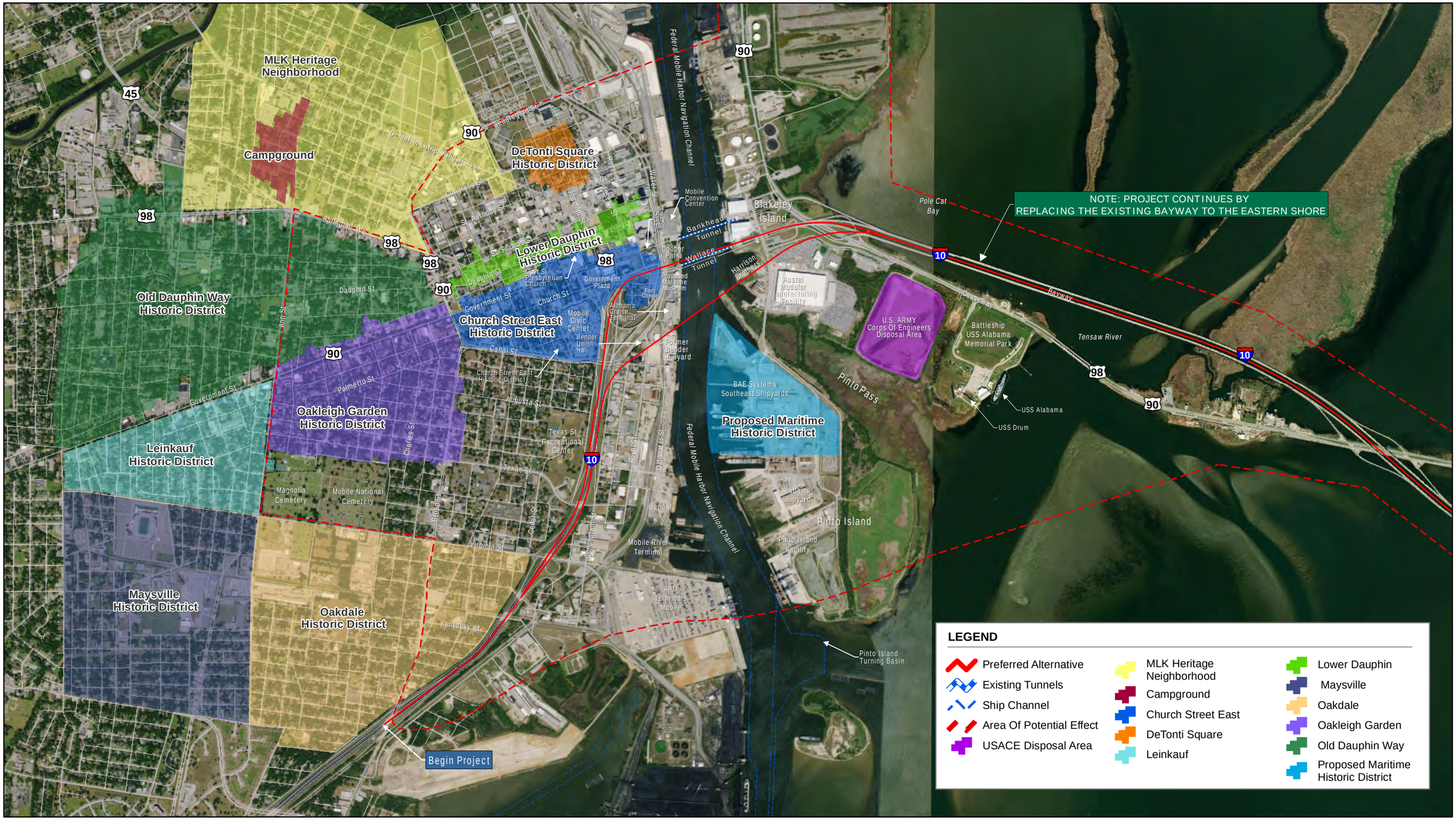
The Africatown Historic District is located in Africatown approximately three miles north of the proposed project (see **Figure 23A**) and was listed on the NRHP in December 2012. It contains 253 contributing resources and 203 non-contributing resources. Resources include single-family and multi-family residences, businesses, a cemetery, recreation facilities, and churches. It is nationally significant based on NRHP Criterion A: the district is associated with events that have made a significant contribution to the broad patterns of history, particularly as it relates to black ethnic heritage; and NRHP Criterion D: the property has yielded, or is likely to yield, information important in prehistory or

history, particularly as it relates to archaeology. The district's period of significance is from 1866 to 1962. Africatown was founded around 1866 by Africans who were shipmates on the *Clotilda*, the last known ship to bring slaves to the U.S. By the 1880s, residents of Africatown had their own homes and land along with their own church, school, and cemetery. The unincorporated community was annexed by the City of Mobile in 1948. With a current population of approximately 3,000, Africatown retains cohesiveness with regard to its identity and unique history, and a number of residents can still trace their origins to the original group of Africans who founded the town, which is unique in the U.S. As shown on **Figure 23A**, Bay Bridge Road crosses through the Africatown Historic District.

Direct Effects: None of the Build Alternatives would require property from the historic district. The proposed bicycle and pedestrian facilities will be constructed within existing ALDOT right-of-way in areas that have been previously disturbed to construct sidewalks. Therefore, there would be no adverse effect on the historic district.

The potential for indirect effects was also evaluated for the historic district. The following is a summary of the findings:

- **Visual**: The historic district is located approximately three miles north of the proposed project. The new Mobile River Bridge and approach structures would not result in adverse visual effects on the Africatown Historic District. Sidewalks currently exist along portions of Bay Bridge Road, and the addition of a shared use path would not result in adverse visual effects.
- **Noise**: A detailed noise analysis was conducted for the entire study area using FHWA's TNM, Version 2.5. Noise effects were identified in the Africatown Historic District. This historic district is located in a developed environment, with industry surrounding it and is in close proximity to the existing transportation network. The properties were reviewed, and two properties within the historic district are predicted to experience noise impacts. The increases in projected



ALABAMA DEPARTMENT OF TRANSPORTATION
I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

1,000 0 1,000 Feet

0 0.5 1 Miles

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community Digital Globe 2017

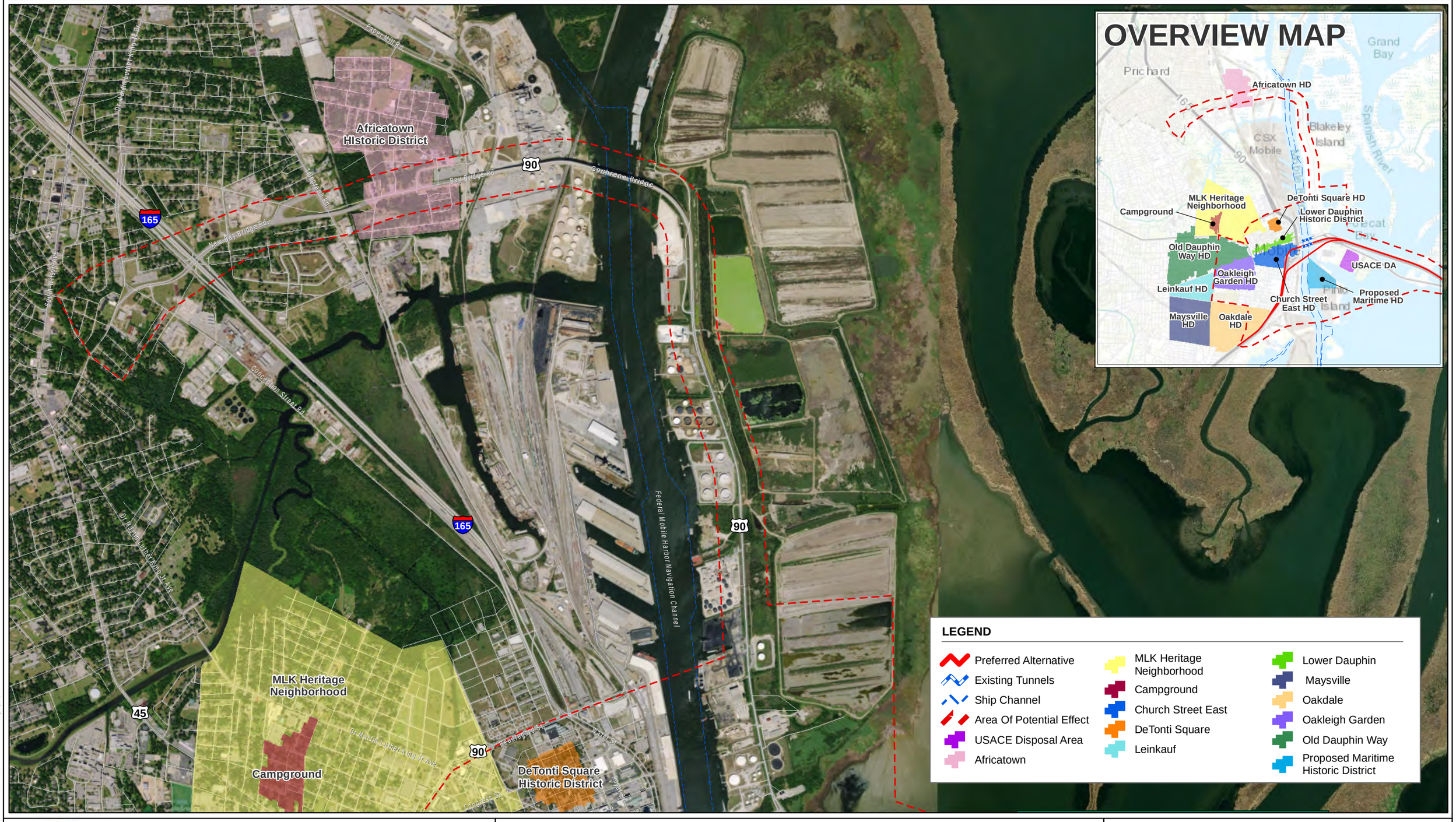
FIGURE 23
HISTORIC DISTRICTS

PROJECT NO.: 15-1101-0300

DATE: JANUARY 2019

Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,640,416.6000
False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.9999
Latitude Of Origin: 30.4000
Units: Feet US

Date: 1/24/2019



ALABAMA DEPARTMENT OF TRANSPORTATION
I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

1,000 0 1,000 Feet

0 0.5 1 Miles

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

FIGURE 23A
HISTORIC DISTRICTS

PROJECT NO.: 15-1101-0300

DATE: JANUARY 2019

Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 1,640,416.6666
False Northing: 0.0000
Central Meridian: -87.5000
Scale Factor: 0.999960
Latitude Of Origin: 30.4000
Units: Foot US

Date: 1/24/2019

noise levels are expected to be less than 3dBA, which according to *FHWA's Highway Noise: Analysis and Abatement Guidance*, indicates that changes of 3 dBA or less are generally not perceptible to most humans. Therefore, adverse noise effects are not anticipated.

- **Air Quality:** Air quality was analyzed at the intersection that would exhibit the worst congestion for the proposed project, which occurs on Bay Bridge Road at I-165, west of the Africatown Historic District limits. No air quality impacts were identified for the proposed project.
- **Lighting:** The Africatown Historic District is located approximately three miles north of the proposed project and would not be adversely affected by the roadway or aesthetic lighting that will be included as part of the proposed project.
- **Vibrations:** The Africatown Historic District is located approximately three miles north of the proposed project. Based on the results of the Final Vibrations Study prepared for this project, the Africatown Historic District would be too far from the proposed pile driving activities to experience vibrations from construction activities.

Conclusion: None of the Build Alternatives would require property from the historic district. There would be no visual effect of the proposed project on the Africatown Historic District. Potential traffic noise effects will not alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP. There would be no air quality, lighting, or vibration impacts on the district. The project will not diminish the district's location, design, setting, materials, workmanship, feeling, or association. Therefore, the proposed project is not expected to result in an adverse effect on the historic district.

By letter dated February 8, 2019, SHPO concurred that the project would not have adverse effects on the Africatown Historic District (**Appendix L**). ALDOT will provide a historical marker to be placed at the entrance of Africatown and will provide

interpretive panels with historical information about Africatown and the Mobile River on the Cochrane-Africatown USA Shared Use Path for pedestrians and bicyclists.

Church Street East and Lower Dauphin Street Historic Districts

Since the DEIS, the determination of effects on the Church Street East and Lower Dauphin Street Historic Districts has changed from no adverse effect to adverse effect. The following paragraphs have been updated to reflect this change. More detailed information on consultation regarding the change in the determination of effects is contained in Section 6.4.

The following paragraphs summarize the potential effects of the proposed project on the Church Street East Historic District and the Lower Dauphin Street Historic District. Section 4.16.3 and Appendix J of the DEIS contain detailed information regarding the Viewshed Impact Assessment that was performed for the proposed project. The results from the Viewshed Impact Assessment are still applicable. Selected renderings from the Viewshed Impact Assessment at resources located within these two historic districts are included in **Appendix L** for reference.

Church Street East Historic District

The Church Street East Historic District (see **Figure 23**) includes much of the south side of downtown Mobile and is located west-northwest of the Build Alternatives. The Church Street East Historic District covers approximately 169 acres and contains over 80 buildings including residential, commercial, governmental, and religious buildings. One of the buildings located on the eastern edge of the Church Street East Historic District is the Old Southern Market and City Hall, which is a National Historic Landmark (NHL). The district was listed on the NRHP in 1971, with boundary increases in 1984 and 2005, based on Criterion C. Specifically, the qualifying characteristic of Church Street East Historic District is its distinctive architecture. The mixture of governmental, educational, religious, commercial, and residential buildings reflects the multi-faceted nature of the Church Street East Historic District.

Direct Effects: The Build Alternatives would not require the acquisition of property from the Church Street East Historic District (no change from the DEIS).

Visual Effects: Infill buildings and structures are located within the viewshed of the Church Street East Historic District. When combined with the modern infill that has occurred throughout the past, the proposed project would have adverse visual effects on the Church Street East Historic District. The proposed project would insert a large modern structure into the skyline to the southeast of the district. As shown on photo renderings in **Appendix L**, the new bridge and its approaches would be visible from various locations within the district. The proposed project would also introduce a new light source that would be visible from the district. The proposed project would include the relocation of the I-10 elevated ramps to ground level, which will remove one of the current modern intrusions in the district's viewshed.

Therefore, the project was determined to have an adverse visual effect on the Church Street East Historic District. There will be no physical effect on the Church Street East Historic District; however, the visual effect will indirectly alter the characteristics of the Church Street East Historic District in a manner that would diminish the integrity of the district's setting, feeling, and association.

Lower Dauphin Street Historic District

Lower Dauphin Street Historic District (see **Figure 23**) includes the main commercial thoroughfare of Dauphin Street in downtown Mobile, directly north of the Church Street East Historic District, and is located north of the Build Alternatives. Lower Dauphin Street Historic District covers approximately 56 acres along Dauphin Street and includes 185 buildings (primarily commercial) considered to be contributing resources. The district was listed on the NRHP in 1979 with boundary expansions in 1982, 1995, and 1998. The district was listed based on Criteria A and C. Specifically, the qualifying characteristics of Lower Dauphin Street Historic District are its history of commerce, community planning, and development, and its distinctive architecture.

The setting within the Lower Dauphin Street Historic District as a historic commercial area and historic neighborhood remains intact, maintaining a high degree of integrity.

Direct Effects: The Build Alternatives would not require the acquisition of property from the NRHP-listed Lower Dauphin Street Historic District (no change from the DEIS).

Visual Effects: Infill buildings and structures are located within the viewshed of the Lowe Dauphin Street Historic District. When combined with the modern infill that has occurred throughout the past, the proposed project would have adverse visual effects on the Lower Dauphin Historic District. The proposed project would insert a large modern structure into the skyline to the southeast of the district. As shown on photo renderings in **Appendix L**, the new bridge and its approaches would be visible from the eastern edges of the district. The proposed project would include the relocation of the I-10 elevated ramps to ground level, which will minimize one of the current modern intrusions in the district's viewshed. Overall, the proposed project would contribute to the diminished visual setting of the district.

Therefore, the project was determined to have an adverse visual effect on the Lower Dauphin Street East Historic District. There will be no physical effect on the Lower Dauphin Street East Historic District; however, the visual effect will indirectly alter the characteristics of the Church Street East Historic District in a manner that would diminish the integrity of the district's setting, feeling, and association.

4.13.4 Measures to Avoid, Minimize, or Mitigate Adverse Visual Effects

The No Build Alternative is the only alternative that would avoid adverse visual effects on the Church Street East Historic District and the Lower Dauphin Street Historic District.

Efforts to minimize adverse visual effects include shifting the location of the alternatives further to the east and further away from downtown. Alternative C would be located the furthest south of downtown, but it would directly impact a NRHP-eligible historic district, resulting in a Section 4(f) use of the district.

ALDOT is committed to develop and evaluate alternatives or modifications to the project that could avoid, minimize or mitigate adverse visual effects on historic properties. Proposed measures to mitigate adverse visual effects have been developed in consultation with the Section 106 Consulting Parties and will be finalized in the Section 106 MOA prior to the FEIS/ROD. The proposed mitigation measures are included as environmental commitments in Section 4.18 of this Supplemental DEIS.

4.13.5 USS ALABAMA Battleship Memorial Park Consultation

Consultation with the USS ALABAMA Battleship Memorial Park to address concerns about access and potential impacts to the Park, which houses two NHLs, has continued since the DEIS was signed.

ALDOT and FHWA met with the USS ALABAMA Battleship Memorial Park Commission on April 21, 2017, to discuss concerns about access to the Park and potential impacts that could result as part of the proposed project. ALDOT evaluated several options to provide more direct access to the Park. Concepts providing direct access to the Park via a new ramp or relocation of the Park's entrance could not meet design criteria for safe roadway conditions; therefore, they were not advanced for further consideration. Existing access to the Park will not be altered in the final condition of the proposed project.

In order to improve signage directing travelers to the Park, ALDOT has developed a preliminary signage plan for the USS ALABAMA Battleship Memorial Park including proposed locations and types of signs. This preliminary plan is included in the IMR prepared for the project and was shared with the Commission at a meeting on August 10, 2018. The preliminary plan was developed with input from the SHPO and the Commission. New signs would be installed to supplement the existing signs along the I-10 corridor. The signs will direct travelers from I-10 to the Park. ALDOT will continue to coordinate with the Commission to finalize the signage plan prior to construction.

4.13.6 Historic Structure (Union Hall)

The DEIS identified one historic structure, Union Hall, that was eligible for listing in the NRHP outside of the historic districts. The structure was listed in the NRHP under Criterion A: association with a specific event or patterns of events in American History that make a significant contribution to the development of a community, a state, or a nation. Specifically, the significance of Local 18 Union Hall lies in its role in World War II, use as the Industrial Union of Marine and Shipbuilding Workers of America meeting hall, and its association with the development of Mobile's shipyard industry. Alternative B is the only Build Alternative that would have required the acquisition of property from the Union Hall at the corner of Madison Street and South Royal Street.

ALDOT was notified of the owner's plans to demolish the Union Hall and sell the property in September 2012. Based on the owner's stated plans and the property's proximity to the subject project, ALDOT decided to complete Level III Historic American Buildings Survey (HABS) Documentation on the Union Hall. The HABS Documentation was completed in March 2013. No further correspondence was found with the property owners or their agents, and no further activities regarding the property were observed by ALDOT or FHWA until 2016.

On February 1, 2016, a local contractor obtained a permit from the City of Mobile to demolish the Union Hall structure. During a field review on April 14, 2016, ALDOT and FHWA discovered that the structure had been removed, and the property was listed for sale by the property owner at the time. On April 18, 2016, ALDOT notified the SHPO that the Union Hall had been demolished. By e-mail dated June 27, 2016, SHPO informed ALDOT that the Union Hall property is no longer considered eligible for listing in the NRHP (**Appendix L**). At the May 2018 Section 106 Consulting Party meeting, the NTHP requested additional information about the demolition of the Union Hall. A timeline of events was transmitted to the NTHP from FHWA on July 23, 2018. Correspondence between FHWA and the NTHP regarding the loss of the Union Hall is included in **Appendix L**.

4.13.7 Historic Resource – US-90/US-98 Causeway

The US-90/US-98 Causeway was identified as a historic resource in the expanded APE and is described here. The US-90/US-98 Causeway is eligible for listing on the NRHP due to its route. The route is considered eligible for the NRHP under Criterion A, Events in Transportation, due to its association with the *Old Spanish Trail*. The connection of Mobile and Baldwin Counties in Alabama was the last leg in the completion of the transcontinental highway designed to increase tourism and commerce along the Gulf Coast and westward. A 10.5-mile chain of bridges was included as part of the *Old Spanish Trail*. All of the bridges original to the route have been removed and replaced. The route still possesses integrity in its location, setting, and association with the *Old Spanish Trail*.

The proposed project would result in increased traffic on the US-90/US-98 Causeway due to diverted traffic avoiding the toll on the Bayway; however, the IMR indicates that traffic on the Causeway would also increase without the project. The proposed project would not alter the route which is what makes this resource eligible for the NRHP. By letter dated February 8, 2019, SHPO concurred that the project would not have adverse effects on this resource (**Appendix L**).

4.13.8 Archaeological Impacts

Phase I archaeological surveys and limited Phase II testing have been conducted and are currently underway for the proposed project. Due to widespread disturbed historic overburden present in many areas, a program of integrated Phase I and Phase II (Phase I/II) evaluation has been employed. This approach utilizes specialized heavy machinery to remove disturbed overburden to expose, record, and sample undisturbed cultural features and zones in areas where standard Phase I techniques are inadequate. SHPO and the tribes have been consulted with on this approach. Additional coordination with the SHPO and tribes will be conducted regarding methods to identify archaeological resources and to avoid, minimize and mitigate effects on the resources. Impacts from

the undertaking will be documented as the design progresses and as additional access to the potentially affected parcels is obtained.

The project's APE has been divided into survey blocks to organize and record fieldwork results. Each survey block contains smaller parcels delineated by ownership tracts.

Phase I and Phase I/II surveys have been completed on all or part of 25 survey blocks. Phase II testing has been completed within three survey blocks. Phase III Data Recovery has been completed on one tract contained within the current APE but conducted during a previous project. Based on the results of the fieldwork and analyses completed to date, all or portions of twelve survey blocks contain resources deemed not eligible for the NRHP. Additionally, eleven survey blocks contain resources that have been deemed eligible or potentially eligible for listing on the NRHP. Currently, two survey blocks and portions of six others are inaccessible because they are either covered with existing structures, asphalt, or concrete, or the property owners have denied access. Areas that are not physically accessible will be surveyed as right-of-way is acquired for the proposed project.

Results will continue to be updated as additional fieldwork and analyses are completed and coordinated with SHPO and the tribes.

No ground-disturbing activities will be allowed on any parcels containing identified or potential archaeological sites until Phase I, Phase II, and/or Phase III investigations are complete and the results have been coordinated with the SHPO and tribes.

Efforts will be made to avoid and/or minimize impacts on archaeological sites listed on, eligible for, or potentially eligible for listing on the NRHP. For sites where impacts cannot be avoided, mitigation will be performed in the form of Phase III Data Recovery or other approved alternative mitigation plans, as coordinated with the SHPO and tribes. Where required, Phase III Data Recovery investigations will be performed at affected parcels once specific impact locations are known and prior to commencement of ground-disturbing activities. Updates to the archaeological surveys and mitigation

measures will be identified in the Final Section 106 MOA and will be included in the FEIS/ROD.

4.14 Construction Impacts

4.14.1 Sediment and Runoff

D'Olive Creek and Joe's Branch are listed on ADEM's 2018 list of 303(d) impaired waterbodies. These waterbodies are considered priority construction sites under ADEM permitting. The project will be designed to achieve sediment reduction load of 80 percent for the D'Olive Creek Watershed.

A CBMPP that complies with the ADEM Construction General Permit will be required as part of the design and permitting phases. Unless specified otherwise by the *Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas*, all sediment control measures, erosion control measures, and other site management practices included in the CBMPP must be designed and maintained to minimize erosion and maximize sediment removal resulting from a two-year, 24-hour storm event. The CBMPP must include the following:

1) A Phased Erosion and Sediment Control Plan illustrating BMP placement during initial, intermediate, and final stages of construction and
2) 25-foot natural riparian buffers or BMP equivalents.

An Erosion and Sediment Control Plan that includes devices and design for structural controls that conform with applicable ADEM regulations regarding the selection and implementation of BMPs and conform to Alabama Soil and Water Conservation Committee's *Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas* will be required.

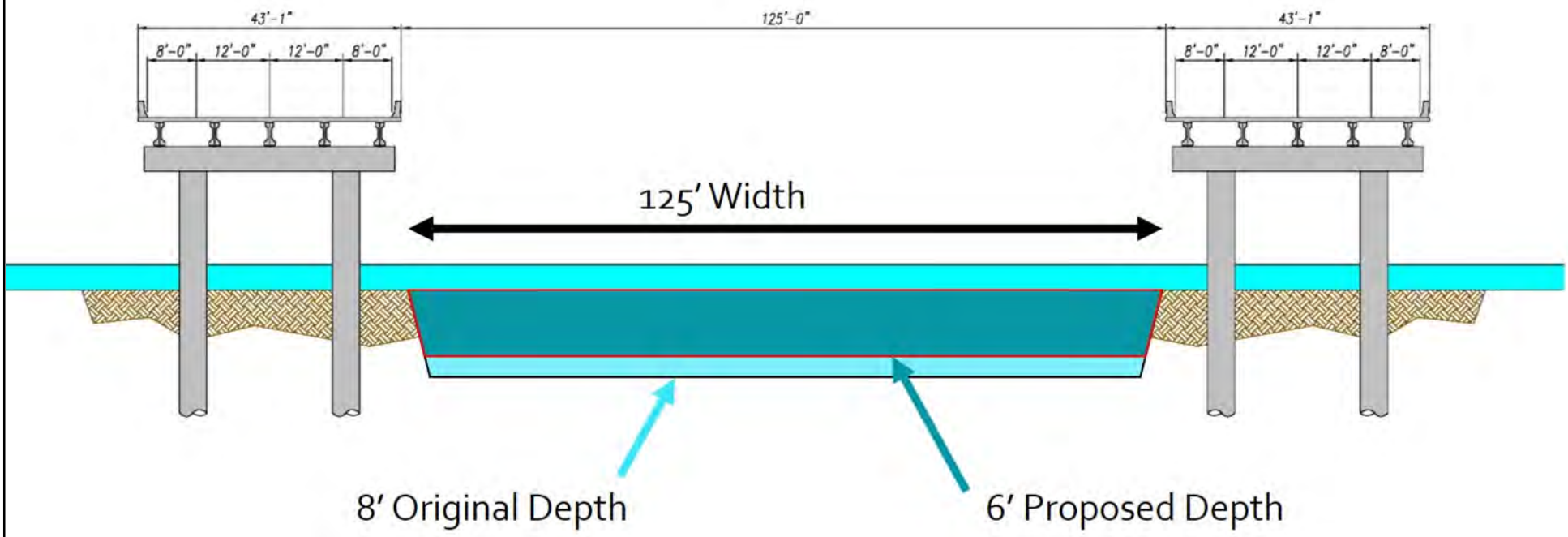
4.14.2 Bayway Construction

The DEIS environmental commitments stated that the Bayway would be constructed utilizing segmented (modular) barges traversing the area between the existing Bayway lanes. Under this scenario, the original construction channel would be utilized without

modification. The segmented (modular) barges would be able to float in areas where sufficient water depth still exists or rest on the bottom of the shallow areas. The barge segments could be linked together to serve as a construction platform and could be disassembled and "leapfrogged" ahead using construction cranes as construction progresses. Duration of barge segments resting on the Bay bottom would not be allowed to exceed 30 days in a particular location.

The DEIS did not allow for dredging. Since the signature of the DEIS in July 2014, bathymetric surveys performed as part of the storm surge analyses indicate that portions of the area between the existing Bayway bridges have naturally filled in to depths of less than six feet due to shoaling. The areas exhibiting the effects of shoaling are primarily located around the Tensaw, Apalachee, and Blakeley Rivers. In order to better facilitate construction of the new Bayway bridges, it has been determined that dredging may be required in areas where water depths are less than six feet. Dredging would reduce construction time and result in substantial construction cost savings.

Dredging would occur within the previously disturbed construction channel that was used to build the existing Bayway. The dimensions of the original channel were around 125 feet wide and 8 feet deep. The proposed dredging would be approximately 125 feet wide and 6 feet deep (**Figure 24**). Dredging would occur in open water areas where wetlands are not present. It is estimated that approximately 325,000 cubic yards of material would be dredged. It is anticipated that the dredged material would be beneficially used to create the marsh island mitigation site described in the Draft Mitigation Plan (**Appendix F**). If the material is not deemed to be suitable for mitigation, it will be disposed of in a USACE-permitted disposal area with available capacity. Since the DEIS, other construction methodologies, including construction from above (top-down) or from temporary trestles, have been considered because they may reduce the construction time required and therefore minimize impacts to the traveling public. Use of barges and/or top-down construction are the preferred construction methodologies



thompson ENGINEERING

ALABAMA DEPARTMENT OF TRANSPORTATION
I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

FIGURE 24
PROPOSED LOCALIZED DREDGING

PROJECT NO.:	DATE:
15-1101-0300	FEBRUARY 2019

P:\2015\15-1101-0300 ALDOT MRBP PHASE 1 (US)\GIS\MXD\EIS REPORT FIGURES\FIGURE 24 PROPOSED LOCALIZED DREDGING_LND(8.5x11).mxd

for the Bayway. Final construction methodologies will be coordinated with the agencies and fully evaluated as part of the Final Mitigation Plan for wetlands, SAV, and EFH, and the Section 404/401 permit application.

Concrete materials will not be allowed to fall into the water during construction and demolition activities; they will be collected for transport to a suitable disposal site. The DEIS committed to using the concrete barrier rail that would be removed due to widening of the Bayway for reef creation as mitigation for potential impacts to fish habitat. The change from widening to replacing the Bayway may result in additional concrete becoming available for disposal as part of the ADCNR's "Roads to Reef" program. ALDOT will coordinate with the ADCNR to determine the appropriate location for placement of this material. The details of the quantity and appropriate location for placement for beneficial use will be determined during the final design phase of the proposed project.

4.14.3 Vibration Impacts during Construction

Following the DEIS, ALDOT concluded a study to evaluate potential vibration impacts for pile driving and to help identify construction methodologies that would avoid vibration impacts to properties in proximity of the project (**Appendix M**). An investigation and vibration monitoring program was developed for four pile sizes that are often used by ALDOT. The piles included 36-inch square and 24-inch square concrete piles, as well as, two steel H-Piles. The piles were driven in proximity to the proposed project site using typical installation techniques, and the vibration levels at various distances from the piles were monitored.

Data from the study shows that the largest vibrations occurred during the installation of the 36-inch concrete pile, which was recorded as 0.82 inches per second. According to the research presented in the vibration study, a vibration level of 0.82 inches per second has the potential to cause structural damage to an adjacent structure. This vibration level was recorded at a distance of 50 feet from the pile; the vibration level at 100 feet

from the pile was reduced to 0.275 inches per second. This vibration level could cause potential architectural damage to buildings constructed with plaster, but would not likely cause structural damage. At 150 feet, the vibration levels were reduced to 0.15 inches per second, a level that would have little to no risk of damage to adjacent structures.

Based on the Final Vibrations Study, ALDOT has committed to:

1) Limit vibration to a maximum level of 0.5 inch per second for modern structures and 0.1 inch per second for historic structures at the location of the structure.
2) Survey and monitor for potential vibration damage at a distance of 150 feet for modern structures and 250 feet for historic structures. In addition, due to concerns raised by the Section 106 Consulting Parties, vibrations will also be monitored at Christ Church Cathedral, Old City Hall (History Museum of Mobile), Phoenix Fire Museum, Condé Charlotte Museum House, Austal, the Wallace Tunnel, and the Bankhead Tunnel. The survey distances are well beyond the distance where the study estimated vibration levels of 0.5 and 0.1 inch per second and, therefore, represent conservative survey distances to ensure adjacent structures are not damaged.
3) Require the project Concessionaire to obtain the services of a competent vibration or seismologist consultant to conduct vibration surveys and monitor and record ground vibrations during the entire demolition and construction phase operations. If at any time the maximum vibration level is exceeded, the Concessionaire will be required to make appropriate changes to reduce vibration to acceptable levels prior to continuing operations.
4) Prior to acceptance of the project, the Concessionaire will be required to submit a vibration report covering the life of the project. Photographic, video and other surveys of surrounding structures and utilities (pre-construction and post-construction) will be made as part of the documentation record.
5) Any damage to historic structures due to vibration levels above the maximum will be repaired/restored in accordance with ALDOT Specification 107.12, 107.14

and 107.15 *Protection and Restoration of Property, Landscape and Utility Facilities*, 36CFR 800.12 *Emergency Situations* and 36 CFR 68 *The Secretary of Interior's Standards for the Treatment of Historic Properties.*

Another component of vibrations is the distance at which vibrations can be felt by humans. The Final Vibration Study concluded that people within 150 feet of pile driving activities may experience vibrations that are considered annoying to some humans. It is not anticipated that pile driving operations will be conducted within 150 feet of any structures; therefore, vibrations that can be considered a nuisance to humans are not anticipated at residences or businesses in downtown Mobile.

The DEIS did not require a ramp up procedure for pile driving operations in areas of water to minimize impacts on fish in proximity to the pile driving activities. In order to minimize impacts to aquatic species during pile driving operations in the water, the Concessionaire will be required to utilize a ramp-up pile driving procedure during the installation of piles in water. This procedure allows for a gradual increase in vibration levels so that species have time to leave the area prior to full noise levels being released by pile driving. The Concessionaire will also be required to implement an Erosion and Sediment Control Plan to minimize the suspension of sediments in the water during construction.

4.14.4 Construction Staging Areas

Any staging areas along the Causeway will be subject to the special protection and monitoring requirements by the USFWS in the Incidental Take Permit contained in Appendix A of the DEIS and included in Section 4.18 of this Supplemental DEIS. Coordination with the USFWS will continue to occur throughout the development of the project, prior to and during construction, to make sure commitments included in the Incidental Take Permit are met. Additional requirements to avoid impacts to manatees have been documented in correspondence with the USFWS since the DEIS. These conditions are listed in Section 4.18 and **Appendix I**.

4.14.5 Construction Sequencing

Construction sequencing was not addressed in the DEIS. The sequencing of construction will be the responsibility of the Concessionaire. The Concessionaire will be required to submit a Traffic Control and Traffic Management Plan that will include a description of the construction staging and traffic control and sequencing proposed to accommodate traffic during the construction of the Project, including:

1) The overall traffic management and control and sequencing approach;
2) Conceptual construction staging diagrams, including initial and ultimate proposed treatment of ramps and staging of major drainage facilities;
3) A description of how business and residential accesses will be provided;
4) A narrative description of how the Concessionaire intends to schedule and sequence the construction to minimize impacts on the environment, communities, and traveling public while still providing acceptable construction performance;
5) A description of the intended laydown, recycling, staging, disposal, and maintenance locations to be used during construction; and
6) A description of how the right-of-way and adjacent roads and properties will be maintained and protected, including the intended measures to be used to mitigate and minimize noise, vibration, light, dust, spills, erosion/run-off, and local road damage.

4.14.6 Navigation Impacts

The proposed project will result in temporary impacts to navigation during construction. As noted in Section 4.2, navigation clearance requirements have been coordinated with the USCG, Harbormaster, and other maritime interests to provide adequate clearances to accommodate marine traffic. Additional coordination with the USCG, USACE, and the Harbormaster will be conducted during the final design and permitting phases to develop USCG bridge permit conditions for each of the river crossings (Mobile, Tensaw,

Apalachee, and Blakeley) to minimize impacts to marine traffic during construction to the extent practicable.

During construction, marine traffic may have limited access to the area between and around the existing Bayway bridges due to construction activities and construction equipment. Once construction and demolition is complete, access to these areas should be similar to what currently exists.

4.15 Alternatives Comparison Matrix

The alternatives comparison matrix in the DEIS shows a comparison of selected attributes and associated categories of the impacts to provide differentiating factors for the four Build Alternatives. In order to update the matrix in this Supplemental DEIS, design refinements made to the Preferred Alternative have been applied to the other Build Alternatives, where applicable. **Table 18** presents an updated comparison of alternatives.

TABLE 18: ALTERNATIVES COMPARISON MATRIX

Description of Impact/Benefit Areas	No Build (Supplemental DEIS)	DEIS	Build Alternatives – Supplemental DEIS			
		Alternative B' (Preferred)	A	B	Preferred Alternative	C
Local Road Modifications	No	Yes	Yes	Yes	Yes	Yes
			As discussed in Section 4.1.4, all of the Build Alternatives would require modifications and/or closures of local roads to accommodate interchange modifications and high level approaches.			
Improvements to Bicycle/Pedestrian Facilities	No	Yes	Yes	Yes	Yes	Yes
			All of the Build Alternatives would include improvements to bicycle/pedestrian facilities as described in Section 3.8.2.			
Navigation Impacts	No	Yes	Yes	Yes	Yes	Yes
			As discussed in Sections 4.2 and 4.14.6, the proposed project will result in temporary impacts to navigation during construction. Appropriate clearances have been developed for the main span over the Mobile River as well as the Tensaw, Apalachee, and Blakeley Rivers.			
Hazardous Materials Sites (each)	0	7	12	12	12	13
Economic Loss ($M)*	$0	$6.1	$5.6	$6.1	$6.1	$200
Economic Benefits ($M)*	$0	$549-1,066	$537-1,054	$549-1,066	$549-1,066	$560-1,077
Tolling	No	No	Yes	Yes	Yes	Yes
Estimated Total Cost	0	$773.1 M	$2.09 B	$2.08 B	$2.08 B	$2.1 B
Residential Relocations	0	0	0*	0	0	4*
Business Relocations	0	12	14*	26	26	13*
Utility Relocations	No	Yes	Yes	Yes	Yes	Yes
Environmental Justice	No	No	Yes	Yes	Yes	Yes
			As discussed in Section 4.6, the proposed project would result in disproportionately high and adverse effects on the Africatown/Plateau community due to traffic diverting to the non-tolled route along Bay Bridge Road and the Cochrane-Africatown USA Bridge. Implementation of mitigation measures will offset these impacts.			
Farmland Impacts	N/A	N/A	N/A	N/A	N/A	N/A
			The Farmland Protection Policy Act does not apply to the proposed project because Mobile and Daphne are urbanized areas per the U.S. Census Bureau.			
Floodplain Impacts	No	Yes	Yes	Yes	Yes	Yes

Description of Impact/Benefit Areas	No Build (Supplemental DEIS)	DEIS Alternative B' (Preferred)	Build Alternatives – Supplemental DEIS			
			A	B	Preferred Alternative	C
			As described in Section 4.10 of the DEIS, the proposed project would result in an encroachment on floodplains. The encroachment would be similar for all of the Build Alternatives, and the project would be designed to avoid raising the base flood level in the project area.			
Wetland Impacts (acres)	0	1.7	6	6	6	11
Submerged Aquatic Vegetation Impacts (acres)	0	33.4	16.1	16.1	16.1	16.1
Essential Fish Habitat Impacts (acres)	0	67.15	22.1	22.1	22.1	27.1
303(d) Impaired Waterbody Crossings	0	3	1	1	1	1
Additional Impervious Area (acres)	N/A	N/A	~100	~100	~100	~100
Threatened, Endangered, and other Listed Species Impacts	No	Yes	Yes	Yes	Yes	Yes
			The USFWS issued a Biological Opinion and Incidental Take Permit for the Gulf sturgeon and the Alabama red-bellied turtle. Additionally, the USFWS specified requirements to avoid impacts to the manatees. Potential impacts to these species would be the same for all of the Build Alternatives.			
Traffic Noise Impacted Receptors (each)	299	276 *(Note: DEIS text listed 275 impacts, but the analysis indicated that there were 276 impacts)*	~276*	~276*	276	~350*
Air Quality Impacts	No	No	No	No	No	No
			As discussed in Section 4.11, the proposed project would not result in exceedances of NAAQS.			
Lighting Impacts	Yes	Yes	Yes	Yes	Yes	Yes
			As discussed in Section 4.12, all of the Build Alternatives would result in changes in lighting conditions within the project corridor and would introduce a new light source, the Mobile River Bridge. The environmental commitments contain requirements for lighting that will offset these impacts.			

Description of Impact/Benefit Areas	No Build (Supplemental DEIS)	DEIS Alternative B' (Preferred)	Build Alternatives – Supplemental DEIS			
			A	B	Preferred Alternative	C
Impacts to Cultural Resources (Historic Structures, Visual Effects on Historic Districts)	0	0	2	2	2	2
Impacts to Archaeological Sites	0	1	Due to the historical development and use of the area between I-10 and the Mobile River and based upon cultural resources surveys performed on properties in this area to date, it is reasonable to expect Alternatives A, B, the Preferred Alternative, and C would result in similar impacts to archaeological sites.			
Impacts to Section 4(f) Properties (each)	0	0	0	0	0	1
Construction Impacts	No	Yes	Yes	Yes	Yes	Yes
			As discussed in Section 4.14, all of the Build Alternatives would result in temporary impacts related to sediment and runoff, noise, vibrations, and navigation.			
Indirect Effects	No	Minimal	Yes	Yes	Yes	Yes
			As discussed in Section 4.19.3 of the DEIS, the Build Alternatives would have minimal indirect effects on ecosystems or socio-economic resources. As discussed in Section 4.16.1, tolling would result in indirect effects on the non-tolled route due to traffic diverting to avoid the toll.			
Cumulative Effects	No	Yes	Yes	Yes	Yes	Yes
			As discussed in Section 4.16.2, the Build Alternatives would contribute to the cumulative effects on the viewsheds of the Church Street East Historic District and Lower Dauphin Street Historic District, which would further diminish the settings of these districts. The potential for cumulative noise impacts was also considered in this Supplemental DEIS. The design year traffic projections used for the noise analysis include 20 years of growth and include planned and programmed projects. As a result, the noise impacts described in Section 4.10 include predicted growth and represent both direct and cumulative noise impacts.			

** Based upon information contained in 2014 DEIS*

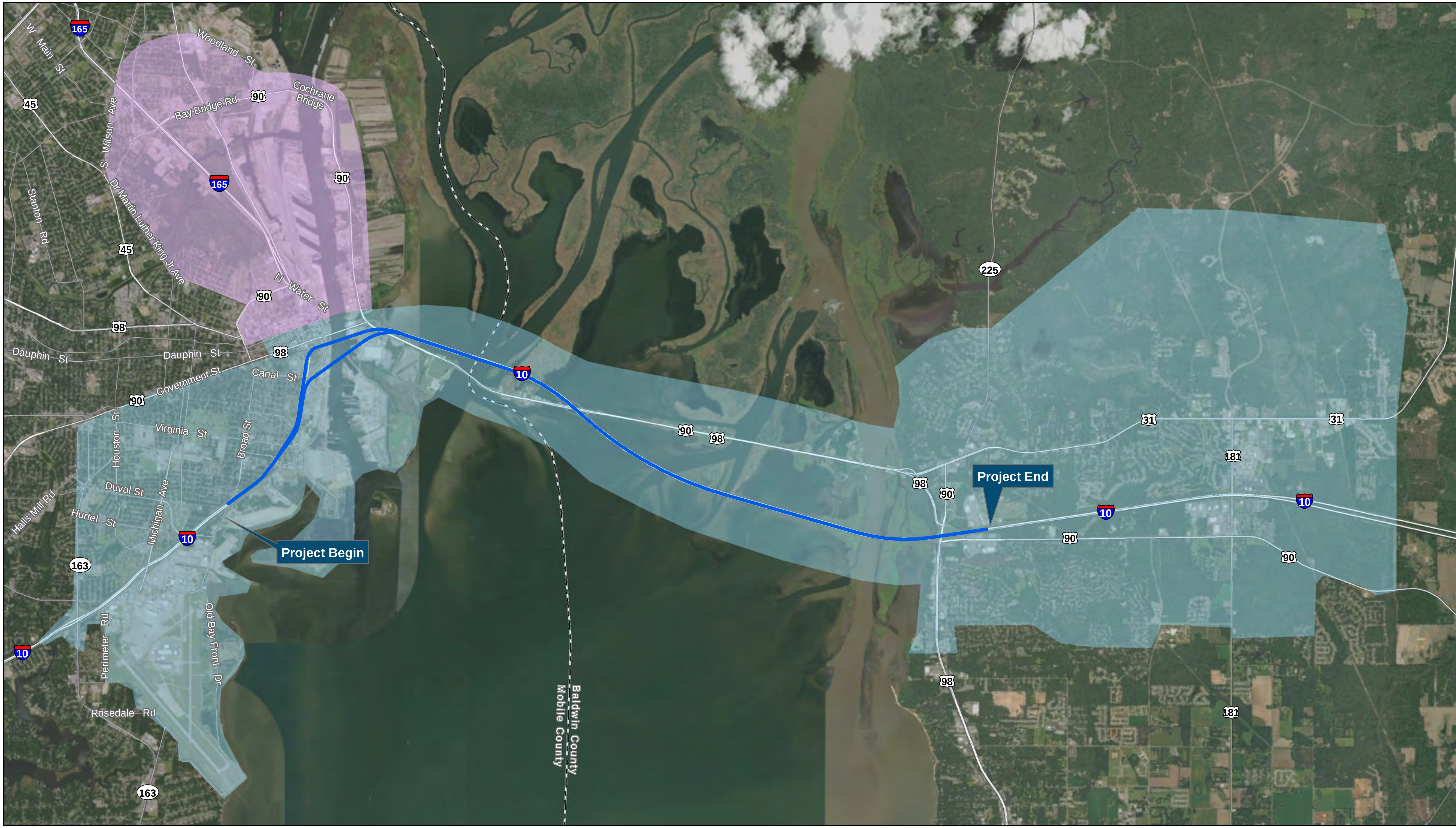
4.16 Indirect and Cumulative Effects

4.16.1 Indirect Effects

The DEIS did not evaluate the indirect effects that may result from tolling because tolling was not proposed in the DEIS. This Supplemental DEIS addresses the potential indirect effects that could occur as a result of tolling. A new geographic landscape that covers I-165 to US-90/US-98 is shown on **Figure 25**. Updates to indirect effects that may be experienced along the Bay Bridge Road to US 90/98 interchange in Daphne are also evaluated in this Supplemental DEIS.

The primary indirect effects related to tolling are those associated with traffic diverting from the tolled route to the non-tolled route. The IMR predicts that traffic congestion along Bay Bridge Road, Cochrane-Africatown USA Bridge, US-90 between the Cochrane-Africatown USA Bridge and the Bankhead Tunnel, and the US-90/US-98 Causeway will increase at a faster rate with the project than without it. To address predicted increases in traffic congestion along the non-tolled route, ALDOT will develop an access management plan to help facilitate access to and from destinations along the US-90/US-98 Causeway. Strategies included in this access management plan may include installing traffic signals, medians with U-turns, mid-block signals, as well as other appropriate techniques. The access management plan will be implemented prior to tolling commencement. The potential improvements along the US-90/US-98 Causeway would be constructed within existing ALDOT right-of-way and would not result in additional environmental impacts beyond what is presented in this Supplemental DEIS.

In addition to increased congestion and access concerns along non-tolled routes that receive diverted traffic, other indirect effects that can occur from traffic diversion may include increases in traffic noise and changes in air quality. In addition to the projected noise impacts discussed in Section 4.10, the redistribution of traffic due to tolling could affect development patterns in the project area resulting in indirect noise impacts



ALABAMA DEPARTMENT OF TRANSPORTATION
I-10 MOBILE RIVER BRIDGE
AND BAYWAY PROJECT
PROJECT No. DPI-0030 (005)
MOBILE AND BALDWIN COUNTIES, ALABAMA

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Digital Globe 2017

4,000 0 4,000 Feet

0 1 2 Miles

LEGEND

- Preferred Alternative
- I-165 to US-90/98 Lanscape
- Approved DEIS Area of Potential Indirect Impacts

FIGURE 25
AREAS OF POTENTIAL INDIRECT IMPACTS

PROJECT NO.: 15-1101-0300

DATE: FEBRUARY 2019

Date 2/27/2019

beyond the project limits. However, in general, the resulting noise level increases are minimal.

Section 4.11 addresses potential air quality impacts, and changes in traffic patterns and development patterns are not expected to result in levels of pollutants that exceed the NAAQS.

Section 4.6 and **Appendix E** contain an analysis of the potential indirect effects that may be experienced by EJ populations in the Africatown/Plateau community. As noted in Section 4.6, the Africatown/Plateau community is expected to experience adverse impacts from traffic diverting to the non-tolled route. To offset these impacts, the mitigation measures described in **Table 15** will be implemented. Implementation of the mitigation measures will offset the identified disproportionately high and adverse impacts on EJ populations.

4.16.2 Cumulative Effects

Table 29 of the DEIS lists industrial and commercial development that could contribute to cumulative impacts on resources. As discussed in Section 4.1, additional industrial and commercial development has occurred since the DEIS was signed. Also, the USACE is currently evaluating a Supplemental EIS to evaluate the potential effects of a proposal by the ASPA to increase the depth of the Mobile Harbor from 48 to 50 feet and widen a portion of the harbor by 100 feet for approximately three miles. The Notice of Availability for the *General Reevaluation Report with an Integrated Supplemental EIS* was published on July 20, 2018. According to the USACE, the proposed Mobile Harbor project would have minimal impacts on aquatic resources and would contribute to an already growing economy by improving the competitiveness of the Port of Mobile. The changes in commercial and industrial development do not alter the conclusions of the cumulative impacts analysis presented in the DEIS for the following resource categories: water quality, aquatic resources, and economy.

The potential for cumulative noise impacts was also considered in this Supplemental DEIS. The design year traffic projections used for the noise analysis show decreased traffic on the I-10 corridor even with the planned and programmed projects. As a result, the noise impacts described in this section are reduced and include predicted decreases in noise levels. However, the noise impacts still represent both direct and cumulative noise impacts along the corridor. The tolling associated with the project is resulting in a redistribution of traffic leading to higher traffic volumes and indirect noise effects beyond the project limits. The traffic is being redistributes to the previously identified areas along Bay Bridge Road and the US-90/US-98 Causeway. As a result, the noise impacts include predicted growth and represent both indirect and cumulative noise impacts.

Subsequent to the DEIS, FHWA changed its determination of effects on historic properties from no adverse effect to an adverse visual effect on the Church Street East and Lower Dauphin Street Historic Districts. FHWA, in consultation with the Section 106 Consulting Parties, concluded that when the proposed project is combined with the visual effects of the numerous other modern structures within view that were constructed in the past, a cumulative impact would occur. The cumulative impact on the historic districts' viewsheds will further diminish the settings of these historic districts. In order to avoid, minimize, or mitigate the adverse cumulative effects that may result from the proposed project, ALDOT is working with the Section 106 Consulting Parties to develop a Section 106 MOA (see **Appendix L**) that specifies measures to be implemented during the design, construction, and post-construction phases of the project. With the implementation of those measures, the contribution of the cumulative effects of the proposed project on the Church Street East and Lower Dauphin Street Historic Districts is expected to be limited.

4.17 Permits

Continued coordination with agencies will be needed to meet the goal for the project to advance quickly to permitting and construction once FHWA issues the FEIS/ROD.

USCG Bridge Permits

Bridge permits from the USCG will be required for the Mobile River Crossing and for the I-10 Bayway Crossings of the Tensaw, Apalachee, and Blakeley Rivers. The USCG is a Cooperating Agency on this project.

Section 401/404/10 Joint Permit Application and Notification (Individual Permit)

A Section 401/404/10 Joint Permit Application and Notification (Individual Permit) will be required for the proposed project. A Coastal Zone Consistency Determination will be issued as part of this joint permit in order to satisfy the requirements of the Coastal Area Management Program. The USACE is a Cooperating Agency on this project. Coordination will be maintained with the USACE to ascertain specific permit requirements under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the CWA as more detailed design is performed. The USACE's Operations Division will perform a Section 408 review of the project concurrently with the review of the Joint Permit Application. The purpose of the Section 408 review is to verify that the project would not adversely impact any existing Federal project, such as the Mobile River Navigation Channel.

Federal Aviation Administration Forms 7460-1 and 7460-2

FAA Forms 7460-1 and 7460-2 will be required to obtain permits for permanent project components, such as the towers, main span, cables, and lighting, as well as temporary, construction-related project components, such as cranes. Form 7460-1 is a Notice of Proposed Construction or Alteration, which must be submitted during the design phase to obtain input from the FAA that might affect design considerations or requirements. Draft Forms 7460-1 have been submitted by ALDOT to the FAA for preliminary review and feedback. FAA has not provided a response to this submittal at the time this Supplemental DEIS was published. Form 7460-2 is a Notice of Actual Construction or Alteration, which must be submitted and approved prior to commencing construction. Coordination with the FAA will include beacon lighting requirements.

Section 7 Endangered Species Act, Incidental Take Permit for Gulf Sturgeon and Red-Bellied Turtle

Special coordination and formal consultation activities have been conducted with the USFWS related to the Endangered Species Act. An Incidental Take Permit from USFWS was required because of the possibility of inadvertent harm to Gulf sturgeon and Red-bellied turtle as a result of construction activities related to the Bayway widening. A Biological Opinion/Incidental Take Permit was granted by the USFWS and is included in Appendix A of the DEIS.

Section 402 of the Clean Water Act, National Pollutant Discharge Elimination System (NPDES) Construction General Permit

A NPDES Construction General Permit will be obtained from ADEM for construction of the proposed project. The NPDES permit requires implementation of appropriate BMPs and monitoring that will minimize impacts to water quality throughout the project. BMPs will be developed as provided in the *Alabama Handbook for Erosion Control, Sediment Control, and Storm Water Management on Construction Sites and Urban Areas.* BMPs and a monitoring plan, including special provisions to adhere to ADEM requirements for a priority construction site that crosses impaired waterbodies listed pursuant to Section 303(d) of the CWA, will be required.

4.18 Environmental Commitments

Comments have been received from the public, resource agencies, consulting parties, businesses, community groups, and other stakeholders addressing environmental and design features that should be considered as the project advances.

4.18.1 DEIS Environmental Commitments

The following is a list of environmental commitments contained in the DEIS.

Lighting: Lighting associated with the bridge approaches, ramps, and roadway widening will be designed so that light levels at the ROW boundary will be less than or equal to

the existing light levels. ALDOT is committed to designing roadway and bridge lighting that provides necessary lighting to meet design criteria while minimizing light pollution to the extent that is practical for the traveling public and its safety. Measures, including shielding, to minimize light pollution on historic resources, environmental justice communities, and others will be developed with input from the SHPO and local stakeholders and incorporated into a Memorandum of Agreement (MOA) developed prior to and included in the FEIS. Strobe lights to prevent collision and nesting by migratory fowl will be addressed in the FEIS in coordination with the USFWS. During the design phase, lighting will also be coordinated with the USCG for navigational requirements and the FAA for air traffic requirements.

Hazardous Materials: Further investigation (subsurface soil and groundwater testing where appropriate) will be done for the preferred alignment and documented in the FEIS for hazardous materials sites deemed moderate to high risk.

Cultural Resources (Archeology, Battleship Park, Visual Effects, and Vibration Considerations):

- Archaeology: Phase II archaeology testing will be coordinated with the SHPO and performed as part of the investigation of the Preferred Alternative in the FEIS if sites cannot be avoided. Additional coordination with the SHPO will be conducted on methods to minimize impacts to historical archeological resources as well as to define areas not previously surveyed, and, if required, a Phase I archeological investigation will be conducted in these areas. This information will also be included in the FEIS.
- Historic, Battleship Park: ALDOT will coordinate with SHPO, USS Alabama Battleship Memorial Park Commission, and the consulting parties to determine location and type of signs for the USS Alabama Battleship Park. Any resulting decisions will be documented in the FEIS.

- Historic, Visual: Visual effects of the proposed project and opportunities to incorporate context-sensitive design features have been and will continue to be discussed with the SHPO and Section 106 Consulting Parties through the Section 106 process as the design of the project develops. Through this coordination, a reasonable planting plan will be developed in an effort to maintain the tree canopy.
- Vibrations: ALDOT will conduct a study to evaluate potential vibration impacts for pile driving and to help identify construction methodologies that would avoid vibration impacts to historic properties in proximity to the project. A construction vibration monitoring system will be developed during the design phase and used during construction as needed so that buildings within an affected range, as determined by the ALDOT vibration research study, can be monitored and documented before, during, and after construction. ALDOT will avoid vibration impacts to cultural resources.

Bridge Aesthetics: Input related to bridge aesthetics and contextual design will be sought during the coordination of the FEIS. In addition, ALDOT will coordinate during the design phase with stakeholders, SHPO, and Section 106 Consulting Parties on bridge aesthetics to design an attractive yet functional and economical bridge.

Pedestrian and Bicycle Facilities:

- Proposed Accommodations: ALDOT is committed to providing pedestrian and bicycle facilities across the Mobile River. This may be via Cochrane Bridge or Bankhead Tunnel. Additional information will be presented at the DEIS Public Hearing for public input.
- Crepe Myrtle Trail and Eastern Shore National Recreation Trail/I-10 Scenic Underpass Trail: Piers for the proposed bridge will be placed to avoid impacting the Crepe Myrtle Trail and the Eastern Shore National Recreation Trail/I-10

Scenic Underpass Trail. Access to the I-10 Scenic Underpass Trail will be maintained.

Drainage: The project's surface runoff collection systems will be designed to minimize increased drainage that could result from the project. ALDOT will coordinate with the City of Mobile during the design phase for the Selected Alternative to address compatibility with city drainage improvement programs.

Bayway Construction: In consultation with resource and regulatory agencies, the following commitments were made to minimize impacts to natural resources:

- Construction will be performed utilizing segmented barges between the existing Bayway lanes. Barge segments would be linked together to serve as a construction platform and "leapfrogged" ahead using cranes as construction progresses. This same methodology will be used to construct the outside addition to the Bayway for the I-10/US 98 exit ramp.
- Duration of barge segments in a particular location should not exceed 30 days.
- Concrete materials removed from the existing inside bridge rail would not be allowed to fall into the water and would be collected for transport to a suitable disposal site.

Essential Fish Habitat (EFH), SAV and Wetlands and Coastal Zone: A draft mitigation plan will be developed for wetlands, SAV, EFH, and the Coastal Zone and included in the FEIS for impacted resources, as appropriate.

- EFH: Further coordination with the National Marine Fisheries Service (NMFS) on EFH will be documented in the FEIS and coordination continued during the permitting phase for any NMFS conservation recommendations. A final mitigation plan that includes in-kind mitigation for each habitat type impacted will be developed prior to construction as necessary.

- Wetland and SAV Surveys: Wetland and SAV surveys will be conducted during the permitting phase to delineate resources that will be impacted and to provide a basis for determining appropriate mitigation measures. Appropriate mitigation measures will be developed in consultation with resource and regulatory agencies including US Corps of Engineer, USFWS, NMFS, and ADEM. A final mitigation plan will be developed during the permitting phase prior to construction and will include specific mitigation measures determined to be reasonable for the project.
- Coastal Zone: ALDOT will coordinate with ADEM to develop practical atypical construction best management practices deemed necessary during the permitting process.

Protected Species: The USFWS issued an Incidental Take statement and prescribed reasonable and prudent measures to be taken as well as Terms and Conditions that must be met for the Incidental Take provisions to be valid. The ALDOT will meet these Terms and Conditions and coordinate with the USFWS during project development and implementation. The reasonable and prudent measures along with the Terms and Conditions are as follows:

- Work areas within the defined project area should be fenced to exclude Red-bellied turtles.
- All equipment staging areas located along the Causeway will be selected in cooperation with the USFWS and fenced to exclude Red-bellied turtles.
- Fencing shall be monitored and properly maintained for the duration of the project.
- Work areas within the project corridor should be cleared of Gulf sturgeon and
- Red-belled turtles prior to placing work barges in the enclosures.
- Work areas that are not enclosed with mesh fencing will be cleared daily of turtles or sturgeon that might have entered the area.

- Catch barges or vehicles shall be used to collect and remove debris resulting from the modification of the existing bridge structures.
- Monitoring for dead, sick, or injured turtles or sturgeon should be conducted on a daily basis.
- In those areas where barges will rest on the bay bottom, mesh fencing or floating silt curtains, with a maximum 2" by 2" mesh, will be attached to existing support columns to exclude turtles and sturgeon from the work area. This fencing will be installed prior to moving barges along the work area and removed when work in the area is completed.
- Staging areas are those areas where equipment will be stored overnight or longer periods of time. These areas will be fenced using silt fence where possible. If fencing is impossible, the area should be surveyed and cleared before vehicles are moved and all turtles removed and released into adjacent habitats.
- Prior to placing platform work barges in place, the work area within the project area will be cleared of sturgeon and turtles by trained personnel familiar with the species and permitted to take these species. Alabama Red-bellied turtles should be sexed, aged, measured, and weighted before releasing in suitable habitat outside the project area. Gulf sturgeon should only be removed from the water long enough to photograph for identification.
- The concrete portions of the existing bridges to be removed will be placed on catch barges or vehicles and later taken to the Gulf for the creation of fish habitat structures. Determining location of these structures should be coordinated with the Alabama Department of Conservation and Natural Resources, Marine Resources Division.
- Upon locating a dead, injured, or sick individual of an endangered or threatened species, initial notification must be made to the Fish and Wildlife Service Ecological Services Division at the Daphne Field Office. Care should be taken in

handling sick or injured individuals and in the preservation of specimens in the best possible state for later analysis of cause of death or injury.

The project will conform to the specified incidental take provisions and ALDOT will maintain appropriate coordination with the USFWS.

4.18.2 Updated Environmental Commitments

The environmental commitments have been updated based upon changes that have occurred since the DEIS was signed. The revised environmental commitments would be the same for all of the Build Alternatives.

Table 19 displays the draft environmental commitments for the proposed project. The FEIS/ROD will contain the final list of environmental commitments to be carried forward through the design, construction, and post-construction phases.

TABLE 19: DRAFT ENVIRONMENTAL COMMITMENTS

	SUPPLEMENTAL DEIS COMMITMENT	CHANGE FROM DEIS	SOURCE OF COMMITMENT
Lighting			
1	Lighting associated with the bridge approaches, bridges, ramps, roadway widening, and other components of the project shall be designed to meet current design criteria, while minimizing light pollution. Measures to minimize light pollution on residential areas along I-10 shall be incorporated into the project through the use of light shielding technology, fixtures, and other means as appropriate. Measures to minimize light pollution on historic resources will be developed with input from the SHPO and Section 106 Consulting Parties through the Aesthetic Steering Committee. ALDOT will consult with the FHWA, the Aesthetic Steering Committee, and the selected design team during the design phase to ensure compliance with the Section 106 MOA.	Language updated to remove the commitment to provide light levels at the ROW boundary that are less than or equal to the existing light levels. ALDOT is required to provide lighting that meets design criteria for the traveling public and safety. Committing to light levels equal to or less than existing light levels is not reasonable as the project adds new transportation facilities that will require roadway lighting for the safety of the traveling public. The Aesthetic Steering Committee was created subsequent to the DEIS and will have a role in approving the lighting plan as part of the aesthetic and landscape plans.	Section 106 MOA
2	In order to incorporate the newest technology available at the time of construction, lighting fixtures will not be specified until later in the design process.	In response to comments received after the DEIS from local area residents, including EJ areas, as well as the Section 106 Consulting Parties, ALDOT has committed to selecting light fixtures later in the design process to make sure that the latest available technology is used for the project.	Section 106 MOA, Section 4.12
3	To prevent or minimize collision and nesting by migratory fowl, the maximum allowable duration for strobe (beacon) lighting on the bridge tower(s) will be requested in the FAA permit application(s) for the project. These lighting requirements will be coordinated with the USCG for compliance with navigational lighting requirements and the FAA for air traffic requirements as part of the permitting process.	The DEIS commitment stated that strobe lights to prevent collision and nesting by migratory fowl would be addressed in the FEIS. Coordination with the USFWS since the DEIS indicates that ALDOT's commitment to request the maximum allowable duration for strobe lighting on the Mobile River Bridge towers will satisfy USFWS's request regarding strobe lighting to minimize impacts to migratory birds.	USFWS, Telephone Memo, November 1, 2018, Appendix I
4	Lighting shall be designed to minimize light spill into water to avoid and/or minimize impacts on aquatic species.	DEIS discussed need to minimize light spill into water but did not have a specific commitment.	USFWS, Telephone Memo, November 1, 2018, Appendix I
Bridge Aesthetics			
1	Opportunities to incorporate bridge aesthetics and contextual design of the proposed project will be developed as the design progresses with input from the SHPO and Section 106 Consulting Parties through the Aesthetic Steering Committee. Aesthetic and landscape plans for areas within ALDOT's right-of-way, including areas beneath the bridge, will be developed and implemented. The Aesthetic Steering Committee has reviewed preliminary plans from the proposing teams and provided feedback to ALDOT. The Aesthetic Steering Committee will review and provide feedback to ALDOT on revised preliminary and final aesthetic and landscape plans submitted by the proposing teams and ultimately the winning team for their compatibility with the Aesthetic Guidelines.	The DEIS commitment stated that input related to bridge aesthetics would be sought during the FEIS. ALDOT also committed to working with stakeholders, SHPO, and Section 106 Consulting Parties to design an attractive yet functional and economic bridge. Subsequent to the DEIS, ALDOT created an Aesthetic Steering Committee comprised of stakeholders and Section 106 Consulting Parties to provide input on bridge aesthetics. The language of this commitment has been updated to reflect the Committee's involvement in the process.	Section 106 MOA
Cultural Resources: Historic, Visual			
1	Opportunities to incorporate bridge aesthetics and contextual design of the proposed project will be developed as the design progresses with input from the SHPO and Section 106 Consulting Parties through the Aesthetic Steering Committee. ALDOT will consult with the FHWA, the Aesthetic Steering Committee, and the selected design team during the design phase to ensure compliance with the *Section 106 Memorandum of Agreement*.	The language of this commitment has been updated from the DEIS language to provide more details on the requirement for a landscape and management plan and to identify the role of the Aesthetic Steering Committee in reviewing that plan.	Section 106 MOA
2	ALDOT understands the importance of maintaining and improving the tree canopy within downtown Mobile in areas that are outside of ALDOT's right-of-way. To achieve this, ALDOT has partnered with the City of Mobile in the *Right Tree, Right Place* program. This program places appropriate trees and landscaping throughout the City of Mobile. ALDOT has committed to contribute $50,000 to the *Right Tree, Right Place* program to help maintain and improve the tree canopy in downtown Mobile. The City of Mobile will be responsible for administering this money. The *Right Tree, Right Place* Committee will make sure that trees and landscaping are implemented within the City's right-of-way that are compatible with the setting and comply with municipal regulations.	Subsequent to the DEIS, ALDOT committed to partnering with the City of Mobile by contributing funds to the City's new *Right Tree, Right Place* program in an effort to protect and improve the tree canopy within the City's jurisdiction.	

	SUPPLEMENTAL DEIS COMMITMENT	CHANGE FROM DEIS	SOURCE OF COMMITMENT
Cultural Resources Archaeology			
1	No ground-disturbing activities will be allowed on any parcels containing identified or potential archaeological sites until Phase I, Phase II, and/or Phase III investigations are complete and the results have been coordinated with the SHPO and tribes.	The DEIS stated that Phase II archaeology testing would be coordinated with SHPO and performed for the Preferred Alternative in the FEIS. Additional Phase I investigations would also be conducted on areas not previously surveyed. Since the DEIS, extensive archaeological investigations have been undertaken and the environmental commitments have been updated to reflect the current status of archaeological investigations.	Section 106 MOA
2	Efforts will be made to avoid and/or minimize impacts on archaeological sites listed on, eligible for, or potentially eligible for listing on the NRHP. For sites where impacts cannot be avoided, mitigation will be performed in the form of Phase III Data Recovery or other approved alternative mitigation plans, as coordinated with the SHPO and tribes. Where required, Phase III Data Recovery investigations will be performed at affected parcels once specific impact locations are known and prior to commencement of ground-disturbing activities.		
Cultural Resources: Historic, Battleship Park			
1	Existing access to the USS ALABAMA Battleship Memorial Park will not be altered in the final condition of this project. Access to the USS ALABAMA Battleship Memorial Park will be maintained before, during, and after construction of the proposed project.	This is a new commitment to address access to the park.	Section 106 MOA
2	In order to improve signage directing travelers to the Park, ALDOT has developed a preliminary signage plan for the USS ALABAMA Battleship Memorial Park including proposed locations and types of signs. The plan was developed with input from the SHPO and the USS ALABAMA Battleship Memorial Park Commission. New signs are proposed to supplement the existing signs along the I-10 corridor. The signs will direct travelers from I-10 to the Park. ALDOT will meet with the USS ALABAMA Battleship Memorial Park Commission to finalize the signage plan prior to approving the final signage plan before construction begins.	The DEIS committed to coordinating with the SHPO and USS ALABAMA Battleship Memorial Park to determine the location and type of signs to direct travelers to the park. The language has been updated to reflect the status of this coordination and commitments to future coordination.	
Vibrations			
1	In order to avoid vibration impacts on structures, Concessionaire shall: - Limit vibration to a maximum level of 0.5 inch per second for modern structures and 0.1 inch per second for historic structures at the location of the structure. - Survey and monitor for potential vibration damage for all modern structures within 150 feet of vibration-causing construction operations and all historic structures within 250 feet of vibration-causing construction operations. In addition, due to concerns raised by the Section 106 Consulting Parties, vibrations will also be monitored at Christ Church Cathedral, Old City Hall (History Museum of Mobile), Condé-Charlotte Museum House, Phoenix Fire Museum, Austal, the Wallace Tunnel, and the Bankhead Tunnel. These structures are well beyond the distance where vibration levels of 0.5 and 0.1 inch per second were projected to occur based on the vibration study and, therefore, represent conservative survey distances to ensure adjacent structures are not damaged. - Concessionaire shall obtain the services of a competent vibration or seismologist consultant to conduct vibration surveys and monitor and record ground vibrations during the entire demolition and construction phase operations. If at any time the maximum vibration level is exceeded, the Concessionaire will be required to make appropriate changes to reduce vibration to acceptable levels prior to continuing operations.	The DEIS did not contain details on the vibration thresholds that would be implemented as part of the proposed project. The Final Vibrations Study was completed after the DEIS was signed in 2014. The updated language of this commitment specifies distances within which structures will be monitored during construction; lists specific structures that will be monitored; and provides more information on requirements for monitoring, documentation, and repair should damage occur.	Final Vibrations Study (Appendix M), Section 106 MOA
2	Prior to acceptance of the project, Concessionaire shall be required to submit a vibration report covering the life of the project. Photographic, video and other surveys of surrounding structures and utilities (pre-construction and post-construction) will be made as part of the documentation record.		
3	Any damage to historic structures due to vibration levels above the maximum shall be repaired/restored in accordance with ALDOT Specification 107.12, 107.14 and 107.15 Protection and Restoration of Property, Landscape and Utility Facilities, 36 CFR 800.12 Emergency Situations and 36 CFR 68 The Secretary of Interior's Standards for the Treatment of Historic Properties.		
Final Section 106 Memorandum of Agreement			
1	The *Section 106 Memorandum of Agreement* will be finalized and signed by the FHWA, SHPO, ALDOT, and ACHP prior to the FEIS/ROD.	Not included in DEIS	Section 4.13

	SUPPLEMENTAL DEIS COMMITMENT	CHANGE FROM DEIS	SOURCE OF COMMITMENT
Bicycle and Pedestrian Facilities			
1	ALDOT's preferred route is a bicycle/pedestrian facility from downtown Mobile via the Cochrane-Africatown USA Bridge and then to the USS ALABAMA Battleship Memorial Park. This route includes funding and building a bicycle and pedestrian shared use path from the I-165 southbound on-ramp at Bay Bridge Road to the Cochrane-Africatown USA Bridge. ALDOT will retrofit the Cochrane-Africatown USA Bridge to provide two protected bicycle and pedestrian lanes (one on each side of the bridge). The bicycle and pedestrian path will be a minimum of eight feet wide.	The DEIS commitment stated that ALDOT would provide pedestrian and bicyclist facilities across the Mobile River via Cochrane Bridge or Bankhead Tunnel. ALDOT has subsequently identified a preferred bicycle and pedestrian route. The language in this commitment has been updated to include details on ALDOT's bicycle and pedestrian commitment to provide facilities that cross the Mobile River.	ALDOT, Section 3.8
2	ALDOT will work with local municipalities and the Bicycle and Pedestrian Advisory Committees to extend this route to downtown Mobile and to the USS ALABAMA Battleship Memorial Park.	Not included in DEIS	
3	ALDOT commits to constructing a belvedere (i.e., an overlook that provides a space for people to stop, rest, and enjoy the view) on the bridge at the west main tower. Access to the belvedere will be provided via an elevator and stair tower on the west side of the river.	Not included in DEIS	
4	Crepe Myrtle Trail and Eastern Shore National Recreation Trail/I-10 Scenic Underpass Trail: Piers for the proposed bridge shall be placed to avoid impacting the Crepe Myrtle Trail and the Eastern Shore National Recreation Trail/I-10 Scenic Underpass Trail. Access to the I-10 Scenic Underpass Trail shall be maintained.	No change from DEIS	
5	Existing pedestrian facilities within the project limits will be maintained or replaced to meet design criteria under the Americans with Disabilities Accessibility Guidelines or the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way.	Not included in DEIS	
6	The proposed project will provide pedestrian facilities at the areas under the high level approaches to connect to the elevator/stair tower for the belvedere and along the new South Claiborne Street Extension.	Not included in DEIS	
7	Pedestrian facilities will also provide crossings of I-10 at the Virginia Street, Canal Street/Water Street, and US-90/US-98 East Tunnel interchanges.	Not included in DEIS	
8	In Daphne, pedestrian facilities to provide a crossing of I-10 from north to south will be provided. This path will be via a connection from connecting North Main Street to Old Spanish Trail or another safe and accessible path across I-10 that is developed as part of the final design phase.	Not included in DEIS	
9	Bicycle lanes and/or a shared use path will be provided along the proposed South Claiborne Street Extension and at the following interchanges: Virginia Street, Canal Street/Water Street.	Not included in DEIS	
10	A shared use path will be provided along US-90/US-98 within the project limits at the US-90/US-98 East Tunnel interchange.	Not included in DEIS	
11	The bicycle lanes and/or shared use path along the South Claiborne Street Extension, Virginia Street, and Canal Street/Water Street will provide connectivity to the Crepe Myrtle Trail on the western shore of the Mobile River.	Not included in DEIS	
Drainage			
1	The project's drainage system shall be designed such that post-project flow conditions do not exceed pre-project flow conditions.	Added section on stormwater runoff to Supplemental DEIS and revised language from DEIS commitments	Section 4.8.2
2	Coordination with the City of Mobile shall occur during the design phase to assure compatibility of the project's drainage system with the City's drainage improvement programs.		
3	The project will be designed to achieve sediment reduction load of 80 percent for the D'Olive Creek Watershed.	Added to meet ADEM requirements for a priority construction site.	Section 4.14.1

	SUPPLEMENTAL DEIS COMMITMENT	CHANGE FROM DEIS	SOURCE OF COMMITMENT
Environmental Stewardship – Stormwater			
1	The following activities are ALDOT's Environmental Stewardship Commitments and mitigation measures for stormwater impacts for this project: - Sweeping on the Bayway Bridges: The practice of vacuum sweeping on the Bayway bridges to remove particulates that have accumulated on the shoulders of the bridges is a Best Management Practice that ALDOT has implemented. This is currently performed on a monthly basis as part of a regularly scheduled maintenance activity and will continue to be performed on a monthly basis. - Utilizing OGFC Pavements: ALDOT will utilize open grade friction course (OGFC) pavements on the I-10 roadway segments on the proposed project, excluding bridges and tunnels. - Vegetated Filter Strips: The use of vegetated filter strips on the shoulders and slopes will be evaluated and utilized on this project where practicable. - Environmental Stewardship Projects: ALDOT will continue to partner with local organizations on environmental stewardship projects in a similar manner to the Joe's Branch Step Pool Storm Conveyance project to help improve water quality in ALDOT's Southwest Region.	In response to comments received on the DEIS, ALDOT has reviewed available research on stormwater treatment for bridges with long spans. While there are no specific requirements to provide stormwater treatment on the bridges, ALDOT has committed to environmental stewardship measures listed in this commitment. This is a new commitment that was not included in the DEIS.	Section 4.8.2, Appendix H
Spill Containment			
1	The Concessionaire will be required to prepare a Spill Response Plan that identifies specific measures for mobilizing resources to contain spills that could occur on the main span of the Mobile River Bridge, Bayway bridges, and other portions of the project. The plan will be reviewed and updated by the Concessionaire at least annually to incorporate advances in technological developments related to spill containment measures, as appropriate.	Added to address comments received on DEIS	Section 4.8.4, Appendix H
Bayway Construction			
1	Construction of the Bayway will be performed within the existing Bayway bridges' footprint (outside edge to outside edge) except at the three interchanges (East Tunnel, Mid-Bay, and Eastern Shore US-90/US-98) where construction is permittable outside of the existing Bayway but within ALDOT's existing right-of-way.	The DEIS committed to widening the Bayway between the existing Bayway lanes, except for at the I-10/US 98 exit ramp at the Eastern Shore interchange. The Bayway will now be replaced rather than widened. The language in this commitment allows for construction outside of the existing Bayway at the three interchanges in order to maintain traffic during construction.	Section 3.4
2	Use of barges and/or top-down construction are the preferred construction methodologies for the Bayway. Final construction methodologies will be coordinated with the agencies and fully evaluated as part of the Final Mitigation Plan and the Section 404/401 permit application. Dredging may occur in within the limits of the previously disturbed construction channel in open water areas with water depths of less than six feet and where wetlands are not present.	The DEIS commitment stated that construction of the Bayway would be performed utilizing segmented barges between the existing Bayway lanes. The DEIS was silent on the use of top-down construction and dredging. Based on discussions with the agencies since the DEIS, the language in this commitment has been revised to state that the preferred methodologies are barges and/or top-down construction and that dredging could occur within the limits of the previously disturbed construction channel in open water areas with insufficient water depths to float barges (i.e., less than six feet) where wetlands are not present.	Section 4.14.2
3	In areas where water depths do not allow barges to float, barges shall not be allowed to rest on water bottoms in any particular location for durations of more than 30 days.	Revised to specify that the 30-day limit applies to locations where the barges would rest on water bottoms, not locations where the barges are able to float.	Section 4.14.2
4	Concrete materials shall not be allowed to fall into the water. Concrete materials shall be collected for transport to a suitable disposal site.	No change from DEIS	Section 4.14.2

	SUPPLEMENTAL DEIS COMMITMENT	CHANGE FROM DEIS	SOURCE OF COMMITMENT
Wetlands, Submerged Aquatic Vegetation, Essential Fish Habitat, and Coastal Zone			
1	A Draft Mitigation Plan has been developed for wetlands, Submerged Aquatic Vegetation (SAV), Essential Fish Habitat (EFH), and the Coastal Zone. This Draft Mitigation Plan shall serve as the basis for future coordination efforts with regulatory and resource agencies during the final design, permitting, and construction phases of the Project. Prior to construction, a Final Mitigation Plan shall be prepared that includes mitigation for each habitat type impacted, as necessary to obtain environmental permits.	The DEIS stated that a Draft Mitigation Plan would be prepared and included in the FEIS. Since the DEIS, a Draft Mitigation Plan has been prepared and coordinated with the regulatory and resource agencies, and the language in this commitment has been updated accordingly.	Section 4.7, Appendix F
2	Updated wetland and SAV surveys to delineate resources that will be impacted shall be performed to provide a basis for determining appropriate mitigation measures in the Final Mitigation Plan. Appropriate mitigation measures shall be developed in consultation with resource and regulatory agencies including the U.S. Army Corps of Engineers (USACE), USFWS, National Oceanic Atmospheric Administration (NOAA) - Fisheries, Alabama Department of Conservation and Natural Resources (ADCNR), Alabama Department of Environmental Management (ADEM), and the US Environmental Protection Agency (USEPA).	The DEIS required updated surveys for wetlands and SAV as part of the Final Mitigation Plan. The language has been updated to list the agencies with whom coordination will be required as part of the permitting process.	Section 4.7
3	A monitoring plan shall be implemented for the mitigation area in accordance with the Final Mitigation Plan and environmental permits obtained for the Project.	This language was added to document the requirement for a monitoring plan as part of the Final Mitigation Plan.	Appendix F
4	In order to minimize impacts to aquatic species during pile driving operations in the water, the Concessionaire shall:	This commitment was added to address concerns regarding vibrations from pile driving activities in water on fish.	Section 4.7, Appendix I
-	Use a ramp-up pile driving procedure during the installation of piles in water. This procedure allows for a gradual increase in noise levels so that species have time to leave the area prior to full noise levels being released by pile driving.		
-	Implement an Erosion and Sediment Control Plan to minimize the suspension of sediments in the water during construction.		
5	Coordination with ADEM shall occur to develop practical atypical construction best management practices deemed necessary during the permitting process.	No change from DEIS	
Threatened and Endangered Species			
1	The USFWS issued an Incidental Take Permit and prescribed reasonable and prudent measures to be taken as well as Terms and Conditions that must be met for the Incidental Take provisions to be valid. Coordination with the USFWS during project development and implementation shall be maintained throughout the Project. The reasonable and prudent measures along with the Terms and Conditions are as follows:	No change from DEIS	USFWS Incidental Take Permit, DEIS Appendix A
-	Work areas within the defined project area shall be fenced to exclude Red-bellied turtles.	No change from DEIS	
-	All equipment staging areas located along the Causeway shall be selected in cooperation with the USFWS and fenced to exclude Red-bellied turtles.	No change from DEIS	
-	Fencing shall be monitored and properly maintained for the duration of the project.	No change from DEIS	
-	Work areas within the project corridor shall be cleared of Gulf sturgeon and Red-bellied turtles prior to placing work barges in the enclosures.	No change from DEIS	
-	Work areas that are not enclosed with mesh fencing shall be cleared daily of Red-bellied turtles or Gulf sturgeon that might have entered the area.	No change from DEIS	
-	Catch barges or vehicles shall be used to collect and remove debris resulting from the modification of the existing bridge structures.	No change from DEIS	
-	Monitoring for dead, sick, or injured Red-bellied turtles or Gulf sturgeon shall be conducted on a daily basis.	No change from DEIS	
-	In those areas where barges will rest on the bay bottom, mesh fencing or floating silt curtains, with a maximum 2” by 2” mesh, shall be attached to existing support columns to exclude Red-bellied turtles and Gulf sturgeon from the work area. This fencing shall be installed prior to moving barges along the work area and removed when work in the area is completed.	No change from DEIS	

	SUPPLEMENTAL DEIS COMMITMENT	CHANGE FROM DEIS	SOURCE OF COMMITMENT
-	Staging areas are those areas where equipment will be stored overnight or longer periods of time. These areas shall be fenced using silt fence where possible. If fencing is impossible, the area shall be surveyed and cleared before vehicles are moved and all Red-bellied turtles removed and released into adjacent habitats.	No change from DEIS	
-	Prior to placing platform work barges in place, the work area within the project area shall be cleared of Gulf sturgeon and Red-bellied turtles by trained personnel familiar with the species and permitted to take those species. Alabama Red-bellied turtles shall be sexed, aged, measured, and weighed before releasing in suitable habitat outside the project area. Gulf sturgeon shall only be removed from the water long enough to photograph for identification.	No change from DEIS	
-	Some of the concrete portions of the existing bridges to be removed shall be placed on catch barges or vehicles and later taken to the Gulf for the creation of fish habitat structures as part of the "Roads to Reefs" Program. Determining locations of these structures should be coordinated with the Alabama Department of Conservation and Natural Resources (ADCNR), Marine Resources Division.	Now that the proposed project involves replacing rather than widening the Bayway, additional concrete materials may be available for disposal as part of the "Roads to Reef" program. ALDOT will work with the ADCNR to identify the appropriate quantities and locations.	Section 4.7.3
-	Upon locating a dead, injured, or sick individual of an endangered or threatened species, initial notification must be made to the Fish and Wildlife Service Ecological Services Division at the Daphne Field Office at (251) 441-5864. Care should be taken in handling sick or injured individuals and in the preservation of specimens in the best possible state for later analysis of cause of death or injury.	No change from DEIS	
-	The project shall conform to the specified incidental take provisions, and ALDOT shall maintain appropriate coordination with the USFWS.	No change from DEIS	
2	Concessionaire shall adhere to the Alabama Standard Manatee Construction Conditions.	Subsequent to the DEIS, a Biological Assessment for manatees was prepared and coordinated with the USFWS. Commitments related to manatees during construction have been added to address requirements from USFWS.	Section 4.9, Appendix I
-	The lead project proponent/Concessionaire shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel are responsible for observing water-related activities for the presence of manatees. The Concessionaire shall hire an individual(s) familiar with this species to act as a spotter(s) for manatees during in-water activities.		
-	The lead project proponent/Concessionaire shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973.		
-	All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.		
-	If manatees are seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure their protection. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.		
-	Any collision with and/or injury to a manatee shall be reported immediately to the USFWS in Daphne (251-441-5181).		
-	Temporary signs concerning the manatees shall be posted prior to and during all construction/dredging activities. All signs are to be removed by the lead project proponent/Concessionaire upon completion of the project. A sign measuring at least 3 ft. by 4 ft. which reads *Caution: Manatee Area* will be posted in a location prominently visible to water related construction crews. A second sign should be posted if vessels are associated with the construction and should be placed visible to the vessel operator. The second sign should be at least 8.5" x 11" which reads *Caution: Manatee Habitat. Idle speed is required if operating a vessel in the construction area. All equipment must be shut down if a manatee comes within 50 feet of operation. Any collision with and/or injury to a manatee shall be reported immediately to the U.S. Fish and Wildlife Service in Daphne (251-441-5181).*		
	Environmental Justice		
1	To offset adverse impacts on EJ communities, ALDOT will implement the following mitigation measures:	The EJ commitments are new commitments that have been added due to potential indirect impacts that may result from tolling.	Appendix E

	SUPPLEMENTAL DEIS COMMITMENT	CHANGE FROM DEIS	SOURCE OF COMMITMENT
-	ALDOT will adjust signal timing along the non-tolled route, including Bay Bridge Road, to better accommodate local traffic movements.		
-	Based on current traffic projections, ALDOT will develop an access management plan to help facilitate access to and from destinations along the US-90/US-98 Causeway. Strategies included in this access management plan may include installing traffic signals, medians with U-turns, mid-block signals, as well as other appropriate techniques. The access management plan will be implemented prior to tolling commencement.		
-	ALDOT will provide traffic signals at Union Missionary Baptist Church and Bay Bridge Road Cutoff.		
-	ALDOT will construct the Cochrane-Africatown USA Bridge Shared Use Path from the I-165 ramp at Bay Bridge Road to US-90 on the east side of Mobile River and will work with local municipalities to provide future extensions from downtown to the USS ALABAMA Battleship Memorial Park.		
-	ALDOT will provide crosswalks at signals along Bay Bridge Road to help pedestrians and cyclists cross from one side of Bay Bridge Road to the other.		
-	Landscaping and historical/interpretive signage will be included along the Cochrane-Africatown USA Bridge Shared Use Path.		
-	Paper Mill Road will be resurfaced from Bay Bridge Road to US 43. ALDOT will include streetscaping along this route.		
	ADCNR Public Facilities on US-90/US-98 Causeway		
1	Access to ADCNR's Five Rivers Delta Resource Center, Meaher State Park, and public boat ramps along the US-90/US-98 Causeway will be maintained before, during, and after construction.	These commitments were added to address concerns about access to and the avoidance of acquisition of property from ADCNR facilities along the US-90/US-98 Causeway.	Section 5.0
2	The proposed project will avoid acquisition of property from the Five Rivers Delta Resource Center, Meaher State Park, and public boat ramps along the US-90/US-98 Causeway.		
3	Special care will be taken to avoid nighttime construction noise impacts on Meaher State Park through coordination with the ADCNR.	This commitment was added to address concern about noise impacts on the Meaher State Park during nighttime construction activities.	Section 5.5.3
	Mobile County Metro Jail		
1	Permanent structures shall not be placed on the acquired right-of-way from Mobile County Metro Jail property.	These commitments have been added since the DEIS to address commitments made by ALDOT to Mobile County.	ALDOT and Mobile County
2	The interior recreational fences within the acquired right-of-way from Mobile County Metro Jail property shall not be removed or tampered with.		
3	If access to this property is needed during construction, a temporary fence shall be constructed at the right-of-way line matching the existing fence and meeting the requirements of the Mobile County Metro Jail.		
4	Prior to the completion of the project, the temporary fence must be removed and existing fence must be replaced meeting the same requirements.		
	Access Management Plan		
1	ALDOT will develop an access management plan to help facilitate access to and from destinations along the US-90/US-98 Causeway. Strategies included in this access management plan may include installing traffic signals, medians with U-turns, mid-block signals, as well as other appropriate techniques. The access management plan will be implemented prior to tolling commencement.	These commitments have been added since the DEIS to provide mitigation for potential impacts resulting from diverted traffic along the non-tolled route.	Section 4.16, IMR
	Hazardous Materials		
1	Based upon the 2017 Preliminary Hazardous Materials Investigation Summary of Results:		Section 4.3, Appendix C

SUPPLEMENTAL DEIS COMMITMENT		CHANGE FROM DEIS	SOURCE OF COMMITMENT
-	Dust suppression efforts shall be implemented to minimize dust inhalation at the following sites: Site 2: Harrison Brothers (Tomly Barge), Site 3: Austal (former Mobile Abrasives), and Site 12: Shell Station.	The DEIS committed to performing more detailed studies on potential hazardous materials sites as part of the FEIS. As described in Section 4.3, more detailed studies have been performed and recommended the measures listed as commitments be implemented during construction.	
-	Groundwater encountered during construction shall not be used for potable purposes at any site.		
-	Fuel lines are believed to still be in place on Site 7: Nellena & Stokley Property. An Underground Storage Tank Closure Assessment will be conducted in accordance with ADEM regulations and guidelines after acquisition and as part of the demolition process.		

5.0 DRAFT SECTION 4(f) EVALUATION

This section has been updated to reflect changes in historic properties and adverse effects determined as part of the Section 106 Consultation process.

5.1 Introduction

Section 4(f) of the Department of Transportation Act (80 Stat. 931, Public Law 89-670), as amended, reads as follows: "It is hereby declared to be the national policy that special effort should be made to preserve the natural beauty of the countryside and public parks and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development and Agriculture, and with the states in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of the lands traversed . . . the Secretary shall not approve any program or project, which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local importance as determined by the Federal, state, or local officials having jurisdiction thereof, or any land from a historic site of national, state, or local importance as determined by such officials unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational area, wildlife refuge and waterfowl refuge, or historic site resulting from such use."

The characteristics, potential use, and efforts to avoid or minimize harm to historic properties are described in the following sections of this Draft Section 4(f) Evaluation. This Draft Section 4(f) Evaluation is based on guidance found in FHWA's Section 4(f) Policy Paper dated July 20, 2012, and Technical Advisory T. 6640-.8A dated October 30, 1987. Consultation with the SHPO and the Section 106 Consulting Parties regarding the potential impacts to historic resources within the study area is included in **Appendix L**.

5.2 Section 4(f) and Section 106

Section 106 and Section 4(f) are similar in that they both mandate consideration of historic sites in the planning process of a Federal project. Despite their similarities, however, the two statutes have some key differences. An important distinction between them is that Section 106 considers a project's effects on historic properties, while Section 4(f) considers whether there is a use of a historic property. There is no direct correlation between the term "use" in the context of Section 4(f) and "adverse effect" in the context of Section 106. Section 4(f) has a substantive requirement that requires historic sites to be avoided, while Section 106 requires historic properties to be identified and project impacts to be considered. Section 4(f) stipulates that in order for a historic site to be granted protection, it must be considered significant. The Section 106 process is the method by which a historic site's significance is determined.

FHWA's determination of adverse effect under the Section 106 process (36 CFR 800.5) does not automatically mean that Section 4(f) will apply, nor does a determination of no adverse effect mean that Section 4(f) will not apply in some cases. When a project permanently incorporates land of a historic site, regardless of the Section 106 determination, Section 4(f) will apply. If a project does not permanently incorporate land from a historic property but results in an adverse effect, it is necessary to further assess the proximity impacts of the project in terms of the potential for constructive use. This analysis is necessary to determine if the proximity impact(s) substantially impair the features or attributes that contribute to the NRHP eligibility of a historic site. If there is no substantial impairment, notwithstanding an adverse effect determination, there is no constructive use, and Section 4(f) does not apply. FHWA determines if there is a substantial impairment by consulting with all identified officials with jurisdiction, including the SHPO/THPO and the ACHP (if participating) to identify the activities, features, and attributes of the property that qualify it for Section 4(f) protection and by analyzing the proximity impacts of the project (including any mitigation) on those activities, features, and attributes (23 CFR 774.15(d)(3)). The determination of Section

4(f) applicability is ultimately FHWA's decision, and the considerations and consultation that went into the decision are documented in the project record.

An example of an adverse effect where there is no Section 4(f) use might be construction of a new highway within the immediate viewshed of a historic property that results in an adverse effect finding under Section 106 for the diminishment of setting. It is unlikely that this visual intrusion would reach the threshold of substantial impairment of the attributes which cause the property to be eligible for the NRHP since it would still retain its historic fabric and use features. However, a constructive use could occur when the proximity of the proposed project substantially impairs the aesthetic features or attributes of a property protected by Section 4(f) where such features or attributes are considered important contributing elements to the value of the property.

5.3 Description of Proposed Action

The purpose and need for the proposed project is discussed in Chapter 2.0 of this Supplemental DEIS. Four Build Alternatives (A, B, B', and C) and the No Build Alternative are under consideration, with Alternative B' being identified as the Preferred Alternative.

5.4 Section 4(f) Properties

Historic Resources

The following historic resources have been reviewed as part of this Draft Section 4(f) Evaluation. BAE Maritime Historic District, Oakdale Historic District, Africatown Historic District, Church Street Historic District, Lower Dauphin Street Historic District, and USS ALABAMA Battleship Memorial Park were identified as being affected by the proposed project during Section 106 consultation. These resources are shown on **Figures 23 and 23A** and are discussed in Section 4.13.

In the DEIS, the Union Hall was also included in the Draft Section 4(f) Evaluation. However, as explained in Section 4.13.6 of this Supplemental DEIS, the Union Hall was demolished by its property owner at the time in 2016, and coordination with the SHPO indicates that the property is no longer eligible for listing on the NRHP. Therefore, Section 4(f) no longer applies to this resource.

Archaeological Sites

Additional archaeological sites have been identified since the DEIS. All archaeological sites identified to date are either:

1) Not listed or not eligible for listing on the NRHP or
2) Are listed or eligible for listing on the NRHP when the FHWA concludes that the resources are important chiefly because of what can be learned from data recovery. In these cases, the resources have minimal value for preservation in place. The SHPO has been consulted and has not objected to this finding.

No archaeological sites as of yet have qualified as Section 4(f) resources, and none are expected to quality as Section 4(f) resources. However, should a potentially impacted site be identified that does qualify for protection under Section 4(f), additional evaluation of those impacts will be required.

Recreational Facilities and Wildlife Management Areas

The following recreational facilities have been reviewed as part of this Draft Section 4(f) Evaluation due to changes since the DEIS: ADCNR's Five Rivers Delta Resource Center, Meaher State Park, W.L. Holland and Mobile-Tensaw Delta Wildlife Management Area (WMA), and public boat ramps along the US-90/US-98 Causeway. These resources are shown on **Figure 1** and discussed in Sections 4.4.7 and 5.6 of the DEIS.

5.5 Description of Use and/or Impacts on Section 4(f) Properties

Three types of use or impacts are possible under Section 4(f): acquisition of land, temporary use, or constructive use. Temporary use is the temporary occupancy of a

Section 4(f) property for activities such as regrading slopes or providing construction staging or access areas. Constructive use involves an indirect impact to a Section 4(f) property of such magnitude that it would effectively act as a permanent incorporation.

5.5.1 Acquisition of Land

The only historic Section 4(f) property from which land would be acquired is the BAE Maritime Historic District. Alternative C would require the acquisition of land from this NRHP-eligible historic district. Alternatives A, B, and the Preferred Alternative avoid impacts to this resource.

5.5.2 Temporary Use

The proposed project would not require the temporary occupancy of any Section 4(f) resource. ALDOT does not intend to use boat ramps along the Causeway or areas outside of the project's right-of-way as construction staging areas. The Concessionaire will be responsible for obtaining approval from property owners for use of property not owned by ALDOT as staging areas.

5.5.3 Constructive Use

Per 23 CFR 774.15, a constructive use occurs when a transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished. As outlined in 23 CFR 774.15, impacts on a historic resource protected under Section 4(f) are considered constructive use under the following conditions:

1) Projected noise level increase attributable to the project exceeds the FHWA Noise Abatement Criteria and substantially interferes with the use and enjoyment of a noise-sensitive facility of a Section 4(f) property.

2) Proximity of proposed project substantially impairs aesthetic features or attributes of a Section 4(f) property, where such features or attributes are considered important contributing elements to the value of the property. Examples of substantial impairment to visual or aesthetic qualities would be the location of a transportation facility in such proximity that it obstructs or eliminates the primary views of an architecturally significant historic building, or substantially detracts from the setting of a Section 4(f) property, which derives its value in substantial part due to its setting.
3) Access is restricted to the point that it substantially diminishes the utility of a significant publicly owned park, recreation area, or historic site.
4) Vibration impacts from construction or operation of the project substantially impair the use of a Section 4(f) property, such as when vibration levels are great enough to physically damage a historic building or substantially diminish the utility of the building, unless the damage is repaired and fully restored, i.e., the integrity of the contributing features are returned to a condition which is substantially similar to that which existed prior to the project.

Noise

Appendix H of the DEIS contains a detailed traffic noise analysis that was conducted for the entire project study area using FHWA's Traffic Noise Model. An addendum to the traffic noise analysis was prepared using updated traffic projections and is included in Appendix J of this Supplemental DEIS. **Table 20** lists those Section 4(f) properties experiencing noise impacts exceeding the FHWA's NAC in the 2040 Build scenario. The table indicates how many impacted receptors each property has and the increase/ decrease in the projected noise levels if the proposed project is constructed, when compared with the projected noise levels of the project is not built.

TABLE 20: SUMMARY OF POTENTIAL NOISE IMPACTS AT SECTION 4(F) PROPERTIES

Section 4(f) Property	Number of Impacted Receptors	Change in dBA between 2040 Build and 2040 No Build
Oakdale Historic District	104	Decrease between 0.1 – 4.1 dBA at 100 receptors
		No change in dBA at 1 receptor
		Increase up to 0.4 dBA at 3 receptors
Church Street East Historic District	1	Decrease of 1 dBA
Africatown Historic District	2	Increase of 1.7 dBA
Meaher State Park	1	Increase of 0.7 dBA

The modeled increases in projected noise levels at these receptors would not exceed 3 dBA between the 2040 No Build and Build scenarios, which, according to FHWA's Highway Traffic Noise: Analysis and Abatement Guidance, 2011, is barely perceptible by the human ear. Per 23 CFR 774.15(f)(3), FHWA has reviewed and determined that a construction use does not occur when the increase in in the projected noise levels if the proposed project is constructed, when compared with the project noise levels if the project is not built, is 3 dBA or less.

Construction noise is anticipated to temporarily increase noise levels in the immediate vicinity of the construction sites for the project. Construction-related noise would be mitigated in accordance with ALDOT procedures and noise ordinances adopted by the City of Mobile, City of Daphne, and City of Spanish Fort, which place restrictions on nighttime construction activities near residential areas. Special care will be taken to avoid nighttime construction noise impacts on Meaher State Park through coordination with the ADCNR.

Visual Effects

Under Section 4(f), two issues related to visual effects must be evaluated in order to determine potential impacts on a resource's viewshed. These factors include an assessment of the change in the view of the resource and an assessment of the view from the resource. Adverse visual effects were identified during Section 106 consultation for the Church Street East Historic District and the Lower Dauphin Street

Historic District. Visual impacts were not identified as a concern for the recreational facilities and wildlife management area.

Views of Resources with the Proposed Project

The Church Street East Historic District and the Lower Dauphin Street Historic District were evaluated to determine the potential effects of the Build Alternatives on views of these districts from ground level.

The Church Street East Historic District and Lower Dauphin Street Historic District are located in downtown Mobile north of the Build Alternatives. The views of these properties from ground level are currently impaired by the existing I-10 elevated structures, such as interchange ramps and mechanical buildings for the Wallace Tunnel, as well as utilities, signs, and modern multi-story buildings.

The proposed project would remove the elevated I-10 ramp structures at the Canal Street/Water Street Interchange and replace the interchange with at-grade connections that could improve the primary viewpoints of the Church Street East Historic District and the Lower Dauphin Street Historic District for viewers at ground level. Additionally, the proposed high level approaches leading to the main span of the Mobile River Bridge would not obstruct or eliminate the primary viewpoints of the Church Street East Historic District or the Lower Dauphin Street Historic District from viewers at ground level. Therefore, the proposed project's effects on the views of the resources would not constitute constructive use. Views of the historic districts may also be enhanced by the construction of a belvedere at the bridge tower on the west side of the Mobile River, which will offer a new vantage point of the downtown historic districts from a higher perspective than currently exists.

Views from Resources with the Proposed Project (Setting)

A Viewshed Impact Assessment to address the assessment of the view from the resources was completed to identify and describe potential visual effects resulting from construction of the proposed project and is contained in Appendix J of the DEIS.

Renderings from the Viewshed Impact Assessment that pertain to the Church Street East Historic District and the Lower Dauphin Street Historic District are contained in **Appendix L** of this Supplemental DEIS for reference.

Per 23 CFR 775.15(f)(5), substantial impairment under Section 4(f) occurs only when the activities, features, or attributes of the property that qualify it for protection under Section 4(f) are substantially impaired. "Substantially impair" is used in the following sections to describe the project's level of impairment on Section 4(f) properties. The term "substantial" is used in the following sections and in the Viewshed Impact Assessment to describe the assessment of the project's visibility from various resources and does not describe the project's level of impairment on Section 4(f) properties. Section 4.13 of this Supplemental DEIS provides a summary of NRHP eligibility and visual effects on cultural resources. Section 4.16 and Appendix J of the DEIS contain detailed descriptions of each of the historic resources.

Infill buildings and structures are located within the viewshed of the Church Street East and Lower Dauphin Street Historic Districts. When combined with the modern infill that has occurred throughout the past, the proposed project would have adverse visual effects on these Section 4(f) resources. The proposed project would insert a large modern structure into the skyline to the southeast of the districts. The new bridge and its approaches would be visible from various locations within the districts. The proposed project would also introduce a new light source that would be visible from the districts. The proposed project would include the relocation of the existing elevated I-10 ramps to ground levels, which will remove one of the current modern intrusions in the viewsheds of the districts.

Visual effects will indirectly alter the characteristics of the Church Street East Historic District and Lower Dauphin Street Historic District in a manner that would diminish the integrity of the districts' setting, feeling, and association. While the proposed project will diminish the setting, feeling, or association of the Church Street East Historic District and the Lower Dauphin Street Historic District, neither historic district derives its value

in substantial part due to its setting. Based on this information, it was determined that adverse visual effects on these historic districts would not "substantially impair" the properties and would not constitute constructive use.

Access

Access concerns have been identified for the USS ALABAMA Battleship Memorial Park, Africatown Historic District, ADCNR's Five Rivers Delta Resource Center, Meaher State Park, and public boat ramps along the US-90/US-98 Causeway.

ALDOT has committed to maintain current access to the USS ALABAMA Battleship Memorial Park before, during, and after construction. Additionally, ALDOT has committed to provide supplemental signs along the I-10 corridor to improve signage directing travelers to the Park. ALDOT has developed a preliminary signage plan for the USS ALABAMA Battleship Memorial Park with input from the SHPO and the USS ALABAMA Battleship Memorial Park Commission. ALDOT will coordinate with the USS ALABAMA Battleship Memorial Park Commission to finalize the signage plan prior to construction and to ensure compliance with the Section 106 MOA.

ALDOT has committed to maintain access to the ADCNR facilities along the US-90/US-98 Causeway before, during, and after construction.

Access has also been noted as a concern for the Africatown Historic District. As noted in Section 4.6.5, ALDOT has committed to implement mitigation measures to offset adverse impacts related to access along Bay Bridge Road within the Africatown Historic District.

Per 23 CFR 774.15(f)(6) and 23 CFR 774.15(f)(7), constructive use due to access does not apply to any of the Section 4(f) resources.

Vibrations

Vibration was identified as a concern during Section 106 consultation and is an issue for Section 4(f) resources in proximity to pile driving activities for the new Mobile River

Bridge and Bayway. ALDOT conducted a study to evaluate potential vibration impacts for pile driving and to help identify construction methodologies that would avoid vibration impacts to properties in proximity of the project. Based on the study, which is included in **Appendix M** of this Supplemental DEIS, ALDOT has committed to:

1) Limit vibration to a maximum level of 0.5 inch per second for modern structures and 0.1 inch per second for historic structures at the location of the structure.
2) Survey and monitor for potential vibration damage at a distance of 150 feet for modern structures and 250 feet for historic structures. In addition, due to concerns raised by the Section 106 Consulting Parties, vibrations will also be monitored at Christ Church Cathedral, Old City Hall (History Museum of Mobile), Phoenix Fire Museum, Condé Charlotte Museum House, Austal, the Wallace Tunnel, and the Bankhead Tunnel. The survey distances are well beyond the distance where the study estimated vibration levels of 0.5 and 0.1 inch per second and, therefore, represent conservative survey distances to ensure adjacent structures are not damaged.
3) Require the project Concessionaire to obtain the services of a competent vibration or seismologist consultant to conduct vibration surveys and monitor and record ground vibrations during the entire demolition and construction phase operations. If at any time the maximum vibration level is exceeded, the Concessionaire will be required to make appropriate changes to reduce vibration to acceptable levels prior to continuing operations.
4) Prior to acceptance of the project, the Concessionaire will be required to submit a vibration report covering the life of the project. Photographic, video and other surveys of surrounding structures and utilities (pre-construction and post-construction) will be made as part of the documentation record.
5) Any damage to historic structures due to vibration levels above the maximum will be repaired/restored in accordance with *ALDOT Specification 107.12, 107.14 and 107.15 Protection and Restoration of Property, Landscape and Utility*

Facilities, *36 CFR 800.12 Emergency Situations* and *36 CFR 68 The Secretary of Interior's Standards for the Treatment of Historic Properties*.

The edge of the Church Street East Historic District is located adjacent to and partially within the pile driving influence zone. However, no contributing structures are present within that zone. As noted above, several structures have been identified for monitoring even though they are beyond the recommended distances of 150 feet for modern structures and 250 feet for sensitive structures.

Based on the results of the vibrations study prepared for the proposed project and in accordance with 23 CFR 774.15(f)(8), the proposed project is not expected to result in vibration impacts that would constitute constructive use.

5.5.4 Summary of Section 4(f) Impacts

Table 21 displays a summary of potential Section 4(f) impacts that could result from the proposed project.

TABLE 21: SUMMARY OF SECTION 4(f) IMPACTS

Section 4(f) Property	Section 4(f) Impacts by Alternative				
	No Build	A	B	Preferred Alternative	C
BAE Maritime Historic District	No	No	No	No	Yes [1]
Oakdale Historic District	No	No	No	No	No
Union Hall	No	No	No[2]	No	No
Africatown Historic District	No	No	No	No	No
Church Street Historic District	No	No	No	No	No
Lower Dauphin Street Historic District	No	No	No	No	No
US-90/US-98 Causeway	No	No	No	No	No
USS ALABAMA Battleship Memorial Park	No	No	No	No	No
ADCNR Facilities on US-90/US-98 Causeway	No	No	No	No	No

Notes:

[1] Alternative C would acquire land from the BAE Maritime Historic District.

[2] Alternative B would have required the demolition of the Union Hall; however, as discussed in Section 4.13, the structure was demolished by the property owner subsequent to the DEIS and is no longer eligible for the NRHP.

5.6 Coordination

Coordination with officials having jurisdiction over the Section 4(f) properties described in this Section 4(f) Evaluation has occurred throughout the life of the project and is described in Section 6.4 and **Appendix L** of this Supplemental DEIS.

5.7 Conclusions

The No Build Alternative would not impact Section 4(f) resources. Alternative C would require the use (acquisition) of Section 4(f) property from the BAE Maritime Historic District. With the loss of the Union Hall, none of the other Build Alternatives would result in Section 4(f) impacts.

6.0 COMMENTS AND COORDINATION

Agency coordination and public involvement activities related to the proposed transportation improvements have been comprehensive and extensive. Input provided by agencies and the public have influenced the proposed transportation improvements and their potential impacts and construction methodology. Additional design refinements are expected during the final design phase of the project. The following summarizes the coordination and public involvement process since the DEIS.

6.1 Early Coordination

The NOI to prepare a Supplemental DEIS and combined FEIS/ROD was published in the *Federal Register* on June 5, 2017. By letter dated June 16, 2017, ALDOT notified Federal, state, and local agencies and elected officials of FHWA's intent to prepare a Supplemental DEIS and combined FEIS/ROD. Copies of this correspondence are included in **Appendix A-1**. No responses were received.

6.2 Cooperating Agencies

The USACE and the USCG are Cooperating Agencies on this project. The USACE is responsible for issuing permits required to address impacts to Waters of the United States. The USACE has participated in coordination activities related to the development of the Draft Mitigation Plan for wetlands, SAV, and EFH. Documentation of these coordination activities is included in **Appendix F**.

The USCG is responsible for addressing navigational clearances, navigation safety, and issuing permits for bridges over navigable waterways. The USCG Eighth District, Bridge Administration Branch, provided comments on the DEIS by letter dated November 4, 2014. Responses to these comments are addressed in **Appendix P**.

On November 21, 2017, FHWA and ALDOT met with the USCG Eighth District, Bridge Administration Branch, to provide an update on the project. Specific topics of discussion included the role of the USCG Bridge Administration Branch, permitting

process and requirements, project scope, and the role of the USCG in providing input during the P3 procurement process.

The USCG issued a letter dated June 6, 2018, providing preliminary approval of the proposed vertical clearance.

Additional coordination activities with the USCG include the following:

1) E-mail dated April 23, 2018 providing navigation safety general requirements for long term bridge construction activities and
2) Conference call on June 25, 2018, regarding permitting during the construction phase.
3) E-mail dated October 23, 2018, regarding navigational clearances.

Documentation of correspondence with the USCG is included in **Appendix A-2**.

6.3 Federal Aviation Administration

On August 22, 2017, the Consultant team conducted a conference call with the Mobile Airport Authority (MAA) to give them an update on the project and to discuss submitting Draft FAA Form 7460-1 permit applications for initial review. Notes from the conference call are included in **Appendix A-3**. ALDOT prepared and submitted Draft FAA Form 7460-1 permit applications for the following project components: cables, east approach cranes, lighting, main span, tower cranes, and the towers. FAA has not responded to or commented on the draft permit applications to date. Final permit applications will be submitted after the FEIS/ROD and prior to construction.

6.4 Section 106 Coordination

Section 106 requires Federal agencies to take into account the effects of their undertakings on historic properties and to provide the ACHP with a reasonable opportunity to comment. In addition, Federal agencies must consult with tribes about undertakings when they may affect historic properties to which a tribe attaches religious or cultural significance. This requirement applies regardless of the location of

the historic property. Because tribes and Section 106 Consulting Parties may have different interests in the effects of a proposed project, separate consultation activities are often conducted. The following sections describe the Section 106 Consultation process that has been conducted with the non-tribal Consulting Parties as well as the tribes.

6.4.1 Section 106 Consulting Parties

The following organizations and individuals with jurisdiction over or an interest in historic resources are serving as Section 106 Consulting Parties on this project:

1) Alabama Historical Commission
2) Mobile Historic Development Commission
3) National Trust for Historic Preservation
4) City of Mobile
5) Mobile County Commission
6) City of Daphne
7) City of Spanish Fort
8) Baldwin County Commission
9) BAE Systems/Southeast Shipyards
10) Ms. Mary Cousar
11) Downtown Mobile Alliance
12) Colonial Dames and Conde-Charlotte Museum House
13) Signal Shipyard/Bender Shipbuilding & Repair Company
14) Mr. Douglas Burtu Kearley
15) Mr. Herndon Inge, Stop The Bridge Coalition
16) Ms. Ann Bedsole
17) Christ Church Cathedral
18) Historic Mobile Preservation Society
19) Friends of the Museum
20) USS ALABAMA Battleship Memorial Park

21) Restore Mobile

22) National Park Service

23) Mobile County Training School

24) James Hope, Robert L. Hope Community Center

25) Joe Womack, Africatown C.H.E.S.S.

26) Ossia Edwards

Coordination efforts with these parties are ongoing in accordance with 36 CFR 800.6(b)(2). These coordination activities have allowed agencies to exchange views and make recommendations in the identification of historic properties, assessment of potential adverse effects, resolution of potential adverse effects, and to suggest potential mitigation measures. **Table 22** presents a summary of the Section 106 consultation activities that have occurred since the DEIS was signed. Copies of correspondence listed in **Table 22** are included in **Appendix L**. More detailed discussions of these activities are included in the following paragraphs.

TABLE 22: SUMMARY OF SECTION 106 CONSULTING PARTY ACTIVITIES SINCE DEIS

Date	Consultation Activity
July 22, 2014	DEIS signed by FHWA. Copies were transmitted to Consulting Parties.
June 30, 2014	Letter from SHPO regarding determination of effects
July 1, 2014	Letter from MHDC regarding determination of effects
July 7, 2014	E-mail from Herndon Inge, Stop the Bridge Coalition, regarding determination of effects
July 9, 2014	Letter from BAE Systems regarding determination of effects
July 17, 2014	E-mail from NTHP regarding determination of effects
July 24, 2014	Letter from ACHP regarding determination of effects
August 22, 2014	Invitation to Section 106 Consulting Party Meeting sent to Consulting Parties from ALDOT
September 23, 2014	Section 106 Consultation Meeting was held in Mobile, Alabama.
November 4, 2014	Letter from SHPO on DEIS and requesting Section 106 MOA be developed to address effects on historic properties.
December 2, 2014	Meeting with ACHP and SHPO regarding determination of effects and process to develop Section 106 MOA.
May 18, 2015	FHWA issued letter revising determination of effects.
June 11, 2015	SHPO concurred with revised determination of effects.
June 25, 2015	Consulting Parties were notified of revised determination of effects.
July 2015 – February 2016	Initial Draft Section 106 MOA developed based on comments and concerns previously raised by Consulting Parties. This version of the Draft Section 106 MOA was the first draft attempting to identify mitigation measures to address concerns.

Date	Consultation Activity
February 24, 2016	Initial Draft Section 106 MOA was distributed to Consulting Parties with a request for comments.
March 2, 2016	ALDOT received e-mail from NTHP regarding Draft Section 106 MOA.
March 3, 2016	ALDOT received e-mail from Herndon Inge, Stop the Bridge Coalition, regarding Draft Section 106 MOA.
March 15, 2016	FHWA e-mail response to e-mails from NTHP and Stop the Bridge Coalition.
March 21, 2016	ALDOT received letters from Mobile Historic Development Commission, Restore Mobile, and USS ALABAMA Battleship Commission on Draft Section 106 MOA.
May 3, 2016	ALDOT received e-mail from SHPO with comments on Draft Section 106 MOA.
July 27, 2016	Comments received on the February 24, 2016 version of the Draft Section 106 MOA were distributed to Consulting Parties.
April 21, 2017	Meeting with USS ALABAMA Battleship Commission to discuss concerns about access and signage.
April 6, 2018	Revised Draft Section 106 MOA was transmitted to Consulting Parties with an invitation to a Section 106 Consulting Party Meeting. Additional attachments to the letter included copies of previous Consulting Party correspondence, cultural resources reports, disposition of previous Consulting Party comments, and an update on archaeology.
May 4, 2018	Letter from FHWA to National Park Service (invitation to serve as a Section 106 Consulting Party).
May 8, 2018	Section 106 Consulting Party Meeting held in Mobile, Alabama.
May 14, 2018	Letter from National Park Service to FHWA (accepting invitation to serve as a Section 106 Consulting Party).
June 8, 2018	E-mail from Herndon Inge, Stop the Bridge, with comments on the Draft Section 106 MOA.
July 10, 2018	Letter from FHWA to National Park Service (providing additional information on project).
July 24, 2018	Letter from FHWA to Government Street Presbyterian Church (invitation to serve as a Section 106 Consulting Party).
August 10, 2018	Meeting with USS ALABAMA Battleship Memorial Park to provide an update on the latest proposed signage plan.
December 19, 2018	Letters from ALDOT to ten organizations with interests in Africatown (invitation to serve as a Section 106 Consulting Party).
January 16, 2019	Letter from Mobile County Training School accepting invitation to serve as a Section 106 Consulting Party (Africatown Historic District).
January 24, 2019	Letter from James Hope accepting invitation to serve as a Section 106 Consulting Party (Africatown Historic District).
January 25, 2019	E-mail from Joe Womack, Africatown C.H.E.S.S. accepting invitation to serve as a Section 106 Consulting Party (Africatown Historic District).
February 1, 2019	Letter from Ossia Edwards accepting invitation to serve as a Section 106 Consulting Party (Africatown Historic District).
February 6, 2019	Letter from ALDOT to SHPO requesting review and concurrence on newly delineated/expanded APE and no adverse effect on Africatown Historic District.
February 8, 2019	Letter from SHPO concurring with no adverse effect on the Africatown Historic District.
February 12, 2019	Letter from ALDOT to Consulting Parties regarding the expanded APE and invitation to March 12, 2019 Section 106 Consulting Party meeting.
February 27, 2019	E-mail from Herndon Inge in response to February 12, 2019 letter from ALDOT to Consulting Parties
March 12, 2019	Section 106 Consulting Party Meeting

A Section 106 coordination meeting was held on September 23, 2014, after approval of the DEIS and prior to the Corridor Public Hearing. The purpose of the meeting was to discuss FHWA's finding of no adverse effect, ALDOT's DEIS environmental commitments, and the next steps in the Section 106 process. Based on that meeting and a subsequent meeting held with the ACHP and SHPO on December 2, 2014 to discuss the determination of effects, FHWA revised its determination of effects.

By letter to the SHPO dated May 18, 2015, FHWA stated that the project would have adverse visual effects on the Church Street East Historic District and the Lower Dauphin Street Historic District. SHPO concurred with this finding by letter dated June 11, 2015. This finding was transmitted to the Section 106 Consulting Parties on June 25, 2015.

Following the determination of effects, FHWA developed a Draft Section 106 MOA was developed based on the environmental commitments from the DEIS related to historic resources and comments and concerns expressed by the Section 106 Consulting Parties. The initial draft of the Section 106 MOA was sent to Consulting Parties with a request for comments on February 24, 2016. Comments on the initial Draft MOA were received from the following: Mobile Historic Development Commission, Restore Mobile, Battleship Memorial Park, SHPO, NTHP, and Stop the Bridge Coalition.

Comments received on the Draft Section 106 MOA were distributed to the Consulting Parties on July 27, 2016.

Between July 27, 2016 and April 2018, design refinements were made to the project and additional traffic and environmental studies were conducted. The Draft Section 106 MOA was updated to: reflect the changes in the project resulting from design refinements, such as moving the mainline I-10 alignment further to the east and thus further away from downtown historic districts and updated interchange concepts; to describe potential mitigation measures; and to address comments received on the first Draft Section 106 MOA from the Consulting Parties. A disposition of substantive comments received on the Draft Section 106 MOA is contained in **Appendix L**.

On May 8, 2018, a Section 106 Consulting Party meeting was held at the ALDOT Southwest Region office. The meeting focused on three primary areas: update the Consulting Parties on changes that have occurred in the project and present additional information that was developed following the DEIS; discuss the topics that were included as stipulations in the Draft Section 106 MOA; and identify the next steps in the Section 106 process. Input from the Consulting Parties was also requested so that revisions to the Draft Section 106 MOA could reflect the outcome of the meeting. The Section 106 Consulting Parties were asked to provide comments on the Draft MOA by June 8, 2018. One written response was received from Stop the Bridge Coalition. A disposition of substantive verbal and written comments received during and after the meeting is included in **Appendix L**.

By letter dated May 4, 2018, the FHWA invited the National Park Service to serve as a Section 106 Consulting Party on the project. The National Park Service accepted the invitation, and by letter dated July 10, 2018, the FHWA provided additional information to the National Park Service related to the project. FHWA also invited Government Street Presbyterian Church to participate as a Section 106 Consulting Party on July 24, 2018. At the time of this Supplemental DEIS, a response had not been received from the church. ALDOT invited ten organizations/individuals with an interest in the Africatown Historic District to serve as Section 106 Consulting Parties by letter dated December 19, 2018. The Mobile County Training School, the Robert L. Hope Community Center, the Africatown C.H.E.S.S., and Ossia Edwards accepted the invitation. Copies of this correspondence are included in **Appendix L**.

On March 12, 2019, a Section 106 Consulting Party meeting was held at the ALDOT Southwest Region office. The meeting focused on three primary areas: providing the newer Consulting Parties with an overview of the project and discussing the changes that occurred in the project since the DEIS; discussing topics that are included in the Draft Section 106 MOA; and identifying the next steps in the Section 106 consultation process. Input from the Consulting Parties was also requested so that revisions to the

Draft Section 106 MOA could reflect comments received during and after the meeting. The comment period on the Draft Section 106 MOA has not closed at the time this document was prepared. Comments received will be addressed and included in the FEIS/ROD. A summary of the meeting, the presentation from the meeting, and list of attendees, are included **Appendix L**.

Appendix L contains the Draft Section 106 MOA which addresses the comments from the Section 106 Consulting Parties received to date.

Section 106 consultation will continue as the Final Section 106 MOA is developed. Additional consultation activities will be described in the FEIS/ROD, and a Final Section 106 MOA will be developed and signed prior to the FEIS/ROD.

6.4.2 Tribal Consultation

Tribal consultation is required in all steps of the Section 106 consultation process when a Federal agency undertaking may affect historic properties that are either: located on tribal lands, or when any Indian tribe or Native Hawaiian organization attaches religious or cultural significance to the historic property, regardless of the property's location. FHWA continues to conduct tribal consultation to address cultural and historic issues pursuant to Section 106 of the NHPA. The following tribes have been included in tribal consultation activities to date:

1) Absentee Shawnee Tribe;
2) Alabama-Coushatta Tribe of Texas;
3) Alabama-Quassarte Tribal Town;
4) The Cherokee Nation;
5) The Chickasaw Nation;
6) Choctaw Nation of Oklahoma;
7) Coushatta Tribe of Louisiana;
8) Eastern Shawnee Tribe of Oklahoma;
9) The Eastern Band of Cherokee Indians;

10) The Great Seminole Nation of Oklahoma;

11) Jena Band of Choctaw Indians;

12) Kialegee Tribal Town;

13) The Mississippi Band of Choctaw Indians;

14) The Muscogee (Creek) Nation;

15) The Poarch Bank of Creek Indians;

16) Seminole Tribe of Florida;

17) The Tunica-Biloxi Indian Tribe;

18) The Thlopthlocco Tribal Town of Oklahoma; and

19) The United Keetoowah Band of Cherokee Indians in Oklahoma.

The proposed project was discussed at the 2017 Annual Tribal Consultation Meeting held on March 22 and 23, 2017. The 2018 Annual Tribal Consultation Meeting for the state of Alabama was held on February 28 through March 1, 2018, in Mobile, Alabama. During this annual meeting, FHWA and ALDOT presented information to the tribes about a number of projects underway in the state, including the proposed Mobile River Bridge and Bayway Project. Field reviews of potential archaeological sites within the proposed project corridor were conducted with the tribes as part of the annual meeting.

Subsequent to the annual meeting, it was determined that regular webinars with the tribes would be conducted to provide updates on the proposed project. Webinars were conducted on April 17, 2018, June 19, 2018, August 1, 2018, October 24, 2018, December 12, 2018, January 30, 2019, and March 6, 2019. In lieu of a webinar in May 2018, the tribes were invited to participate in the Section 106 Consulting Party meeting on May 8, 2018. The focus of the webinars is the status of archaeological surveys that are underway and/or have been completed.

Copies of letters and e-mail correspondence with the tribes are included in **Appendix N**.

6.5 Bicycle/Pedestrian Coordination

Bicycle and Pedestrian Public Workshop

A Bicycle and Pedestrian Public Workshop was held on October 27, 2016, at the James M. Seals Jr. Community Center located at 540 Texas Street, Mobile, Alabama 36602. Invitations to the meeting were mailed to area residents, local officials, Federal, state, and local agencies, and to local groups of the cycling, walking, and running community. A Public Notice was published in the *Press Register* on September 25 and October 23, 2016, as well as in *The Lagniappe* on September 22 and October 13, 2016. The Public Notice was also sent to local area radio and tv stations.

The workshop began at 5:00 p.m. A brief presentation was made at 5:30 p.m., and attendees were encouraged to walk around the room to look at the exhibits showing the different bicycle and pedestrian concepts and to discuss ideas, concerns, and questions with representatives from the project team.

A total of 129 people registered, 31 of whom were members of the project team. A total of 524 written comments were received. Of these comments, 45 were submitted during the meeting and 479 were submitted during the comment period which ended on November 11, 2016. In addition, 95 individuals signed a petition supporting construction of the bicycle/pedestrian facilities on the Cochrane-Africatown USA Bridge. A summary of the comments received from the Bicycle and Pedestrian Workshop is included in **Appendix B**. The actual comments received are available for review at ALDOT's Southwest Region office and online at www.mobileriverbridge.com.

BPAC and Focus Group Meetings

Focus group meetings were held with the Eastern Shore MPO BPAC on February 6, 2017, the Mobile Baykeeper bicycle/pedestrian focus group on February 13, 2017, and the Mobile Area MPO BPAC on February 15, 2017. An informational meeting with Mobile Area MPO BPAC and Eastern Shore MPO BPAC was held on February 27, 2018. At this

meeting, ALDOT presented an update to the current bicycle and pedestrian studies. Documentation of these coordination efforts is included in **Appendix B**.

6.6 Interagency Coordination

Coordination with Federal, state, and local agencies has been a continuous process throughout the development of the proposed project. **Table 23** provides a summary of interagency coordination activities that have occurred since the DEIS to develop the Draft Mitigation Plan on wetlands, SAV, and EFH. More detailed information on the activities listed in **Table 23** is contained in **Appendix F**.

TABLE 23: SUMMARY OF INTERAGENCY COORDINATION ACTIVITIES SINCE DEIS

Date	Coordination Activity	Notes
March 4, 2015	Interagency Meeting to discuss status of project and quantities of impacts presented in DEIS	USACE, USFWS, NOAA-NMFS, and ADEM participated.
April 12, 2017	Interagency Meeting to discuss mitigation measures, mitigation ratios, and potential mitigation sites for wetlands and SAV	USACE, USFWS, NOAA-NMFS, and ADEM participated. USEPA, USCG, and ADCNR were invited to participate but were unable to attend.
July 25, 2017	Draft Mitigation Plan transmitted to agencies	Comments received from USEPA, NOAA-NMFS, and USFWS.
January 11, 2018	Disposition of comments from July 2017 review and revised Draft Mitigation Plan transmitted to agencies	Comments received from NOAA-NMFS, ADCNR, and USEPA.
April 12, 2018	Meeting with ADCNR to discuss comments on Draft Mitigation Plan	Identified potential areas for mitigation site.
August 27, 2018	Revised Draft Mitigation Plan and disposition of comments from January 2018 review transmitted to agencies	
August 28, 2018	Interagency Meeting to discuss status of project and Draft Mitigation Plan	USACE, USFWS, NOAA-NMFS, ADCNR, and ADEM attended; USEPA and USCG were invited but were unable to attend.
August 31, 2018	Meeting minutes and presentation from August 28, 2018 meeting transmitted to agencies	No comments received from agencies.
February 14, 2019	Meeting with agencies to discuss dredging	USACE, ADCNR, and ADEM attended; NOAA-NMFS, USFWS, USEPA, and USCG were invited but were unable to attend.
February 14, 2019	Letter from FHWA to USFWS regarding dredging and Section 7 Formal Consultation	
February 27, 2019	Letter from USFWS regarding no need to reinitiate Section 7 Formal Consultation	

Prior to developing the Draft Mitigation Plan, an Interagency Coordination meeting was held on April 12, 2017, at the ALDOT Southwest Region office in Mobile. The meeting was attended by representatives of the ADEM, NOAA – NMFS, USACE, Mobile District, USFWS, ALDOT, and FHWA. The ADCNR, USEPA, and USCG were invited but were unable to participate. The purpose of the meeting was to provide a project update to the agencies and to discuss appropriate mitigation measures, mitigation ratios, and potential mitigation sites for potential impacts to SAVs and wetlands. A summary of this discussion is included in **Appendix F**.

By e-mail dated July 25, 2017, ALDOT transmitted a Draft Mitigation Plan to the agencies for review and comment based on the discussion from the April 12, 2017 meeting. Comments were received from the USFWS, NOAA-NMFS, and the USEPA.

Following receipt of comments from the July 2017 submittal, ALDOT revised the Draft Mitigation Plan and transmitted an updated plan and disposition of comments to the agencies on January 11, 2018. In order to address comments received from the ADCNR, a meeting was held on April 12, 2018 to discuss possible locations for a marsh creation site that would contain sufficient area to accommodate the required mitigation, avoid conflicts with recreational users of the Mobile Delta, and possess necessary characteristics to sustain a marsh creation area and support the growth of SAV. The comments received from the January 2018 agency review and the April 2018 meeting with the ADCNR are addressed in the Draft Mitigation Plan contained in **Appendix F**.

An additional interagency meeting occurred on August 28, 2018. The purpose of the meeting was to discuss the status of the Draft Mitigation Plan, provide the agencies with an update on the status of the project, explain the P3 process, and talk about the next steps in the permitting process. Representatives from the USACE, USFWS, NOAA-NMFS, ADCNR, and ADEM attended the meeting. The USEPA and USCG were invited but were unable to participate. No further comments on the Draft Mitigation Plan have been received from the agencies.

The most recent interagency meeting occurred on February 14, 2019. The purpose of the meeting was to discuss the addition of dredging within the previously disturbed construction channel to the project. Representatives from the USACE, ADCNR, and ADEM attended the meeting. The USFWS, NOAA-NMFS, USEPA, and USCG were unable to participate, but follow-up discussions with the USFWS and NOAA-NMFS indicated that the agencies do not have objections to the addition of dredging to the project. By letter dated February 27, 2019, the USFWS also stated that the addition of dredging does not necessitate the re-initiation of Section 7 Formal Consultation, and recommendations regarding ways to minimize dredging impacts were noted in the letter for future consideration during the permitting process (**Appendix I**).

Consultation with the agencies will continue to occur as the design of the project is finalized and the quantities of potential impacts are further refined and quantified based upon more detailed design. Updated wetland and SAV surveys will be conducted and included in the Final Mitigation Plan, which must be approved by the agencies prior to issuance of a Section 404/10 Permit.

6.7 Environmental Justice Outreach

ALDOT held community workshops specifically to discuss the potential effects of the proposed project on EJ communities. The first workshop was held on Monday, June 18, 2018 at the James M. Seals Community Center at 540 Texas Street, Mobile, Alabama 36603. This workshop focused on the Texas Street and Oakdale communities. The second workshop was held on Tuesday, June 19, 2018 at the Robert L. Hope Community Center at 850 Edwards Street, Mobile, Alabama 36610. This workshop focused on the Africatown/Plateau community.

Postcards were designed specifically for these workshops. More than 5,000 postcards were mailed directly to residents and property owners along mail routes in the Texas Street, Oakdale, and Africatown communities. In addition, postcards were placed in the Texas Street Community Center, the Robert L. Hope Community Center, Greater Pine

Grove AME Church, and the First Hopewell Baptist Church, all of which are located within the potentially affected EJ communities. Information about the workshops was also sent to the Africatown Community Development Corporation and the Africatown Business and Community Panel for distribution throughout the community. The Africatown Community Development Corporation is the official Africatown domestic non-profit foundation charged with protecting the Mobile's African American Heritage. The Africatown Business and Community Panel is a non-profit organization that was formed to foster understanding between businesses and residents in the Africatown area.

The workshops were held from 5:00-7:00 p.m. on weeknights that would not conflict with church activities.

Brief presentations were made at each meeting, focusing on issues relative to each of the communities. Roll maps were also displayed at each meeting, and representatives of FHWA, ALDOT, and the project team were available to answer questions and discuss the project with interested citizens. Copies of the workshop materials are included in **Attachment C** of this document.

Despite efforts to encourage participation, turnout at the workshops was low. Nine citizens attended the Texas Street/Oakdale workshop, and thirteen citizens attended the Africatown/Plateau workshop. A total of seven written comments were received. One comment was submitted at the Texas Street/Oakdale workshop, and six comments were submitted at the Africatown/Plateau workshop. A summary of the input received from the workshops is contained in **Table 24**. Responses to comments received are included in **Appendix E**.

TABLE 24: SUMMARY OF INPUT RECEIVED FROM EJ COMMUNITY WORKSHOPS

Question		Answer
1.	What impacts do you think will happen to the community as a result of the project?	Received at the Texas Street/Oakdale Workshop: - Believe that it will cause a hardship on our community should a toll be enforced. Received at the Africatown/Plateau Workshop: - I think it will be a nice thing to happen in this area and people around have a lot to see and be safe. It will be a good way to see a part of Mobile. - I am sure it will eliminate traffic or slow down traffic in certain areas. - More tourists. - Too much traffic on Bay Bridge Road. - Positive influence on tourism. - Bring jobs to the area and hopefully people in our area.
2.	What are your thoughts on the project?	Received at the Texas Street/Oakdale Workshop: - Concerned about cost, what will happen to the existing infrastructure, and we are interested in seeing a bike lane added for residents. Received at the Africatown/Plateau Workshop: - It looks good, and it is time for a new change because there are more people traveling on the highway. - Excellent - I think that it is a good project for out of town people. They will get to the beach faster. - Long overdue. Traffic backs up on I-10 east Monday through Friday starting about 3:30 p.m. - The sooner, the better.
3.	How often do you use the Cochrane-Africatown Bridge, Wallace Tunnels, Bankhead Tunnel, Bay Bridge Road, and the Causeway? Which of those routes do you prefer, and why do you use them (work, recreation, other)?	Received at the Texas Street/Oakdale Workshop: - We use Bankhead and Causeway three to five times per week. Reasons: recreation and shopping, getting to Florida at least three times per month. Use both at least weekly. Received at the Africatown/Plateau Workshop: - We use all every day. Reason: other. - Two or three times weekly. Reason: none listed. - Use Bay Bridge Road every day. Reason: church. - At least three times per week. Preferred route: Cochrane-Africatown USA Bridge. No reason listed. - Twice per week in spring and summer (fishing time). Preferred routes are Cochrane-Africatown USA Bridge and Causeway. Reason: Recreation - Very frequent (five to six times per week). Preferred routes are Cochrane-Africatown USA Bridge, Bay Bridge Road, and Causeway. Reasons: For recreation and view.

Question		Answer
4.	Given the potential impacts, how can ALDOT help your community?	Received at Texas Street/Oakdale Workshop: - Ensure that increased traffic is not put through our neighborhood. Parents are elderly and we are concerned with the noise of the work that will be done. Will it impact our quality of life? Received at Africatown/Plateau Workshop: - I'm excited about everything presented. - Can you do something about Paper Mill Road? - Hopefully some businesses will come to Africatown Boulevard [Bay Bridge Road]. Consider another traffic lighting on Africatown Boulevard [Bay Bridge Road]. Resurface Paper Mill Road. - More traffic lights on Bay Bridge Road. Resurface Paper Mill Road and Woodland Street to re-route some of the traffic. Attempt to hire people from the community.
5.	What impact will tolling have on your household budget?	Received at Texas Street/Oakdale Workshop: - It would significantly increase my budget and may cause me to remain in Mobile instead of traveling to Daphne. Received at Africatown/Plateau Workshop: - $3 to $6 seems a little much. $1.50 to $2 sounds better. - None. - None or very little. - It will depend upon the fee. I am on a fixed income.
6.	Tell us about your community. What is happening that we need to know as we plan for the future?	Received at Texas Street/Oakdale Workshop: - The community is an older community. My family uses the tunnels to travel back and forth for travel to Florida and shopping in Daphne and Malbis. It is easier to use the Causeway to shop due to the time of travel. Received at Africatown/Plateau Workshop: - Africatown is a historical area. I'm a direct descendant. The future for this area, make it a tourist area. - Blueway project is in the pipeline. Information and tourist center to be constructed in Africatown. Several tourist attractions are in the area (Mobile County Technical School, ancient old cemetery, and historic markers). - We need a traffic light re-installed at the entry of Union Missionary Baptist Church. Difficult for members to get into church and out of church after Sunday service.
7.	How can we be sure we're reaching your neighbors?	Received at Texas Street/Oakdale Workshop: - Mail invites and notices. Use the next door app. Received at Africatown/Plateau Workshop: - Churches/flyers - Give information to local tv stations and announcements to area churches. - Newsletters, newspapers, flyers, tv, radio, door to door
8.	Was this meeting time and location convenient for you?	Received at Texas Street/Oakdale Workshop: - Yes Received at Africatown/Plateau Workshop: - Four people responded "yes." - 5 p.m. after work.

In order to reach minority and low-income populations in areas that may be affected by the proposed project, ALDOT has implemented an EJ outreach program. The goal of this program is to further develop relationships with the community and promote involvement in the project as it moves through the environmental, design, construction, and post-construction phases. The overall objective of EJ outreach is to ensure that minority and/or low-income individuals are given opportunities to provide meaningful input on projects that may affect their environment or health. More information on this commitment can be found in Section 4.6 and **Appendix E**.

ALDOT reached out to the City Councilman who represents the Africatown and Texas Street/Oakdale areas to arrange community meetings. A community meeting was held on March 19, 2019, at the Union Missionary Baptist Church in Africatown. A total of 49 citizens signed in at the meeting. ALDOT presented information about the project, its potential impacts, and mitigation measures to be implemented for the community. Attendees were provided with a project information sheet and comment form and were encouraged to provide comments to ALDOT. At the time this Supplemental DEIS was prepared, the comment period was still open. Comments received from the Africatown community and responses to those comments, along with any other community meetings that are held to discuss the project, will be included in the FEIS/ROD.

6.8 Aesthetic Steering Committee

An Aesthetic Steering Committee was established by ALDOT to provide input on preferences regarding the overall aesthetics of the project. The Aesthetic Steering Committee is comprised of nine members from Mobile and Baldwin Counties. Eight of the nine members are Section 106 Consulting Parties. This committee allows the community and Consulting Parties to provide input on likes, dislikes, preferences related to aesthetics so that ALDOT can communicate those preferences to the proposing teams and ensure that commitments related to aesthetics are upheld as the project is designed and constructed. To encourage open and honest feedback on aesthetic

preferences, the members of the committee have not been released to the proposing teams or the public, and the proposing teams receive input from the committee through ALDOT. It is anticipated that after a team is selected, the winning team will work directly with the Aesthetic Steering Committee and ALDOT to finalize the aesthetic components of the project.

To date, five meetings have been held with the Aesthetic Steering Committee. These meetings have resulted in the development of Aesthetic Guidelines that have been released to the teams to direct the aesthetic design for the project. The Aesthetic Guidelines address the following project components: land use compatibility, aesthetics and landscaping, form commonality, materials and finishes, barriers, retaining walls, overhead gantries and sign structures, interchange areas, straddle bents, high level approaches, bridge main spans, bicycle/pedestrian amenities, areas underneath the Mobile River Bridge, roadway and bridge lighting, and aesthetic lighting. Themes and regional context were also important factors in developing Aesthetic Guidelines to result in a project that reflects the culture, history, and setting of the project area.

The Aesthetic Steering Committee has reviewed two rounds of pre-proposal aesthetic submittals from the proposing teams. It is anticipated that the proposing teams will submit an additional pre-proposal aesthetic submittal for the committee's review. The committee will review the aesthetic packages contained within each of the proposing team's proposals, and ALDOT will use input from the committee to evaluate the aesthetic components of the teams' proposals. Additional meetings with the Aesthetic Steering Committee are anticipated during the final design and construction phases after a team has been selected.

6.9 Other Meetings and Coordination Activities

Table 25 provides an overview of additional meetings and coordination efforts that have occurred since the approval of the DEIS.

TABLE 25: OTHER MEETINGS AND COORDINATION ACTIVITIES

Date	Organization	Topic	Comments
4/7/16	Alabama State Port Authority	Virginia Street Interchange	Discussed interchange concepts for Virginia Street with ASPA, Trucking Association, and City of Mobile
4/13/16	Trucking Stakeholders	Virginia Street Interchange	Discussed trucking companies' concerns about access at Virginia Street
5/10/16	Mobile County Metro Jail	Proximity of Mobile River Bridge to jail	Discussed concerns about proximity of Mobile River Bridge alignment to jail complex; discussed safety measures and considerations for future third-party agreements between Mobile County and ALDOT once right-of-way is acquired by ALDOT.
12/8/17	City of Mobile, Map for Mobile	Map for Mobile Comprehensive Plan	Discussed the City's recently adopted Map for Mobile and upcoming land use and zoning regulation changes.
3/15/18	South Alabama Regional Planning Commission	Updates to Long Range Transportation Plan	Discussed revisions needed to the Long Range Transportation Plan due to the proposed project, including the addition of tolling, updates to Environmental Justice Assessment, and bicycle/pedestrian facilities.
3/19/18	Eastern Shore Metropolitan Planning Organization	Updates to Long Range Transportation Plan	Discussed revisions needed to Long Range Transportation Plan due to the proposed project, including the addition of tolling, updates to Environmental Justice Assessment, and bicycle/pedestrian facilities.
7/1/15, 6/29/16, 6/14/17, 1/31/18, 5/17/18	Austal Shipbuilding	Project Status	Discussed project status with Austal, specifically related to how the proposed project may impact their facilities and how those impacts could be avoided/minimized/mitigated
8/20/18	City of Mobile	Local Roads	Discussed potential impacts on City streets and the City's plans for future development in downtown and along the waterfront
Monthly	Local Elected Officials	Project Status	Discussed project updates with local officials from Mobile and Baldwin Counties, as well as ASPA

6.10 Corridor Public Hearings

Following approval of the DEIS, Corridor Public Hearings were held to present the findings of the DEIS and the Preferred Alternative. The first hearing was held in Mobile at the Alabama Cruise Terminal located at 201 South Water Street on Tuesday, September 23, 2014. The second hearing was held on Thursday, September 29, 2014 at

the Five Rivers Delta Resource Center located at 30945 Five Rivers Boulevard in Spanish Fort in Baldwin County.

Registration began at 4:00 p.m. for the open house and at 5:00 p.m. for those individuals who chose to speak during the public forum. The formal presentation began at 5:30, and the public forum/hearing followed immediately after the presentation. Project exhibits were displayed on easels. ALDOT's Visualization Department set up stations with monitors to show the project website and renderings of the project. Handouts consisting of a welcome letter, project alternatives map, and a comment form were given to meeting attendees upon registration.

A total of 308 individuals registered at the meeting in Mobile, 62 of whom were ALDOT, FHWA, or consultant representatives. A total of 248 individuals registered at the meeting in Spanish Fort, 39 of whom were ALDOT, FHWA, or consultant representatives.

A total of 35 people spoke during the public forum portion of the hearing in Mobile, and 25 people spoke during the public forum portion of the hearing in Spanish Fort. The court reporter recorded verbal comments from two people at the hearing in Mobile and four people at the hearing in Spanish Fort.

ALDOT and Consultant representatives met with citizens to answer questions, solicit comments, and receive input from the public. Written responses were submitted following the meeting. ALDOT received a total of 613 written comments following the hearings. The total number of comments spoken at the public forum, submitted verbally to the court reporter, or provided in writing totaled 641. Comments submitted multiple ways by the same individual were combined and considered one comment. The following is a summary of the comments received:

Comment Group	**Number of Comments**
Support the project	558
Do not support the project	40
In favor of bicycle/pedestrian crossing of Mobile River	111
Do not support bicycle/pedestrian crossing of Mobile River	29

The following petitions were received:

1) The Mobile BPAC submitted a petition signed by numerous local, state, and federal organizations and 3,213 individuals supporting the inclusion of bicycle/pedestrian facilities on the Mobile River Bridge.
2) The Build the Bridge Coalition submitted a petition signed by 374 individuals supporting construction of the Mobile River Bridge.
3) Garland Mason submitted a petition with more than 4,200 signatures supporting naming the bridge "The Corporal Christopher Edward Mason Bridge."

The Corridor Hearing Report is contained in **Appendix O**. Copies of the comments received at the public hearings, along with the transcripts from the hearings are part of the project record and can be reviewed at ALDOT's Southwest Region office.

6.11 Substantive Comments on DEIS

Copies of the DEIS were sent to 96 recipients. The DEIS was also published on the project website at www.mobileriverbridge.com. In addition to the comments received from the public at the Corridor Public Hearing, comment letters on the DEIS were received from the following:

1) Advisory Council on Historic Preservation;
2) Alabama Historical Commission;
3) Alabama Power;
4) Mobile Baykeeper;
5) Mobile Historic Development Commission;
6) U.S. Coast Guard, Eight Coast Guard District;
7) U.S. Department of the Interior, Office of Environmental Policy and Compliance; and
8) U.S. Environmental Protection Agency, Region 4.

In accordance with the NEPA and FHWA regulations, all substantive comments submitted must be considered and addressed. Examples of substantive comments are those that:

1) Provide new information pertaining to the Preferred Alternative or an alternative in the analysis;
2) Identify a new issue or expand upon an existing issue;
3) Identify a different (alternative) way to meet the purpose and need of the project;
4) Provide an opinion regarding one or more alternatives, including the basis or rationale for that opinion;
5) Point out a specific flaw in the analysis;
6) Identify a different source of credible research, which if used in the analysis could result in different effects.

A disposition of substantive comments received from agencies and the public on the DEIS, including comments made at the Corridor Public Hearings, is contained in **Appendix P**.

6.12 Future Public Involvement Activities

Public Hearings will be held following approval of this Supplemental DEIS.

7.0 LIST OF PREPARERS

NAME	TITLE	QUALIFICATIONS
FEDERAL HIGHWAY ADMINISTRATION		
Lynne Urquhart, P.E.	Environmental Engineer	M.S. Engineering and Environmental Management. B.S. Civil Engineering. 20 years of experience in NEPA documentation. Responsible for reviewing NEPA documents for FHWA.
Tim Heisler	Area Engineer, Southwest Region	B.S. Civil Engineering. More than 8 years of experience in transportation. Responsible for reviewing NEPA documents and roadway plans for FHWA.
ALABAMA DEPARTMENT OF TRANSPORTATION		
Steven Walker, P.E.	State Design Engineer	B.S. Civil Engineering. More than 35 years of experience in transportation preconstruction activities.
Wade D. Henry, P.E.	Assistant State Design Engineer, Preliminary Engineering Division	M. Eng. Civil Engineering. B.S. Civil Engineering. More than 15 years of experience in transportation project development.
Natasha Clay	Environmental Administrator	B.S. Civil Engineering. More than 10 years of NEPA experience. Responsible for coordinating NEPA projects for ALDOT.
William Turner	Archaeologist/Assistant Environmental Coordinator	M.A. Anthropology/Archaeology. B.S. Anthropology. More than 30 years of experience in Section 106 cultural resource documentation and review. Responsible for Section 106 administration for the ALDOT Environmental Technical Section.
Pat M. Patterson	Environmental Specialist, Cultural Resources	Master of Architecture/Urban Planning. B.A. Architectural Sciences. 20 years of experience in Section 106 coordination. Responsible for review and documentation of historic structures for ALDOT Environmental Technical Section.
Matthew Ericksen, P.E.	Southwest Region Engineer	B.S. Civil Engineering. 26 years of experience with ALDOT in construction, materials, testing, maintenance, administration
Edwin Perry, P.E.	Civil Engineer	B.S. Civil Engineering. 14 years of transportation experience (one year in construction, 13 years in pre-construction) at ALDOT.
Andrew Wood, P.E.	I-10 Corridor Engineer	Master of Civil Engineering. B.S. Civil Engineering. More than 8 years of experience in transportation project development. Responsible for project management and reviewing NEPA documents.

NAME	TITLE	QUALIFICATIONS
Stephanie Dragotta, P.E.	Civil Engineer	B.S. in Civil Engineering. 10 Years of experience in transportation at ALDOT.
THOMPSON ENGINEERING		
Greg Lowe, P.E.	Senior Engineer	B.S. Civil Engineering. 25 years of roadway and NEPA experience.
Stephen O'Hearn, P.G., LEEP AP	Environmental Manager	B.S. Geology. Professional Geologist, LEED AP. 25 years of environmental and NEPA experience.
Melissa Montgomery, P.E.	Project Scientist	B.S. Geology. 12 years of experience in environmental investigations.
Michael Eubanks	Senior Scientist	M.S. Water Resources Planning. B.S. Biology. 46 years of planning, NEPA, and environmental experience.
Suzanne Sweester	Project Scientist	M.S. Plant Ecology. B.S. Biology. 12 years of environmental and NEPA experience.
Mary Mekkers	GIS Analyst	B.A. Geography. 15 years of GIS mapping and analysis.
Cindy Roton	Senior Project Manager	B.S. Chemistry. 36 years of environmental experience.
Matthew Chelete, P.E.	Project Engineer	B.S. Civil Engineering. 14 years of roadway experience.
Jared Lipskoch	Transportation Designer	17 years of roadway, air and noise, and design experience.
Tom Harjung, P.E.	Senior Engineer	B.S. Civil Engineering Technology. 27 years of roadway experience.
Adbulai Adbul-Majeed, P.E., P.T.O.E.	Senior Engineer	M.S. Engineering. B.S. Civil Engineering. 9 years of roadway experience.
HDR		
Patrick Hickox, P.E.	Bridge Engineer	B.S. Civil Engineering. More than 30 years of experience in bridge design. Responsible for providing technical information and reports related to project bridges.
Manuel Carballo, P.E.	Principal Bridge Engineer	M.S. Civil Engineering. B.S. Civil Engineering. More than 25 years of bridge design experience. High level approaches and main span bridge task lead.
MOTT MACDONALD		
Kathryn Parker, P.E.	Transportation Engineer	B.S. Civil Engineering. More than 15-years in transportation highway design, supporting development of NEPA documentation. Responsible for preliminary designs and reviewing NEPA documents.
Brent Rawson, P.E.	Civil Engineer	B.S. Civil Engineering. More than 37 years of experience providing design and environmental services on transportation projects. Responsible for portions of roadway and drainage design and preliminary traffic control plans.

NAME	TITLE	QUALIFICATIONS
Josh Carter, P.E., D.CE	Coastal Engineer	M.S. Civil and Environmental Engineering (Coastal Focus). B.S. Ocean Engineering. More than 17 years of experience in coastal engineering, coastal processes analysis, modeling and design in the coastal environment. Responsible for preparation of portions of storm surge analysis and report.
SHUMER CONSULTING		
Missi Shumer	NEPA Specialist	B.A. English/Professional Writing. More than 18 years of NEPA experience. Responsible for preparing NEPA documentation and conducting public outreach and agency coordination.
BARRY A. VITTOR & ASSOCIATES		
Barry A. Vittor, Ph.D.	Ecologist	Ph.D. Ecology. M.S. Marine Biology. B.A. Zoology. 46 years of environmental experience.
Tim Thibaut	Biologist	M.S. Zoology. B.S. Marine Biology. 32 years of environmental experience.
DAUPHIN ISLAND SEA LAB		
Ruth Carmichael, Ph.D.	Senior Marine Scientist	Ph.D. and M.S. Marine Biology. B.A. Biology. 25 years of environmental experience.
UNIVERSITY OF SOUTH ALABAMA, CENTER FOR ARCHAEOLOGICAL STUDIES		
Dr. Gregory Waselkov, Ph.D	Cultural Resources	Ph.D. Anthropology with specialization in Archaeology, M.A. Anthropology with specialization in Archaeology, B.A. Anthropology. Professor of Anthropology and Director of the Center for Archaeological Studies with 38 years of experience.
Bonnie Gums	Cultural Resources	B.A. Anthropology, M.A. Geography and Earth Science Laboratory Supervisor with 33 years of experience. Directs Phase I, II, and III archaeological projects. Written over 175 archaeological studies. Conducts historical research in southwestern Alabama.

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**Note: Reference documents listed above are available at the links provided or on the www.mobileriverbridge.com website.*