



# America's River Crossing on I-55 over the Mississippi River Bridge Replacement

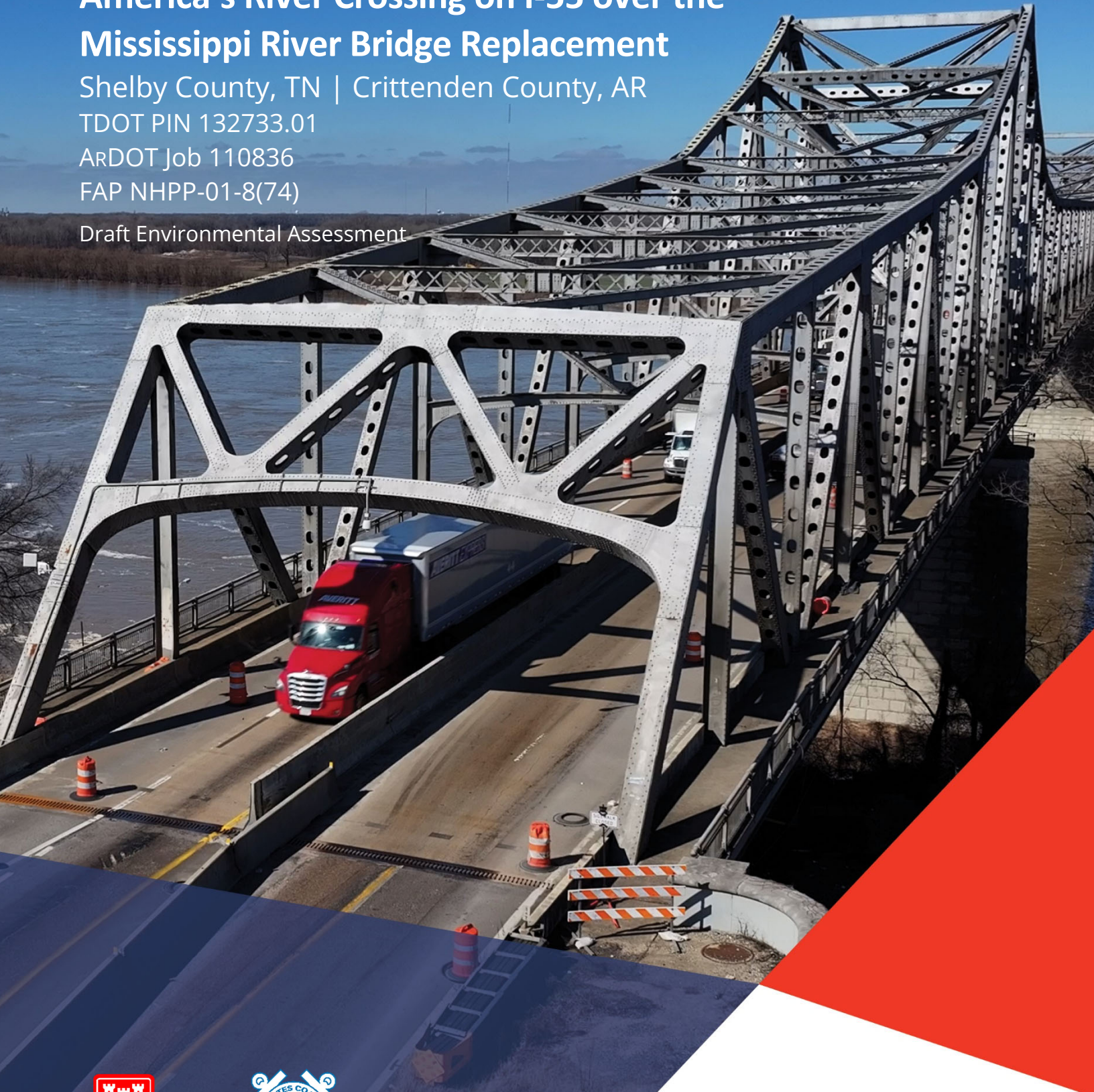
Shelby County, TN | Crittenden County, AR

TDOT PIN 132733.01

ARDOT Job 110836

FAP NHPP-01-8(74)

Draft Environmental Assessment



US Army Corps  
of Engineers®



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ENVIRONMENTAL ASSESSMENT

America’s River Crossing on I-55 over the Mississippi River Bridge Replacement

Shelby County, TN | Crittenden County, AR

TDOT PIN 132733.01, ARDOT Job 110836, FAP NHPP-01-8(74)

Submitted pursuant to 42 USC 4332(2)(c)

by

U.S. Department of Transportation, Federal Highway Administration

and the

Tennessee Department of Transportation

and the

Arkansas Department of Transportation

In cooperation with the

U.S. Army Corps of Engineers, Memphis District

and the

U.S. Coast Guard

October 23, 2024

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# 1. PURPOSE AND NEED

## ***WHAT'S IN CHAPTER 1?***

*Chapter 1 provides an overview of the proposed Project; including, Project limits, prior studies, existing conditions and what will change. Chapter 1 also discusses why the I-55 bridge replacement is needed and who is leading the proposed Project,*

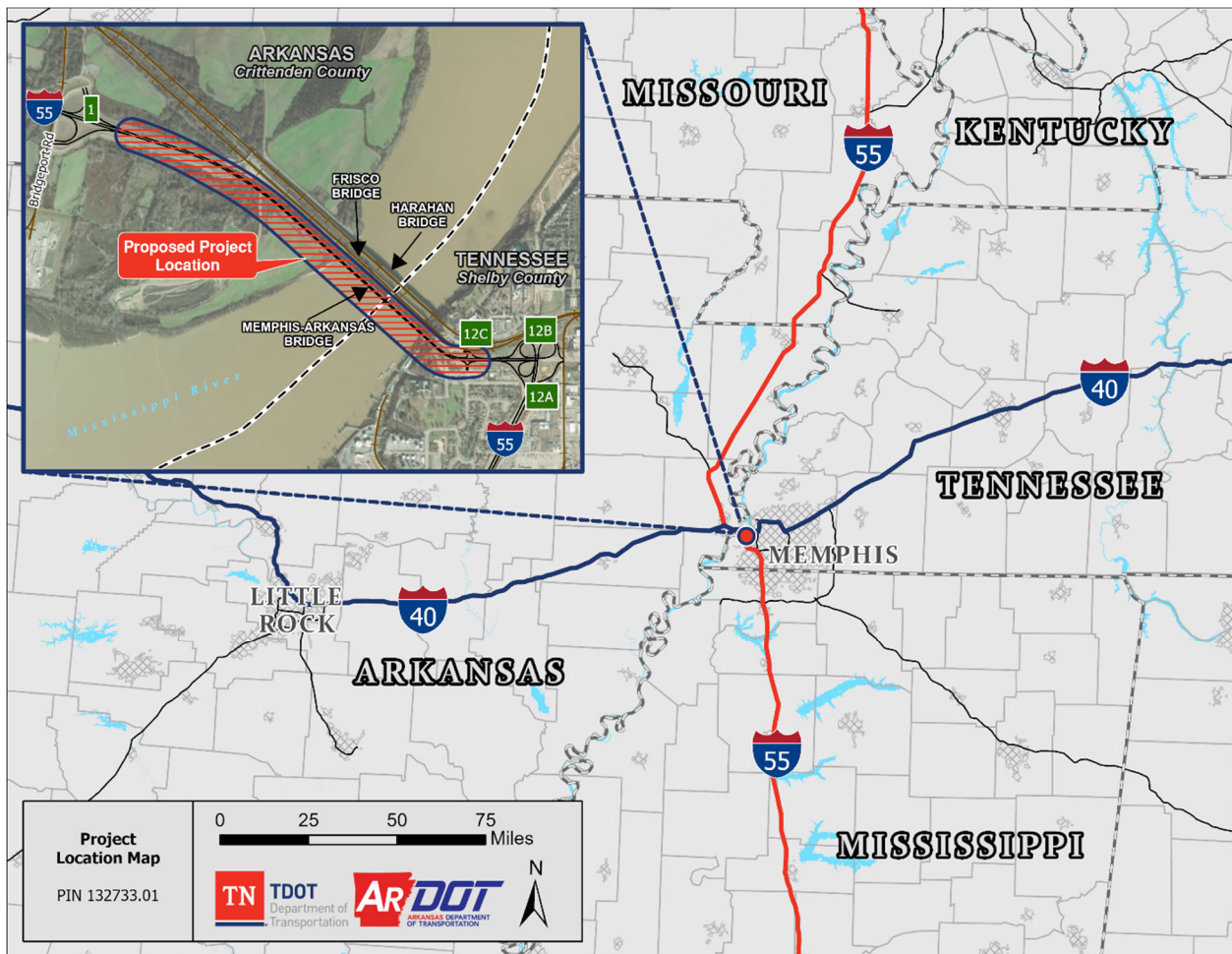
### **1.1. What is the America's River Crossing Bridge Replacement (I-55 Bridge) Project?**

The Tennessee Department of Transportation (TDOT), the Arkansas Department of Transportation (ARDOT), and the Federal Highway Administration, in cooperation with the United States Army Corps of Engineers (USACE) and United States Coast Guard (USCG), propose the replacement of the existing Interstate 55 (I-55) Memphis and Arkansas Bridge (the proposed Project), which carries I-55 across the Mississippi River, located in Shelby County, Tennessee, and Crittenden County, Arkansas. These agencies along with the engineering and environmental consulting firms supporting them are referred to throughout this document as the Project Team.

### **1.2. What are the proposed Project limits?**

The proposed Project limits begin just west of I-55 Exit 12 in Tennessee and extend to just east of I-55 Exit 1 (Bridgeport Road) in Arkansas, a total of approximately 1.5 miles, as depicted in **Figure 1-1**.

Figure 1-1. Project Location Map



Source: Project Team, 2024.

### 1.3. What other studies have been conducted on this corridor?

Over the past 20 years, the I-55 corridor and other Mississippi River crossing studies have been conducted. A *Project History/Past Studies Memorandum* (**Appendix A**) details the prior planning studies, environmental review documents, and technical analyses conducted from 2003 to 2023. A summary of these studies is provided in **Sections 1.3.1-1.3.4**.

#### 1.3.1. Highway 79 and Mississippi River Crossing Study (2003)

The purpose of the Highway 79 and Mississippi River Crossing Study was to determine the feasibility of constructing an interstate-type facility in the vicinity of Highway 79, between Pine Bluff, Arkansas and Highway 61 near Memphis, Tennessee.

An additional need was to improve traffic operations, address safety concerns, and to promote economic development within the corridor. This study included evaluating the impacts and feasibility of an additional Mississippi River crossing.

### 1.3.2. Mississippi River Crossing Feasibility and Location Study, TDOT (2006)

The stated purpose of the Mississippi River Crossing Feasibility and Location Study was to:

- Determine the feasibility of providing an additional Mississippi River bridge crossing in the Memphis metropolitan area, and
- Identify and evaluate possible transportation solutions to help TDOT decide on a preferred corridor alternative for proposed improvements for cross river mobility over the Mississippi River in the vicinity of Memphis.

### 1.3.3. Southern Gateway Study Cost Benefit Analysis, TDOT (2014)

The Southern Gateway Study Cost Benefit Analysis (Southern Gateway Study) was a benefit cost analysis (BCA) performed as part of the Southern Gateway Project. The Southern Gateway Study analyzed the costs, benefits, and impacts of various transportation improvement options within several proposed corridors crossing the Mississippi River.

### 1.3.4. Targeted Approach for Crossing the Mississippi River, Interstate 55 (US 64) (SR 61) TDOT & ARDOT (2023)

The purpose of the Targeted Approach for Crossing the Mississippi River Interstate 55 (US 64) (SR 61) (*Targeted Approach Study*) was to update environmental screening, develop a preliminary purpose and need statement, and identify the likely National Environmental Policy Act (NEPA)<sup>1</sup> Class of Action for a future Mississippi River crossing project.

## 1.4. What are the existing bridge, roadway and traffic conditions?

The existing I-55 Memphis and Arkansas Bridge is one of four bridges crossing the Mississippi River linking Memphis, Tennessee and West Memphis, Arkansas. The four bridges are the existing I-55 Memphis and Arkansas Bridge, the I-40 Hernando De Soto Bridge, the Harahan Bridge and the Frisco Bridge. The existing I-55 Memphis and Arkansas and I-40 Hernando De Soto Bridges carry interstate facilities while the Harahan and Frisco Bridges carry rail lines.

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<sup>1</sup> [\*Federal Highway Administration: NEPA and Project Development.\*](#)

Figure 1-2. Existing I-55 Memphis and Arkansas Bridge



Source: Project Team, 2024. Note: Bridges from foreground to background: Existing I-55 Memphis and Arkansas Bridge, Frisco Bridge, Harahan Bridge, and Hernando De Soto Bridge.

The existing I-55 Memphis and Arkansas Bridge, shown in **Figure 1-2**, serves as a critical connector for residents, workers, and freight movement between Tennessee, Arkansas, and Mississippi as well as a major crossing linking commerce and country from east to west and north to south serving the country's I-40 and I-55 interstate systems. This infrastructure's vital importance was emphasized by the temporary closure of the I-40 Hernando De Soto Bridge in May 2021. The existing I-55 Memphis and Arkansas Bridge stood as the sole alternative for crossing of the Mississippi River between Tennessee and Arkansas.

The existing I-55 Memphis and Arkansas Bridge was opened to traffic in December 1949 prior to this stretch of road being designated Interstate 55. It replaced narrow vehicular traffic lanes added to the Harahan Bridge that had been constructed in 1916 as a railroad bridge. The existing I-55 Memphis and Arkansas Bridge is the southernmost of the Mississippi River bridges in the Memphis area. The bridge is owned and maintained jointly by TDOT and ARDOT.

The existing I-55 bridge was constructed before the inception of the Interstate

*The Federal-Aid Highway Act of 1956 called for uniform geometric and construction standards for the Interstate System. The standards were developed by the State highway agencies, acting through the American Association of State Highway and Transportation Officials (AASHTO) and adopted by the FHWA. Examples of design standards for the Interstate System include full control of access, design speeds of 50 to 70 miles per hour (depending on the terrain), a minimum of two travel lanes in each direction, 12-foot lane widths, 10-foot right paved*

Highway System; therefore, it was not designed to interstate standards. It does not meet current design criteria for freeways with median barriers. The I-55 roadway on the bridge consists of four 10-foot-wide lanes (two in each direction) and is separated by a concrete barrier with no shoulders. It is narrower than the approach roadway widths in both Tennessee and Arkansas. There are sidewalks along both sides of the bridge, separated from the travel lanes by concrete barriers; however, pedestrians and bicycles are currently prohibited from using these sidewalks<sup>2</sup>. The posted speed limit within the project limits is 45 miles per hour (mph). In 2024, the average daily traffic for the I-55 bridge was approximately 43,000 vehicles per day, and the daily truck percentage was 35 percent. The *Baseline Conditions Memorandum* (**Appendix B**) and *Traffic Operations and Safety Memorandum* (**Appendix C**) provide additional information about the roadway, bridge and traffic conditions.

## 1.5. Why does the existing bridge need to be replaced?

A detailed assessment of the existing conditions and extensive data collection tasks were undertaken to understand the current deficiencies of the existing bridge as discussed in the *Baseline Conditions Memorandum* (**Appendix B**). This data along with the *Project History/Past Studies Memorandum* (**Appendix A**) and public and agency input, supported the Project Team's determination that the proposed Project is primarily needed to improve safety; however, there are other needs and goals that would also be addressed as discussed in **Sections 1.5.1-1.5.4** and the *Purpose and Need Memorandum* (**Appendix D**).

### 1.5.1. Safety



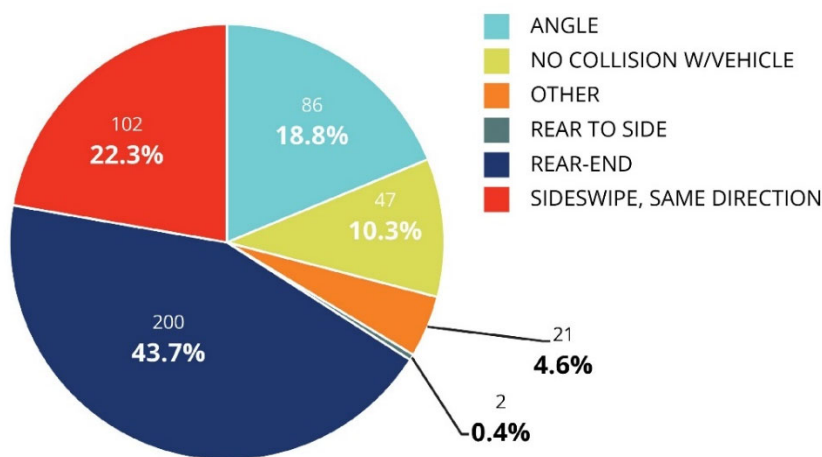
The existing I-55 Memphis and Arkansas Bridge was designed in 1944 and opened to traffic in 1949. As such, the facility has numerous well-documented geometric deficiencies needing to be updated to be in compliance with the [Manual for Assessing Safety Hardware \(MASH\)](#) guidelines.

National Bridge Inventory (NBI) Appraisal Ratings published in 2024 by ARDOT rate the existing bridge's deck geometry as "*Basically intolerable requiring high priority of replacement*". Additional NBI Bridge Condition Ratings show the existing bridge components to be at "*Fair*" or "*Satisfactory*" conditions.

<sup>2</sup> Because there are no shoulders on the existing bridge, the proximity of the sidewalk to high speed vehicular and truck traffic makes it unsafe for pedestrians and bicyclists to use.

A total of 458 crashes occurred on I-55 during the five-year period from 2018 to 2022 within the project area<sup>3</sup>. As illustrated in **Figure 1-3**, among the 458 total crashes, approximately 44 percent were rear-end crashes, 19 percent were angle crashes, 10 percent were single vehicle crashes and 22 percent were sideswipe crashes. The remaining crashes were identified as “other” manner of collision and a rear to side crash. Rear-end crashes are generally attributed to vehicles following too close due to congestion. Angle crashes are generally attributed to vehicles failing to yield to opposing traffic while making a turning movement. Single and sideswipe crashes typically involve collisions with an animal/structure because of distracted driving or driving under the influence.

**Figure 1-3. Crashes by Manner of Collision (2018-2022)**



Sources: [ACAT](#) & [E-TRIMS](#), Accessed March 2024.

### 1.5.2. Maintain State of Good Repair



The existing I-55 Memphis and Arkansas Bridge does not meet current design standards, has seen increasing maintenance costs over time, and hinders the resiliency of the regional tri-state network. These deficiencies must be corrected in order to maintain a state of good repair (SOGR). The existing I-55 Memphis and Arkansas Bridge is not consistent with the objectives of both [TDOT](#) and [AR DOT's Transportation Asset Management Plans \(TAMPs\)](#) because it is a structurally deficient and poorly rated (NBI) bridge that cannot be maintained in a SOGR.

<sup>3</sup> The project area for assessing traffic and safety conditions generally included a 300-foot buffer from the proposed alternative centerline, extending from the E.H. Crump Interchange in Memphis, TN to the Bridgeport Interchange in Crittenden County, AR.

Regarding the high cost of maintaining the existing I-55 Memphis and Arkansas Bridge, operating and maintenance (O&M) costs were assessed for the existing structure as part of a March 2023 Benefit-Cost Analysis<sup>4</sup>. Maintenance of the existing I-55 Memphis and Arkansas Bridge is shared by both TDOT and ARDOT. For bridge structures, O&M costs of \$50,000 per year (2023 dollars) is assumed for a proposed new bridge. However, the O&M cost of maintaining the existing structure would be approximately \$1M per year (2023 dollars). In addition, the current bridge coating was originally applied during the construction of the bridge in the late 1940s. Accordingly, bridge painting costs must account for the removal of lead-based paint, which requires a specialized containment system and regulated disposal. The repainting cost of the existing I-55 Memphis and Arkansas Bridge structure per 30-years would be approximately \$50M (2023 dollars).

### 1.5.3. Ability to Withstand a Strong Earthquake to Provide Route Resiliency

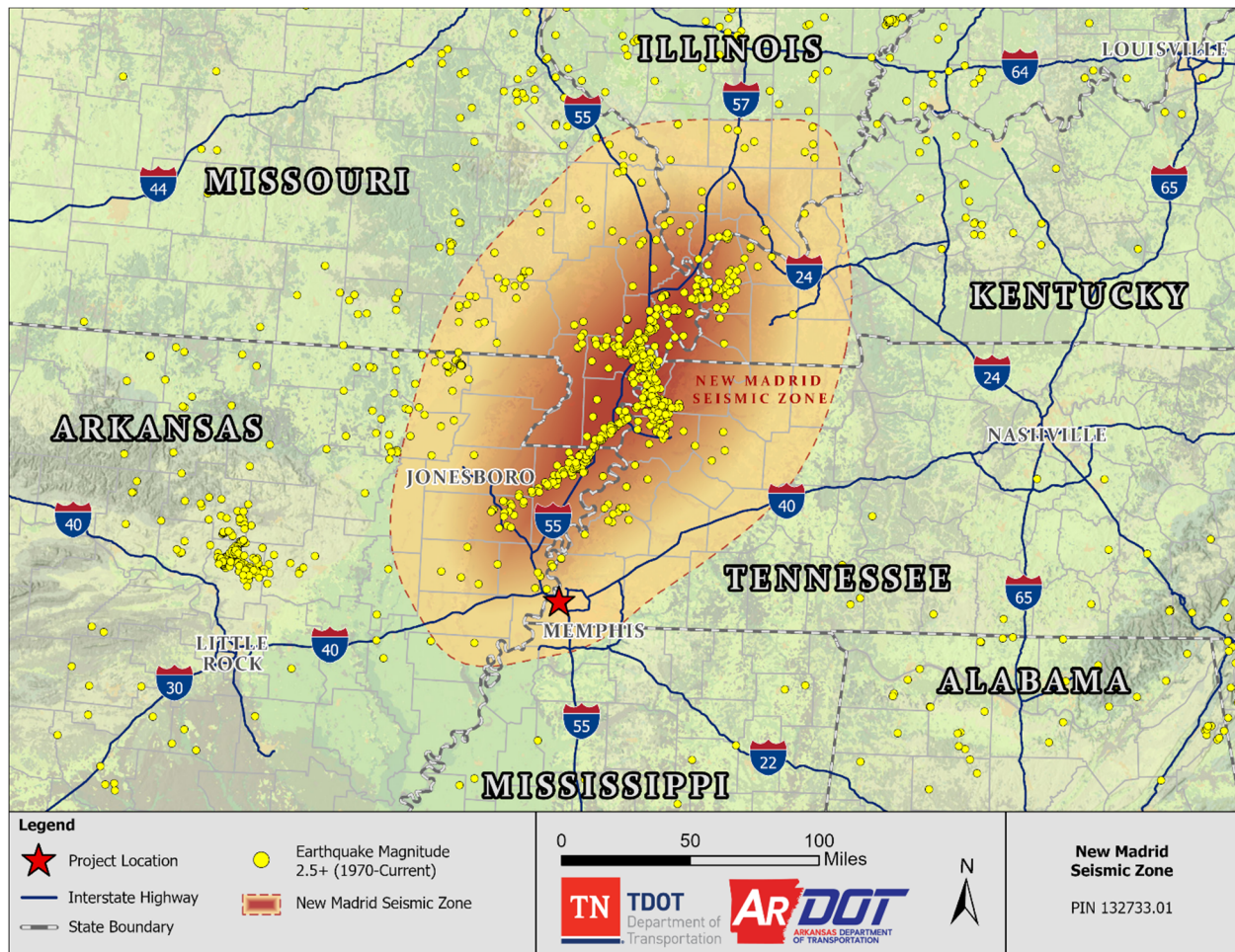


The existing I-55 Memphis and Arkansas Bridge is located within 100 miles of the New Madrid Seismic Zone (NMSZ). In December 1811, the area experienced the most powerful earthquake to hit the contiguous United States east of the Rocky Mountains in recorded history, estimated to be between magnitude 7 and 8 on the [Richter Scale](#)<sup>5</sup>, which is a quantitative measure of an earthquake's magnitude. At least three large aftershocks with magnitudes that were estimated in range from 6.0 to 7.0 occurred in early 1812. In addition, hundreds of small seismic events still occur annually in the NMSZ. The existing I-55 Memphis and Arkansas Bridge was not constructed to withstand a strong earthquake, which is defined by The U.S. Geological Survey as a magnitude of 6.3 or higher on the Richter Scale. An earthquake could not only damage the existing bridge, but could also lead to a disruption of normal traffic operations and use of I-55 as an emergency evacuation route. The proposed Project's location in relation to the NMSZ is depicted on **Figure 1-4**.

<sup>4</sup> Targeted Approach for Crossing the Mississippi River Interstate 55 (US 64) (SR 61), Appendix F: Benefit-Cost Analysisist Technical Memorandum, March 2023.

<sup>5</sup> The magnitude of the December 1811 earthquake and subsequent aftershocks were estimated because the Richter Scale was not devised until 1935.

Figure 1-4. New Madrid Seismic Zone



Source: USGS (2023), Project Team, 2024.

### 1.5.4. Secondary Goals

The secondary goals for the proposed Project are summarized below, with additional details included in the *Purpose and Need Memorandum*.



#### **ENHANCE MULTIMODAL CONNECTIVITY, INCLUDING NON-MOTORIZED**

**ACCESS** - Multimodal connectivity is lacking in the vicinity of the existing I-55 Memphis and Arkansas Bridge. The proposed Project would explore the feasibility of expanding the existing shared use path, connecting non-motorized travelers in the project area to jobs, parks, and recreation and improving connections to the Big River Crossing. Additionally, the proposed Project would address better connectivity at existing trailheads along the Big River Crossing.



**IMPROVE FREIGHT MOVEMENT** - In terms of total tonnage, truck freight represented 42 percent of the total tons in the Mid-South (Memphis) Region in 2019 and is forecasted to increase to 48 percent in 2050. I-55 serves as a major freight corridor for the Mid-South region. Traffic on the existing I-55 Memphis and Arkansas Bridge was approximately 30 percent trucks.



**PROMOTE INNOVATIVE AND TIMELY DELIVERY** – The proposed Project would be delivered via an alternative delivery method to expedite the project and begin construction in 2026. Alternative delivery encourages contractors to streamline their work to finish projects early while also encouraging the identification and incorporation of innovative solutions to address issues such as travel delays and access to businesses. The proposed Project is planning to consider several innovative technologies during the design and construction phases. These innovative technologies include, but are not limited to seismic innovations, wind performance, material innovations, security innovations, safety innovations, and energy saving enhancements.



**IMPROVE THE ECONOMIC VITALITY OF THE REGION** - By reducing congestion and improving travel times, the proposed Project would potentially expand businesses' access to customers, suppliers, and workers, thereby increasing their productivity, sales, and ability to create new jobs. The proposed Project would also eliminate logistics costs valued at \$174,413 per day resulting from lost trips due to a bridge closure. This avoided cost will unlock additional revenue and job creation among regional shippers and carriers. The proposed Project would enhance mobility to meet the current and future demands of growth and employment, ultimately contributing to the economic prosperity of Memphis, West Memphis, and the broader tri-state area.

## 1.6. What is the purpose of the proposed Project?

The purpose of the proposed Project is to improve geometric and structural deficiencies of the existing bridge, reduce ongoing maintenance costs and provide a facility that achieves/is in a state of good repair, and provide an earthquake resilient route that also has operational continuity for freight and passenger vehicles.

## 1.7. What is the purpose of this Environmental Assessment?

An [Environmental Assessment \(EA\)](#) is a concise public document for which a Federal agency is responsible that briefly provides sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement or a Finding of No Significant Impact (FONSI) in accordance with the National Environmental Policy Act (NEPA).

This EA has been prepared to:

- Briefly discuss the need for the proposed Project;
- Identify alternatives considered and analyzed;
- Evaluate the environmental impacts of replacing the bridge on I-55; and
- Inform the public, agencies, and decision makers about the proposed Project and receive feedback from and document coordination with the public, agencies and decision makers consulted about the environmental effects of the proposed Project.

## 1.8. Who is leading the proposed Project?

This proposed Project is being led through a partnership among FHWA, TDOT, and ARDOT. The FHWA is involved because it is the lead federal agency and has the primary responsibility for the content and accuracy of this NEPA document and because Federal funding would be required to complete the proposed Project.

TDOT and ARDOT jointly applied for and were awarded a discretionary grant in July 2024 under the [Bridge Investment Program as a Large Bridge Project](#). The grant award of approximately \$400M funds 50 percent of the total Project cost. TDOT and ARDOT would be responsible for funding 25 percent each of the total Project cost. TDOT would utilize non-Federal funding and ARDOT would utilize 20 percent non-Federal and 80-percent other Federal funding. TDOT is leading the project development and delivery phases of the proposed Project.

*The National Environmental Policy Act (NEPA) establishes a national environmental policy and provides a framework for environmental planning and decision making by Federal agencies. NEPA directs Federal agencies, when planning projects or issuing permits, to conduct environmental reviews to consider the potential impacts on the environment by their proposed actions.*

### 1.8.1. Cooperating Agencies

In accordance with Title 40 of the Code of Federal Regulations (CFR) 1501.8 of the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provision of NEPA, early agency coordination was conducted. Two agencies were identified and invited on April 5, 2024, to be cooperating agencies; the U.S. Coast Guard (USCG) and the U.S. Army Corps of Engineers (USACE). Both were invited because of their jurisdictional authority, special expertise, and regional interest.

The USACE agreed to be a cooperating agency on May 1, 2024, through formal email correspondence. While the USCG did not respond in writing, a USCG representative stated they would be a cooperating agency at a meeting held on January 26, 2024, and they have actively participated throughout the NEPA process. The USACE's acceptance and the USCG's ongoing participation as cooperating agencies is documented in **Appendix E (Agency Correspondence)**. Once the Draft EA has been approved by the FHWA, a Notice of Availability (NOA) will be distributed to both agencies. As requested by USACE, coordination



is needed to comply with Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and to obtain Section 408 Approval pursuant to Section 14 of the Rivers and Harbors Act (RHA) of 1899 as codified in Title 33 of the United States Code (USC) 408. As requested by USCG, coordination is needed to comply with navigational clearance requirements and Section 9 of the RHA.

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## 2. PROJECT ALTERNATIVES

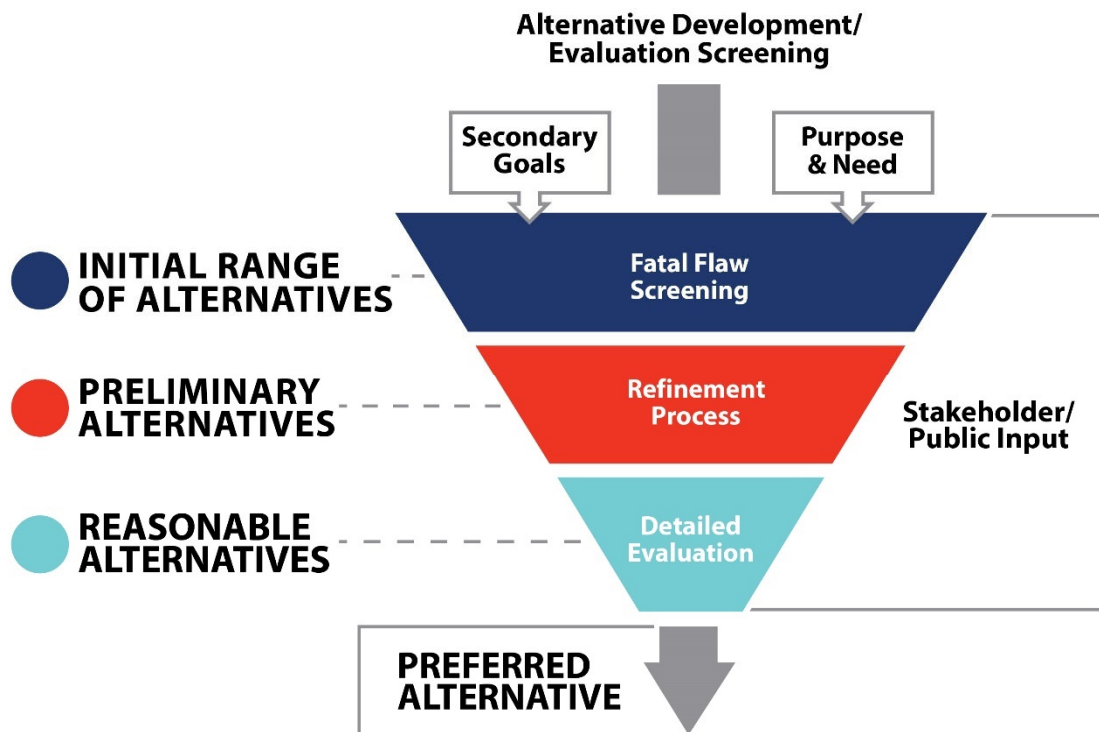
### WHAT'S IN CHAPTER 2?

Chapter 2 briefly describes the alternatives evaluated in this EA and how the public and tribes have been involved with the proposed Project.

### 2.1. What alternatives were evaluated and how were they screened?

The alternatives screening process established for the proposed Project functions similarly to a funnel with multiple levels of screening, blending various design strategies with corridor needs and goals into a set of refined transportation alternatives and then assessing those alternatives through a “filtering”, or evaluation process as shown in **Figure 2-1**. The alternative screening process utilized for the proposed Project is detailed in the *Alternatives Screening Memorandum (Appendix F)*.

Figure 2-1. Alternatives Screening Process



Source: Project Team, 2024.

### 2.1.1. Initial Range of Alternatives

Several past studies (discussed in **Section 1.3**) informed the development of the Initial Range of Alternatives. The Initial Range of Alternatives included multimodal alternatives, a bridge rehabilitation alternative, and Corridors 2, 4, 5A, 5B, and 6 from the *Targeted Approach Study*, as well as the No-Build Alternative (**Section 2.1.6**). Corridors 2, 4, and 6 were new location corridors that would provide an additional or third crossing of the Mississippi River. Corridors 5A and 5B were replacement crossings for the existing I-55 bridge. These five build corridors are described below and shown in **Figure 2-2**.

**Corridor 2** – Corridor 2 was the longest alignment considered at just under 15 miles in total length. The western terminus is I-40 in West Memphis, Arkansas and the proposed alignment proceeded generally south/southeast, terminating at US-61 just north of the Tennessee-Mississippi state line.

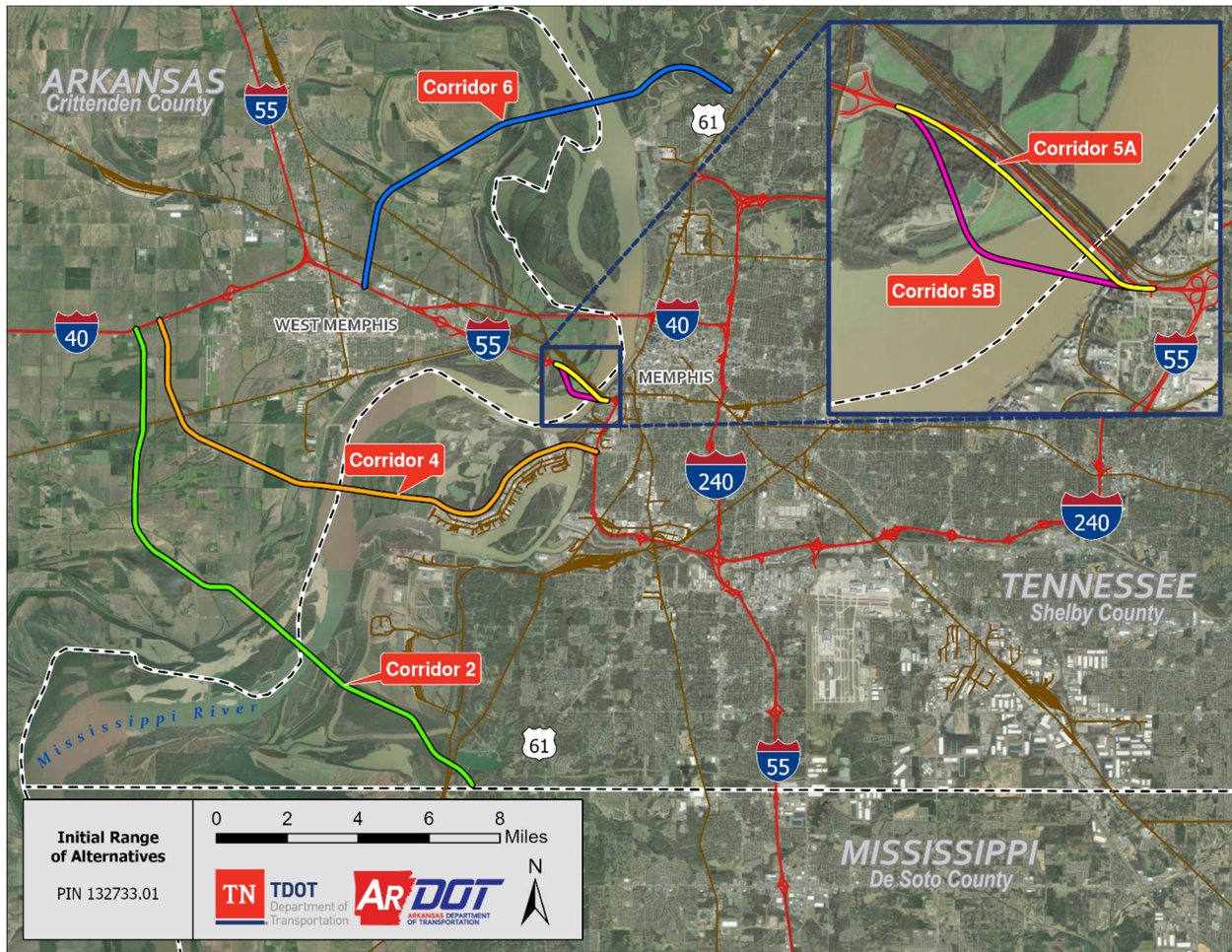
**Corridor 4** – Corridor 4 was just over 13 miles in length. The western terminus is I-40 in West Memphis, Arkansas, and the proposed alignment proceeded south/southeast as it enters Tennessee, then shifted north ultimately tying in to the existing I-55/East Parkway interchange.

**Corridor 5A** – Corridor 5A was just over 1.5 miles and was on the existing I-55 alignment. The western terminus was just east of the Bridgeport Road interchange in West Memphis, Arkansas and the proposed alignment extended east, tying into existing I-55 at the E.H. Crump Interchange, currently under construction.

**Corridor 5B** – Corridor 5B was approximately 1.7 miles in length. The western terminus was just east of the Bridgeport Road interchange on the existing I-55 alignment in Arkansas. The proposed alignment shifted southeast of the existing I-55 alignment then tied into existing I-55 at the E.H. Crump interchange, currently under construction.

**Corridor 6** – Corridor 6 was just over 11 miles in length. The western terminus was I-40 in West Memphis, Arkansas and the proposed alignment proceeded generally north/northeast for and terminated at US-61.

Figure 2-2. Initial Range of Alternatives



Source: Project Team, 2024; Adapted from the Targeted Approach Study, 2023.

### 2.1.2. Level 1 Screening

After the Initial Range of Alternatives were established, the Level 1 Screening was conducted, which was a fatal flaw analysis based on whether or not the alternative met the purpose and need.

Multimodal alternatives would not improve the existing bridge's structural deficiencies, nor would these alternatives improve the seismic resiliency of the existing I-55 bridge. Multimodal alternatives did not meet the purpose and need of the proposed Project; therefore, they did not advance to Level 2 Screening. Note that multimodal connectivity, including improving non-motorized access (e.g., bicycle and pedestrian), was evaluated as part of the proposed Project.

A bridge rehabilitation alternative was analyzed; however, the existing bridge would require seismic retrofitting to meet current standards. Bridge rehabilitation was determined to not be feasible due to prohibitive maintenance costs. Furthermore, retaining the existing

bridge poses a navigational challenge and safety risk to river navigation due to potential allisions<sup>6</sup>. In addition, the existing bridge is a through truss that cannot be widened to improve deck geometry and meet current design criteria for interstate highway bridges. Bridge rehabilitation did not meet the purpose and need of the proposed Project; therefore, it did not advance to Level 2 Screening.

Although some alternatives, like bridge rehabilitation, were screened out for NEPA, they were still analyzed for the purpose of the Section 4(f) Programmatic Net Benefit analysis of E.H. Crump Park. Additional details are included in **Section 3.13.1** and **Appendix P**.

The five build corridors met the purpose and need and no fatal flaws were identified; thus, each corridor advanced to Level 2 Screening and were evaluated as the Preliminary Alternatives.

### 2.1.3. Preliminary Alternatives (Level 2)

As part of the *Targeted Approach Study*, Corridors 2, 4, 5A, 5B, and 6, as well as the No-Build Alternative, were environmentally screened using available geographic information system (GIS) and other online database sources. Based on this analysis, Corridors 5A and 5B resulted in the least environmental impacts when compared to Corridors 2, 4, and 6.

A cost-benefit analysis was also completed for these corridors. Annual costs and benefits were computed over a 30-year period. Corridors 5A and 5B had a favorable benefit-cost ratio, with positive estimates for economic competitiveness benefits, emission reduction benefits, and safety benefits, and lower planning level cost estimates and operating cost estimates compared to the other corridors. Considering all monetized benefits and costs, Corridor 5A had the highest benefit-cost ratio.

Corridors 2, 4, and 6 had bridge lengths approximately twice as long as Corridors 5A and 5B, had much higher costs, would take longer to construct, and could require an Environmental Impact Statement<sup>7</sup> and were therefore eliminated from further consideration. Corridor 5A and Corridor 5B, henceforth referred to as Alternatives 5A and 5B, were determined to be the Reasonable Alternatives and therefore advanced to the Level 3 Screening.

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<sup>6</sup> An allision is a nautical term used to describe a vessel striking a stationary object such as a rock, bridge or dock.

<sup>7</sup> As discussed in the *Targeted Approach for Crossing the Mississippi River Interstate 55 (US 64) (SR 61) study* (May 2023), the location of Corridors 2, 4 and 6 were on new location corridors that proposed an additional crossing of the Mississippi River rather than a bridge replacement; therefore, greater amounts of right-of-way would likely be required and could increase the likelihood of significant environmental impacts. Per 23 CFR 771.115, an EIS is prepared for actions that significantly affect the environment.

### 2.1.4. Reasonable Alternatives (Level 3)

The No-Build Alternative and Alternatives 5A and 5B were qualitatively assessed based on the screening factors of Safety, Operations, Environmental, Maintenance, and Cost Efficiency using the rating system outlined in **Table 2-1**.

**Table 2-1. Alternatives Screening Rating System**

Positive (Achievement)		Negative (Impact)	
	Complete Achievement	High Impact	
	Substantial Achievement	Substantial Impact	
	Half Achievement	Moderate Impact	
	Some Achievement	Some Impact	
















Source: Project Team, 2024.

As demonstrated in **Table 2-2**, Alternative 5A scored the highest in all categories except Environmental compared to the No-Build Alternative; and Alternative 5A scored higher than Alternative 5B in all categories, except for Safety, where Alternatives 5A and 5B scored equally.

Cost and impacts to navigation (Operations) were major influencers affecting the screening analysis. For any bridge type, Alternative 5B would cost more than Alternative 5A, as it is approximately 1,000 feet longer. In addition, because Alternative 5B would be skewed crossing the river, the bridge spans over the navigation channels would be substantially longer, adding up to 18 percent to the cost of the navigation unit alone. Also, because of Alternative 5B's skewed alignment across the river, the piers would be at a skew to both the flow of the river and the navigation channel, causing an unnecessary obstruction to the flow of the river increasing the potential for hydraulic impacts and erosion around bridge piers and roadway embankment. On the Memphis side of the river, Alternative 5A would impact a structure associated with one business, but would not displace the existing business itself. Alternative 5B would likely displace this same existing business.

Based on the reasoning presented above, Alternative 5A was identified as the Build Alternative to be evaluated along with the No-Build Alternative in the Draft EA. Alternative 5B will no longer be carried forward or analyzed for potential impacts in this EA. The results of the alternatives screening are detailed in Section 6 of the *Alternatives Screening Memorandum*, which is presented in **Appendix F**.

Table 2-2. Alternative Screening Matrix Summary

Category	No-Build	5A	5B
Safety			
Operations			
Environmental			
Maintenance			
Cost Efficiency			

Source: Project Team, 2024.

### 2.1.5. Build Alternative

The Build Alternative begins in Memphis, TN near the E.H. Crump interchange, currently under construction, and ends in West Memphis, Arkansas near the I-55/Bridgeport Road interchange. The proposed Project is approximately 1.5 miles long and consists of on and off ramps to the E.H. Crump interchange, which would be modified<sup>8</sup> to match the proposed bridge alignment. The proposed Project would include two, 12-foot wide through lanes in each direction, a 12-foot wide auxiliary lane<sup>9</sup> in each direction, and 10-foot wide inside and outside shoulders in each direction. The proposed bridge would be approximately 122 feet south and downstream of the existing bridge centerline. This offset would allow the existing bridge to remain in service while the proposed main span bridge over the river and the proposed approach bridges are constructed.

Starting from the Arkansas side, the proposed at grade roadway section connecting existing I-55 near the Bridgeport Road interchange would be nearly 1,400 feet in length, ending at the approach bridge abutment.<sup>10</sup>

<sup>8</sup> The newly constructed E.H Crump ramps and the I-55 main lanes between the existing I-55 Bridge and the proposed I-55 flyover bridges would need to be reconstructed to transition to the new bridge alignment. However, traffic is expected to be maintained on the existing bridge while the proposed bridge is under construction.

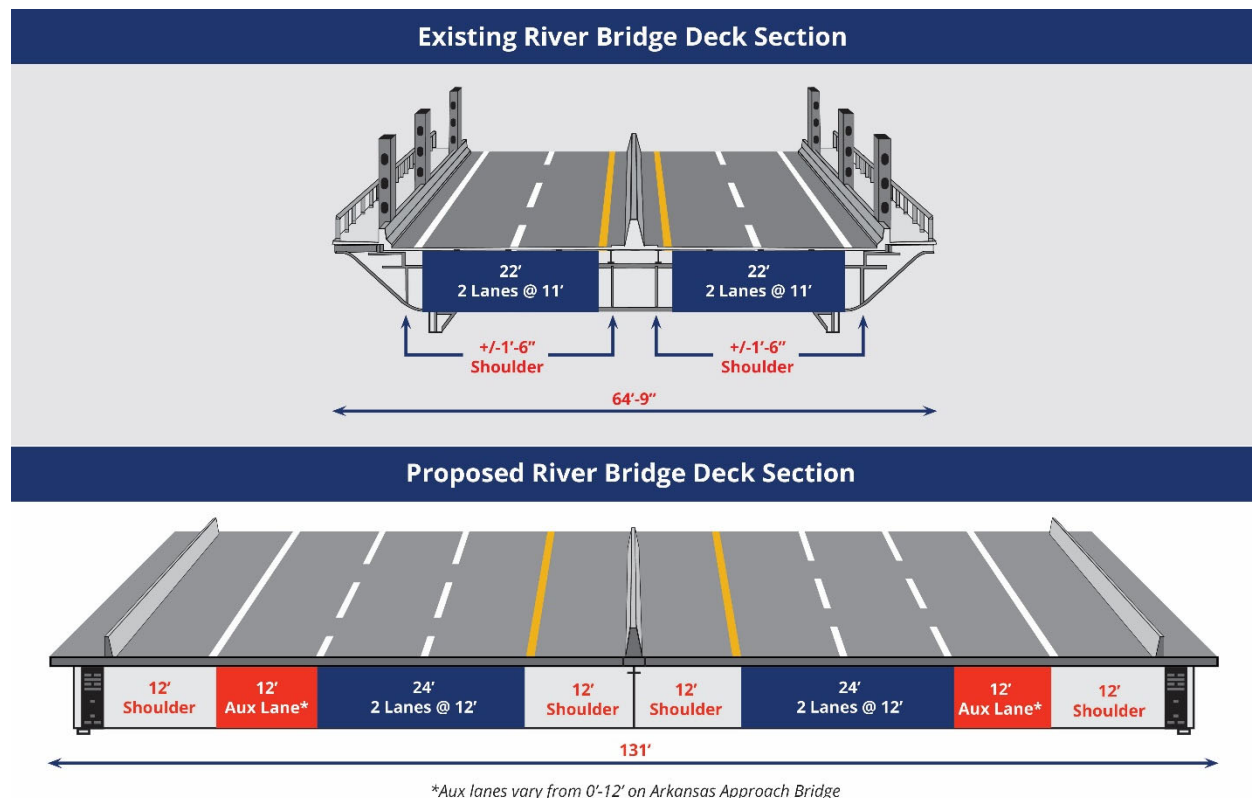
<sup>9</sup> An auxiliary lane is the portion of the roadway adjoining the traveled way for speed change, turning, weaving, truck climbing, maneuvering of entering and leaving traffic, and other purposes supplementary to through-traffic movement.

<sup>10</sup> A bridge abutment is a retaining wall supporting the ends of a bridge, and, in general, retaining or supporting the approach embankment, <https://www.modot.org/common-bridge-terms>.

The proposed approach bridge on the Arkansas side would be 3,000 feet in total length with piers approximately every 160 feet, ending at the tie-down pier of the main span river crossing bridge. The proposed main span river crossing bridge would likely be a cable-stay system consisting of two or three pylons with piers aligned with the existing piers of the Frisco and Harahan Bridges to maintain the current navigation clearances. The proposed cable stay bridge length would be between 2,400 feet to 2,800 feet depending on the final roadway configuration and coordination with the United States Coast Guard (USCG).

The proposed roadway section on the Memphis side connecting to I-55 and the E.H. Crump interchange ramps would be approximately 950 feet in length. The length of the proposed modified southbound and northbound I-55 on/off-ramps connecting to the E.H. Crump interchange would be approximately 400 feet in length. In addition, approximately 1,200 feet of the Dacus Lake Road on the Arkansas approach would be realigned to maintain access to the Big River Trail on the north side of the proposed roadway. The existing and proposed typical sections are depicted in **Figure 2-3**.

**Figure 2-3. Existing and Proposed Typical Sections**



Note: Aux = Auxiliary. Source: Project Team, 2024.

### 2.1.6. No-Build Alternative

The existing I-55 bridge would remain in place under the No-Build Alternative. The No-Build Alternative assumes that several other capacity-enhancing and safety-related projects (i.e.

rebuild of E.H. Crump interchange) in the Project area would be constructed or implemented, as identified in the Memphis Metropolitan Planning Organization's [MOVING TOGETHER 2050 Regional Transportation Plan](#). The No-Build Alternative does not meet the purpose and need, but is required by NEPA and serves as the baseline to which the other alternatives are compared. The No-Build Alternative, because of the existing bridge's 75-year age, would require annual maintenance including concrete and structural steel repairs that would continually escalate in scope and cost, as well as significant investment in repainting and seismic retrofitting.

## 2.2. How has public and stakeholder involvement occurred?

The public, stakeholders, and resource/regulatory agencies have had several opportunities to provide input. The purpose and need and alternatives analysis methodology and alternatives were presented, and input was solicited at a stakeholder meeting held on April 4, 2024, and at two open house public meetings held April 18, 2024, in Memphis, TN and April 25, 2024, in West Memphis, AR. A summary of the public and stakeholder meetings that have been conducted is provided in **Appendix G** (*Public and Stakeholder Involvement Summary*) and is summarized in below.

TDOT also developed a [Project website](#) for the public to obtain information on demand. The website includes a project description, current status, funding, history and background, all exhibits shown at the April public meeting series, frequently asked questions, the public involvement plan and other Project details, including contact information.

Exhibits shown and information provided during the April public meetings and made available online included:

- Public Meeting Information Handout, including Frequently Asked Questions;
- Alternatives Screening Criteria;
- Existing Crash Concentrations Data;
- Alternatives Screening Methodology;
- Environmental Resources Map;
- Existing Traffic Data, including Freight;
- Conceptual Layout;
- NEPA Schedule;
- Project History and Background, including Previous Studies;
- Project Location Map;
- Purpose and Need and Secondary Goals;
- Renderings of Potential Cable-Stayed Bridge Options;
- Narrated Project Video;
- Existing and Proposed Typical Sections; and
- Project Survey (Online and a Hard Copy Form Were Provided).

The comment period for the April Public Meetings was from April 18 through May 16, 2024. Of the 445 comments received, the primary topics and questions received were categorized in the following themes: Design, Traffic, Need for the Project, Bicycle/Pedestrian, and Safety. There were 185 in-person attendees and over 5,000 views of the Public Meeting Materials and Narrated Project Video. The overall sentiment towards the proposed Project after Public Meeting 1 was positive, with 79 percent of comments categorized as positive and 91 percent of respondents reporting that they understand the proposed Project after attending the Public Meeting and/or reviewing the materials as documented in **Appendix G**.

### 2.3. How have Tribal Governments been Involved?

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consult with tribes where projects could affect tribal areas with historical or cultural significance.

An invitation to participate in the Section 106 process was sent on April 2, 2024 to all federally recognized Native American tribes with interests in the subject county: Absentee-Shawnee Tribe of Indians in Oklahoma, Cherokee Nation, Eastern Shawnee Tribe of Oklahoma, Jena Band of Choctaw Indians, Kialegee Tribal Town, Shawnee Tribe, The Chickasaw Nation, The Choctaw Nation of Oklahoma, The Muscogee (Creek) Nation, The Quapaw Nation, Thlopthlocco Tribal Town, and United Keetoowah Band of Cherokee Indians in Oklahoma.

On April 5, 2024, the Quapaw Nation responded with a finding of “no effect” to known properties of significance. The Quapaw Nation requested to be contacted in the event of an inadvertent archaeological finding. The Chickasaw Nation responded and accepted the invitation to be a consulting party on April 15, 2024. The Choctaw Nation of Oklahoma responded and accepted the invitation to be a consulting party on May 2, 2024. The Cherokee Nation responded and accepted the invitation to be a consulting party on May 3, 2024.

To date, no other responses have been received. TDOT will re-initiate consultation if additional cultural resources studies are required or if archaeological materials or human remains are discovered during construction. All Native American correspondence is on file with TDOT Cultural Resources.

### 3. POTENTIAL EFFECTS

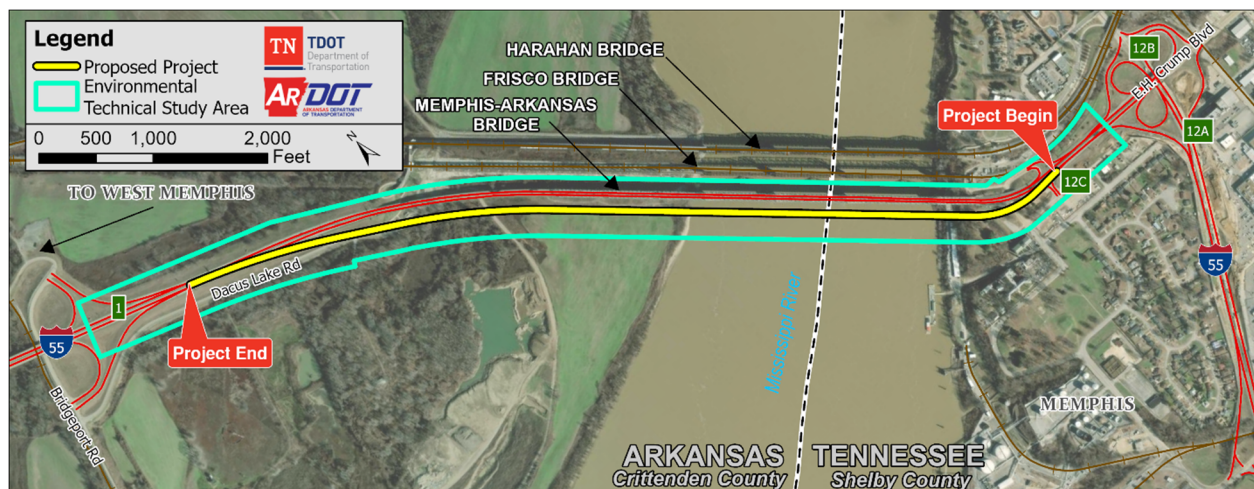
#### WHAT'S IN CHAPTER 3?

Chapter 3 identifies permanent and temporary impacts<sup>11</sup> that are expected as a result of the proposed Project.

#### HOW WERE POTENTIAL EFFECTS IDENTIFIED?

Potential effects were generally identified within the Environmental Technical Study Area (ETSA)<sup>12</sup> for field studies, unless otherwise indicated for a specific resource. The ETSA depicts the potential limits of construction, including a study area boundary that was used for field studies as depicted in **Figure 3-1**. Per TDOT guidelines, the ETSA extends a minimum of 300 feet past either end of a project. For the proposed Project, the ETSA length extends 600 feet beyond the E.H. Crump interchange ramps (Exit 12C) and 1,000 feet beyond the Bridgeport Road interchange ramps (Exit 1).<sup>13</sup> The ETSA width extends 50 feet on either side of the proposed right-of-way (ROW).

Figure 3-1. Environmental Technical Study Area



Source: Project Team, 2024.

<sup>11</sup> The terms "effect" and "impact" are used synonymously in the CEQ regulations (40 CFR 1508.8).

<sup>12</sup> The ETSA is a TDOT concept that allows for environmental resources to be identified and considered in the early planning stages. The ETSA extends beyond the proposed project right-of-way.

<sup>13</sup> The ETSA length and widths were developed per TDOT guidance and modified based on engineering judgment to include roadway transitions.

### 3.1. How would the proposed Project affect traffic and safety?

#### 3.1.1. How would the Project affect existing traffic?

Traffic analyses were performed for Existing, Opening, and Design Years<sup>14</sup> (2024, 2030, and 2050, respectively). A level of service (LOS) analysis was conducted to determine how well traffic currently operates on the existing roadway network. For both the Opening and Design Year scenarios, it was observed that the Build Alternative would perform at an LOS better than the No-Build Alternative as shown in **Table 3-1** and detailed in **Appendix C (Traffic and Safety Operations Analysis Memorandum)**.

*LOS is a qualitative measure of expected traffic conflicts, delay, driver discomfort, and congestion. LOS measurements rate how well traffic operations using the letters A through F, with the letter A representing the least delayed or congested conditions, and the letter F representing the most delayed or congested conditions. LOS D is generally considered to be the lowest threshold for desirable traffic operations used for freeways and arterial roadways in urban and suburban areas.*

**Table 3-1. Level of Service**

Year	Segment	No-Build		Build	
		AM	PM	AM	PM
Open Year (2030)	I-55 EB	LOS D	LOS C	LOS B	LOS B
Open Year (2030)	I-55 WB	LOS C	LOS D	LOS B	LOS B
Design Year (2050)	I-55 EB	LOS E	LOS D	LOS C	LOS B
Design Year (2050)	I-55 WB	LOS D	LOS E	LOS B	LOS C

Source: Project Team using HCS, 2024.

The No-Build Alternative would result in increasing traffic congestion as traffic volumes increase in the future.

#### 3.1.2. How would the proposed Project affect safety?

The Build Alternative would provide better operations for both passenger vehicles and trucks within the project area when compared with the No-Build Alternative. The safety

<sup>14</sup> The opening year is the year the project is open to traffic. The design year is 20 years in the future from the year of initial construction.

analysis indicates a substantial decrease in both the frequency and severity of crashes with the Build Alternative's improved typical section. During the Opening Year 2030, the Build Alternative is expected to achieve a reduction in the total number of crashes by 24 percent; in fatal and injury crashes by 40 percent; and in property damage-only (PDO) crashes by 20 percent when compared to the No-Build Alternative. For the Design Year 2050, the Build alternative is expected to achieve a reduction of 22 percent in total annual crashes, 36 percent in fatal and injury crashes, and 18 percent in PDO crashes as described in **Appendix C** (*Traffic Operations and Safety Memorandum*).

The No-Build Alternative would not address any of the safety hazards or reduce the crash rates, and conditions would become increasingly dangerous as traffic volumes increase on I-55.

### 3.2. How much would the proposed Project cost?

Using 2023 dollars, the Build Alternative is estimated to have a Total Project Cost of \$790M as shown in **Table 3-2**. The No-Build Alternative would result in repainting cost of \$50M due to the presence of lead-based paint, seismic retrofitting cost of \$250-\$500M, and additional, consistently increasing routine maintenance costs due to the 75-year age of the existing bridge.

**Table 3-2. Total Project Cost for Build and No-Build Alternatives**

Component	Total Project Cost (M)	% of Project
Design	\$40.0	5.1%
Environmental	\$5.0	0.6%
Right-of-Way	\$5.0	0.6%
Utilities	\$2.0	0.3%
Construction Engineering	\$60.0	7.6%
Construction	\$520.0	65.8%
Contingencies	\$158.0	20.0%
<b>Total for Project:</b>	<b>\$790.0</b>	<b>100.0%</b>
<b>Total for No-Build Alternative:</b>	<b>\$375-\$690</b>	<b>100.0%</b>

*Source: Project Team, 2024.*

### 3.3. How would the local community be affected?

This subsection discusses how the proposed Project could affect existing community cohesion and stability, existing properties, the local economy, environmental justice communities and social conditions. These topics are covered in their entirety within **Appendix H** (*Socioeconomic, Environmental Justice and Economic Resources Memorandum*).

#### 3.3.1. How would community cohesion and stability be affected?

Linear infrastructure projects, much like the proposed Project, have the potential to cause negative effects to community cohesion and stability. These are effects that impact the social and psychological aspects of communities, altering the interactions of people and neighborhoods and potentially leading to community fragmentation as well as the isolation of specific groups of people.<sup>15</sup>

The proposed Project would not have a substantial effect on community cohesion. Under the Build Alternative, the existing bridge would be replaced at the same location and would not further separate existing communities. Furthermore, the proposed Project has served as a vital link between two separate communities (Memphis, TN and West Memphis, AR) and beyond since its construction in 1949. The bridge connects these communities over the Mississippi River, a 2,000-foot natural barrier. The proposed Project is essential to preserving and strengthening this existing cross-river connection in the Memphis-West Memphis area and the Greater Mid-South Region.

The No-Build Alternative would have no immediate effect on community cohesion; however, the aging bridge requires extensive maintenance and repairs, requiring closures several times a year which severely hampers community cohesion in the Mid-South.

#### 3.3.2. Would adjacent properties be affected?

The proposed Project would impact approximately three acres of land outside of the existing right-of-way (ROW).

One business was identified within the ETSA that would be impacted. The Economy Boat Store (also known as PTL Marine) is located within a set of waterfront structures just west of E.H. Crump Park. The business provides industrial products to the barge and boating industry. It is anticipated a secondary structure northeast of the main building would be relocated, but the main building would not be impacted. The proposed Project is not anticipated to cause relocations to any other residences or businesses.

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<sup>15</sup> *Community Impact Assessment: A Quick Reference for Transportation, USDOT, 2018.*

There would also be impacts to the northern edge of E.H. Crump Park. Approximately two acres of park property would be converted to a transportation use. Although no ROW would be acquired, impacts would occur to the Big River Trail in West Memphis, Arkansas. As both E.H. Crump Park and Big River Trail are publicly-owned, there would be impacts to Section 4(f) properties, which are further discussed in **Section 3.133**.

The No-Build Alternative would not result in right-of-way acquisition or relocations.

### 3.3.3. Would there be economic effects?

It is not anticipated that the proposed Project would negatively affect employment or economic conditions within Crittenden or Shelby Counties. The proposed Project would improve efficiency, safety, and reliability for freight truck traffic and commuters by increasing the resiliency of this vital Interstate link across the Mississippi River.

The No-Build Alternative would have not have direct impacts on local businesses or economic conditions.

### 3.3.4. How would environmental justice (EJ) populations be affected?

The proposed Project is being developed in accordance with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice (EJ) in minority Populations and Low-Income Populations* (1994). This EO requires federal agencies to follow methodologies that would prevent proposed actions from incurring disproportionate and adverse impacts on minority and low-income populations.

A full EJ analysis<sup>16</sup>, as well as additional social analyses were completed as part of the *Socioeconomic, Environmental Justice and Economic Resources Memorandum*, which is included in **Appendix H**. The EJ analysis is summarized below, for additional information on other social conditions, see **Appendix H**.

Standard TDOT procedure has assumed that persons that live in “geographic proximity” reside within the same Block Group (BG). Where the concentration of minority or low-income individuals is a readily identifiable group, this indicates the presence of an EJ population. TDOT has developed two threshold indicators to identify and report minority and low-income populations (EJ populations) present within and adjacent to a proposed project. The TDOT thresholds include:

- Percent of the BG population that is minority and/or low-income exceeds the overall county population percentage by 10 percentage points or more, and/or

<sup>16</sup> The EJ analysis performed in Appendix H follows the process laid out in the FHWA Memorandum, *Guidance on Environmental Justice and NEPA*. This analysis is summarized in Section 3.3.4.

- Minority and/or low-income individuals within a BG account for more than 50 percent of the overall BG population.

The four Census BGs that intersect the proposed Project's ETSA were evaluated for the possible EJ effects. Minority and economic data for these four BGs are displayed in **Table 3-3** and **Table 3-4** respectively on the next page.

**Table 3-3. Overall Minority Populations Percentages by Census Block Group**

Census Tract (CT) & Block Group (BG)	State	Total Population	Minority Population	Minority Population Percentage
CT 43.00 BG 2	TN	2,000	1,015	51%
CT 117.00 BG 2	TN	804	755	94%
CT 9802.00 BG 1	TN	0	0	N/A
CT 306.02 BG 1	AR	1,248	1,248	100%

Sources: 2018-2022 ACS 5-Year Estimates: Tables B03002, Project Team, February 2024.

**Table 3-4. Median Household Income and Percent Below Poverty Threshold**

Census Tract (CT) & Block Group (BG)	State	Median Household Income	Percent Population Below Poverty
CT 43.00 BG 2	TN	\$82,448	8%
CT 117.00 BG 2	TN	\$38,861	37%
CT 9802.00 BG 1	TN	No Data	No Data
CT 306.02 BG 1	AR	\$30,982	34%
Average		\$56,118	26%

Sources: USCB 2018-2022 ACS 5-Year Estimates: Tables B17017 & B19013, Project Team, February 2024, DHHS.

For comparison, and to facilitate the process for EJ determination required by TDOT EJ procedure, the socioeconomic conditions of both Shelby and Crittenden Counties are displayed in **Table 3-5**.

**Table 3-5. Socioeconomic Statistics within Shelby and Crittenden Counties**

County	Total Population	Minority Population	Minority Percentage	Median Household Income	Percent Below Poverty
Shelby County, TN	926,440	606,669	65%	\$59,621	17%

Crittenden County, AR	47,945	28,8663	60%	\$51,860	19%
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Sources: 2018-2022 ACS 5-Year Estimates: Tables B03002, B17017, & B19013, Project Team 2024.

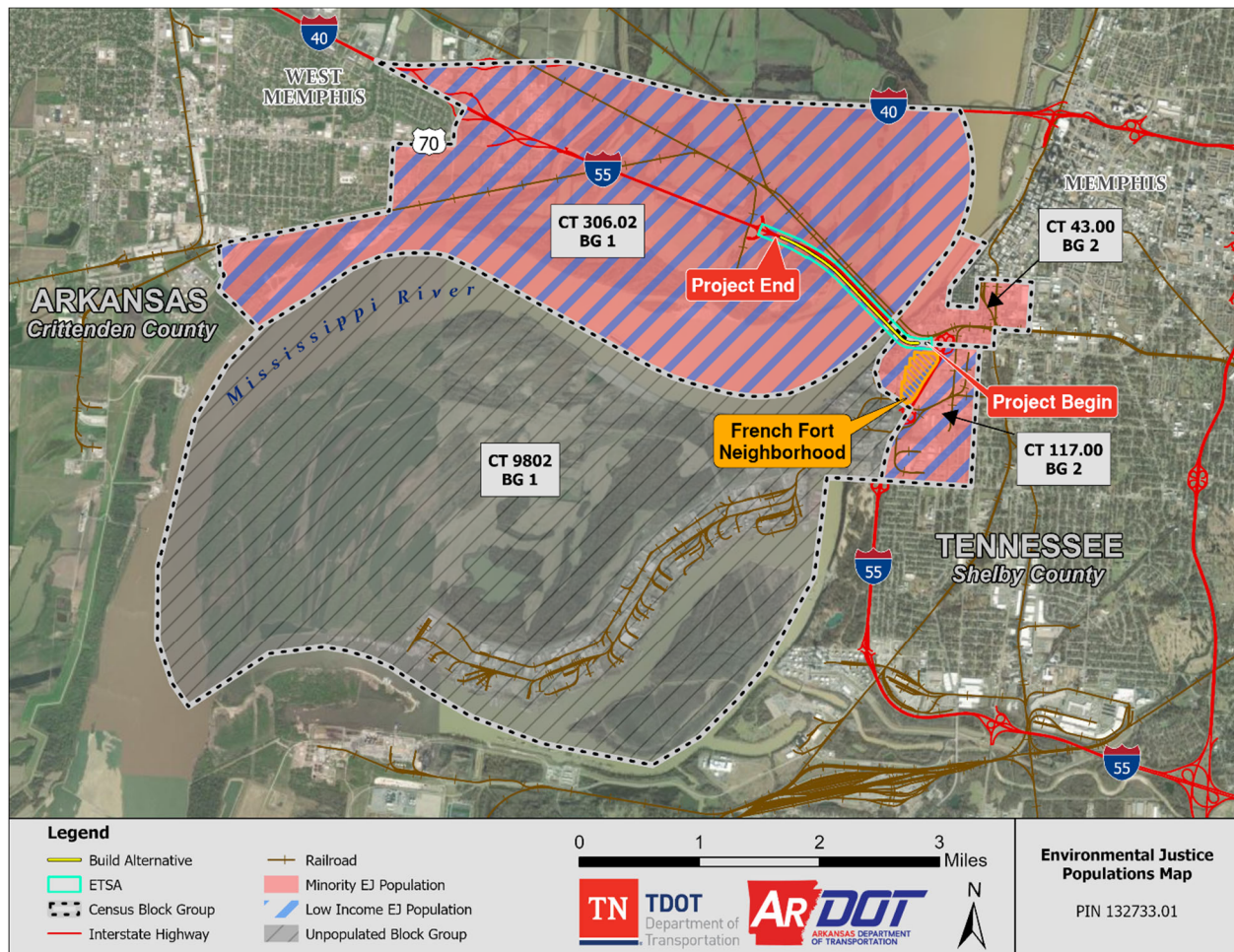
Based on available census data, which reviewed median household incomes, impoverished populations and race/ethnicity, an EJ determination was made for each census BG (Table 3-6). EJ populations are displayed on Figure 3-2.

Table 3-6. Environmental Justice Populations

Census Tract (CT) & Block Group (BG)	State	EJ Minority Population?	EJ Low Income Population?	EJ Determination
CT 43.00 BG 2	TN	Yes	No	EJ Population
CT 117.00 BG 2	TN	Yes	Yes	EJ Population
CT 9802.00 BG 1	TN	No	No	Non-EJ Population
CT 306.02 BG 1	AR	Yes	Yes	EJ Population

Sources: Project Team, 2024.

Figure 3-2. Environmental Justice Populations Map



Sources: 2018-2022 ACS 5-Year Estimates: Tables B03002, B17017, & B19013, Project Team 2024.

While the proposed Project is amidst several EJ populations (including the French Fort Neighborhood), there are no residential structures within the ETSA. There would be no direct impacts to EJ populations via residential relocations. One commercial structure is anticipated to be partially relocated; however, there are no indications that the current occupant provides a service specific or essential to the nearby EJ populations. The Economy Boat Store (also known as PTL Marine) is a chain of stores with locations along the Mississippi River from Illinois to the Gulf Coast. Affecting a secondary structure at one location would not substantially impact the business as a whole.

E.H. Crump Park would also be impacted by the proposed Project. It is located within an area determined to include EJ populations. Through repeated observation of the park and coordination with the official with jurisdiction (OWJ), there are no indications that the park plays a meaningful role as a gathering place for any of the EJ populations near the proposed Project. There are still several other public parks within and adjacent to the proposed Project, including Martyr's Park, Ducks Unlimited Park, and the Chickasaw

Heritage Park. In addition, impacts to E.H. Crump Park would be mitigated in such a way as to provide a net benefit, or an overall enhancement to the Section 4(f) property. Mitigation would include a new parking area, parking lot lighting, restroom facilities, park benches, and a bicycle repair equipment station. Mitigation would also include the construction of a shared use path connecting through E.H. Crump Park north to Martyrs Park and east to the Big River Crossing trailhead. These and other mitigation efforts are further discussed in **Section 3.13.1**.

In summary, disproportionate and adverse effects are not anticipated to be experienced by EJ populations compared to non-EJ populations as documented in **Appendix H**.

The No-Build Alternative would have not impact EJ populations.

### 3.4. Would there be effects to cultural resources?

A report to identify properties eligible for listing on the National Register of Historic Places (NRHP) that might be affected by the project, as required for compliance with Section 106 of the National Historic Preservation Act, was prepared and can be reviewed in **Appendix I** (*Historic Resource Survey Report and Eligibility and Effects Assessment*). This report identified eight properties that are listed on or recommended eligible for the NRHP within the proposed Project's Area of Potential Effects (APE). These resources are the existing I-55 Memphis and Arkansas Bridge, Chickasaw Heritage Park, the Harahan Bridge, the Frisco Bridge, the First Unitarian Church of Memphis, the Memphis Marine Hospital Campus Historic District (boundary expansion), the KWAM Radio Tower, and the French Fort Historic District. A finding of No Adverse Effect is anticipated for Chickasaw Heritage Park, the Harahan Bridge, the Frisco Bridge, the First Unitarian Church of Memphis, the Memphis Marine Hospital Campus Historic District (boundary expansion), and the KWAM Radio Tower. A finding of Adverse Effect is anticipated for the existing I-55 Memphis and Arkansas Bridge<sup>17</sup> and the French Fort Historic District, as detailed in **Appendix I**.

FHWA and TDOT consulted with the State Historic Preservation Offices (SHPOs) in Arkansas and Tennessee about the results of the survey. TDOT also invited other parties<sup>18</sup> to participate in consultation.

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<sup>17</sup> The removal and replacement of the NRHP-listed existing I-55 Memphis and Arkansas Bridge constitutes a Section 4(f) "use" of the bridge. A Programmatic Section 4(f) Evaluation that Necessitate the Use of Historic Bridges was prepared and included alternatives considered, measures to mitigate adverse effects/mitigation are discussed in Section 3.13 and Appendix I.

<sup>18</sup> Other potential consulting parties invited to participate in the Section 106 process were the Mayor of Shelby County, the Mayor of Memphis, Shelby County Historian, Memphis Area Association of Governments, Association for the Preservation of Tennessee Antiquities, the Memphis Landmarks Commission, Memphis and

A Section 106 Memorandum of Agreement (MOA) has been drafted between the FHWA, TN SHPO, and AR-SHPO stipulating measures to mitigate the adverse effects of the proposed Project. The draft MOA is included in **Appendix I** and the mitigation measures proposed include:

- Documentation of the existing I-55 Memphis and Arkansas Bridge to Historic American Engineering Record Level I, including large format photographs of the bridge and historical documentation explaining the historical and engineering significance of the bridge;
- Documentation of the existing I-55 Memphis and Arkansas Bridge through Three-Dimensional laser imaging;
- Publication of a book on Mississippi River crossings in Tennessee;
- Preparation of a nomination to the NRHP for the French Fort Historic District; and
- Preparation of two interpretive panels for the French Fort Historic District explaining the history and significance of the neighborhood.

The proposed Project would have an adverse effect on the French Fort Historic District under Section 106. The new bridge would be more than three times as tall as the existing bridge and would substantially change the visual perception from the historic district. However, that does not constitute a use of the historic district under Section 4(f) since land from the historic district is not being incorporated into the transportation system. A constructive use of the historic district under Section 4(f) is not occurring because the activities, features and attributes that qualify the property for protection under Section 4(f) will not be substantially impaired by the construction of the project. Additional details regarding the adverse effect on the French Fort Historic District and an explanation on why a constructive use of the historic district is not occurring can be found in **Appendix I**.

The use of the existing I-55 Memphis and Arkansas Bridge is anticipated to be categorized as a Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges as presented in **Appendix I**.

A Phase I Archaeological Survey was conducted for the proposed project. Two sites, 3CT547 and 3CT548 in Crittenden County, Arkansas, and 40SY709 in Shelby County, Tennessee, were determined to be not eligible and no further investigation is required. Site 3CT242, a previously recorded site located in Crittenden County, Arkansas, was found to have suffered significant damage since it had been recorded in 1988 and 1999 and integrity had been destroyed, resulting in a finding of no adverse effect on archeological resources for the project. The Tennessee SHPO and Arkansas SHPO reviewed and agreed with the Phase

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*Shelby County Division of Planning and Development, the Center for Southern Folklore, Shelby County Historical Society, West Tennessee Historical Society, and Memphis Heritage, Inc.*

I Archaeological Survey findings in letters dated June and July 2024, respectively. No further archaeological investigation is required.

The No-Build Alternative would not impact historic or archaeological resources.

### 3.5. Would there be visual effects associated with the project?

The proposed Project would involve the construction of a cable-stayed bridge<sup>19</sup> which would replace the truss-style of the existing I-55 Memphis and Arkansas Bridge. An abbreviated visual impact assessment (VIA) was prepared for the proposed Project in accordance with the *Guidelines of the Visual Impact Assessment of Highway Projects*, USDOT, FHWA, January 2015.<sup>20</sup> Details of the visual impacts assessment are summarized below and detailed in **Appendix J**.

A rendering of the what the proposed visual changes is shown below in **Figure 3-3**.

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<sup>19</sup> A cable-stayed type bridge would be needed because of the 1325-foot long minimum horizontal clearance for the main navigation channel required by the United States Coast Guard (**Appendix E**) and the inherent seismic design performance characteristics.

<sup>20</sup> A VIA scoping questionnaire method was used to help determine the appropriate level of VIA. An Abbreviated VIA briefly describes project features, impacts and mitigation requirements.

Figure 3-3. Proposed Bridge Replacement Rendering



Source: Project Team, 2024.

Given the increased height, mass, geometric profile, and how the proposed Project would be organized in the urban environment, it is assumed the proposed bridge would be partially visible from locations across the city of Memphis and in the parklands just outside of West Memphis.

Considering land use and density/intensity, the area where the bridge replacement would have the greatest visual impact would be to visitors (neighbors and transient) of the Memphis Park system along the eastern bank of the river, residential neighbors situated above the bluff, some residents of the French Fort Neighborhood, visitors to E. H. Crump Park, and workers traveling to the industrial sites just south of the French Fort Neighborhood.

Replacing the existing bridge would have a visual impact on the French Fort Neighborhood as the existing bridge is currently highly visible to most of the neighborhood (**Figure 3-4**). The bridge has always been a prominent feature of the neighborhood's viewshed because it predates the development of the neighborhood. Although the existing bridge and proposed bridge would have approximately the same clearance underneath, the existing bridge measures 92 feet tall from the bridge deck while the proposed bridge would measure 280 feet. This is more than three times as tall and would change the visual perception from the historic district.

Both adverse and positive visual impacts are anticipated to result from the proposed Project. While the proposed bridge would interrupt the existing form of the Memphis

skyline, it is not without intent in purpose and form. The proposed bridge, while promoting efficiency in maintenance and safer operations, is also anticipated to become a visual asset to the region, a part of the City's future history in physical form. The proposed cable-stayed bridge would stand in visual contrast to the engineering design of the remaining truss bridges. In the background of passive daily views and some daily foreground views, the proposed Project would provide new visual interest.

**Figure 3-4. Rendering of Proposed Bridge viewed from the French Fort Neighborhood**



*Source: Project Team, 2024.*

While partial views may be accessible from locations across the city, for most Memphians, the existing I-55 Memphis and Arkansas Bridge is one of the least visible Mississippi River crossings. As such, visual impacts with the No-Build Alternative are not anticipated to be substantial.

### **3.6. Would the proposed Project change roadway noise levels?**

The Traffic Noise Analysis completed for the proposed Project determined Design Year noise levels for two receptors would be impacted by the Build Alternative. One impacted receptor is located in Arkansas at the Big River Trail Crossing and the other impacted receptor is located in Tennessee at E.H. Crump Park. Noise barriers were analyzed for the impacted receptors and were determined not feasible or reasonable per TDOT and ARDOT noise policy criteria. Therefore, noise abatement is not proposed for this project. The *Traffic Noise Analysis Memorandum* is attached in **Appendix K**.

Highway construction involves increased noise levels. These increases in noise associated with the Build Alternative would be temporary and minor in nature. This construction related noise increase would not constitute a noise impact as defined by the FHWA noise regulation and TDOT's noise policy.

The No-Build Alternative noise levels can be reasonably estimated by evaluating existing and future traffic volumes on I-55. Doubling traffic on a roadway results in a 3 dB increase in the noise level at a given location assuming all other conditions remain the same. The Design Year traffic volumes on I-55 are predicted to be approximately 32% higher than existing volumes. This increase in traffic would increase noise levels at nearby residences by approximately 1 dB. As a result, existing noise levels were increased by 1 dB to arrive at Design Year noise levels for the No-Build Alternative at the modeled locations.

### 3.7. Would the proposed Project affect air quality?

The air quality analysis conducted for the proposed Project addressed the transportation conformity requirements for the proposed Project, the potential Mobile Source Air Toxics (MSATs) effects, greenhouse gas (GHG) emissions, and construction air quality. The proposed Project is located in Shelby County, Tennessee and Crittenden County, Arkansas, within the Memphis, TN-MS-AR Area, which is in maintenance status for ozone. The project was found not to be exempt from conformity due to the addition of an auxiliary lane. This project will be included in the updated TIP/STIP and an abbreviated conformity analysis will be prepared so that the proposed Project conforms to the SIP.

The project is expected to increase average speeds across the bridge, which typically reduces nitrogen oxides (NOx) and volatile organic compounds (VOC) emission rates. Regional NOx and VOC emissions, which contribute to ground-level ozone, are unlikely to increase as a result of the proposed project. In general, ozone is not necessarily permanent in nature, as ozone levels could drop if conditions (emissions) change. Regarding direct, indirect, and cumulative effects, VOC and NOx emissions in the region could lead to the formation of ozone in the region. Ozone precursors can also travel to other locations to form ozone there. Plan-level regional emissions analyses address cumulative impacts of planned transportation projects.

The project qualifies as a "Project with Low Potential Mobile Source Air Toxic Effects" and is not anticipated to result in any adverse MSATs effects.<sup>21</sup>

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<sup>21</sup> The proposed Project is considered to result in low potential MSAT effects and therefore, not likely to meaningful increase MSAT emissions because it is a project that would not be adding substantial new capacity (minor widening) and it is also a project with less than 140,000 AADT, per the [Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents \(page 5\), January 2023](#).

Based on the GHG analysis, the GHG emissions from the proposed action would not result in “reasonably foreseeable significant adverse impacts on the human environment.” The *Air Quality Memorandum* can be reviewed in **Appendix L**.

During the construction phase of this project, temporary increases in particulate matter (PM) and MSAT emissions may occur from construction activities. The primary construction-related emissions of PM are fugitive dust from site preparation, and the primary construction-related emissions of MSAT are diesel PM from diesel powered construction equipment and vehicles. However, considering the temporary and transient nature of construction-related emissions, the use of fugitive dust control measures, and compliance with applicable regulatory requirements; it is not anticipated that emissions from construction of this project will have any significant impact on air quality in the area.

The No-Build alternative would not result in temporary increases in PM and MSAT emissions from construction activities. This alternative would not result in air quality impacts for criteria pollutants and would not been linked with any special MSAT or GHG concerns. Current and future emissions should continue to follow existing trends.

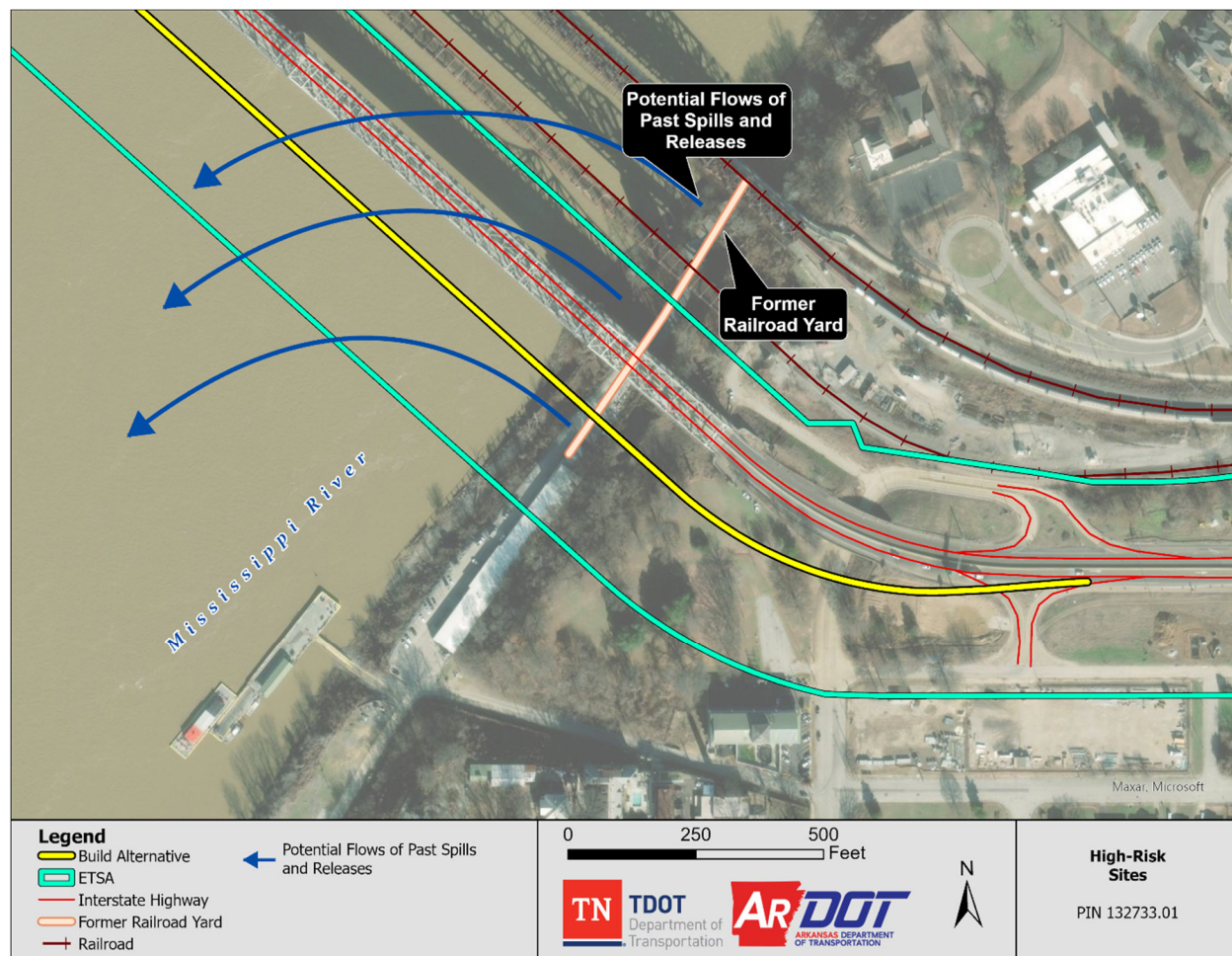
### 3.8. Would there be effects related to hazardous materials?

A Phase I Environmental Site Assessment (ESA) has been completed for the proposed Project with the purpose of identifying any environmental concerns that could potentially affect construction. The Phase I ESA is included in **Appendix M**. Based on the available information in records research, understanding of the past and current operations, and site reconnaissance, the proposed Project has two high-risk properties identified within the ETSA (**Figure 3-5**):

- The former on-site railroad yard beneath the east side of the I-55 bridge; and
- Mississippi River sediments that have likely been impacted from various spills and releases over time.

As the design progresses, it will be determined if Phase II investigations and mitigation would be required for these sites.

Figure 3-5. High-Risk Sites



The No-Build Alternative would not impact any hazardous materials sites.

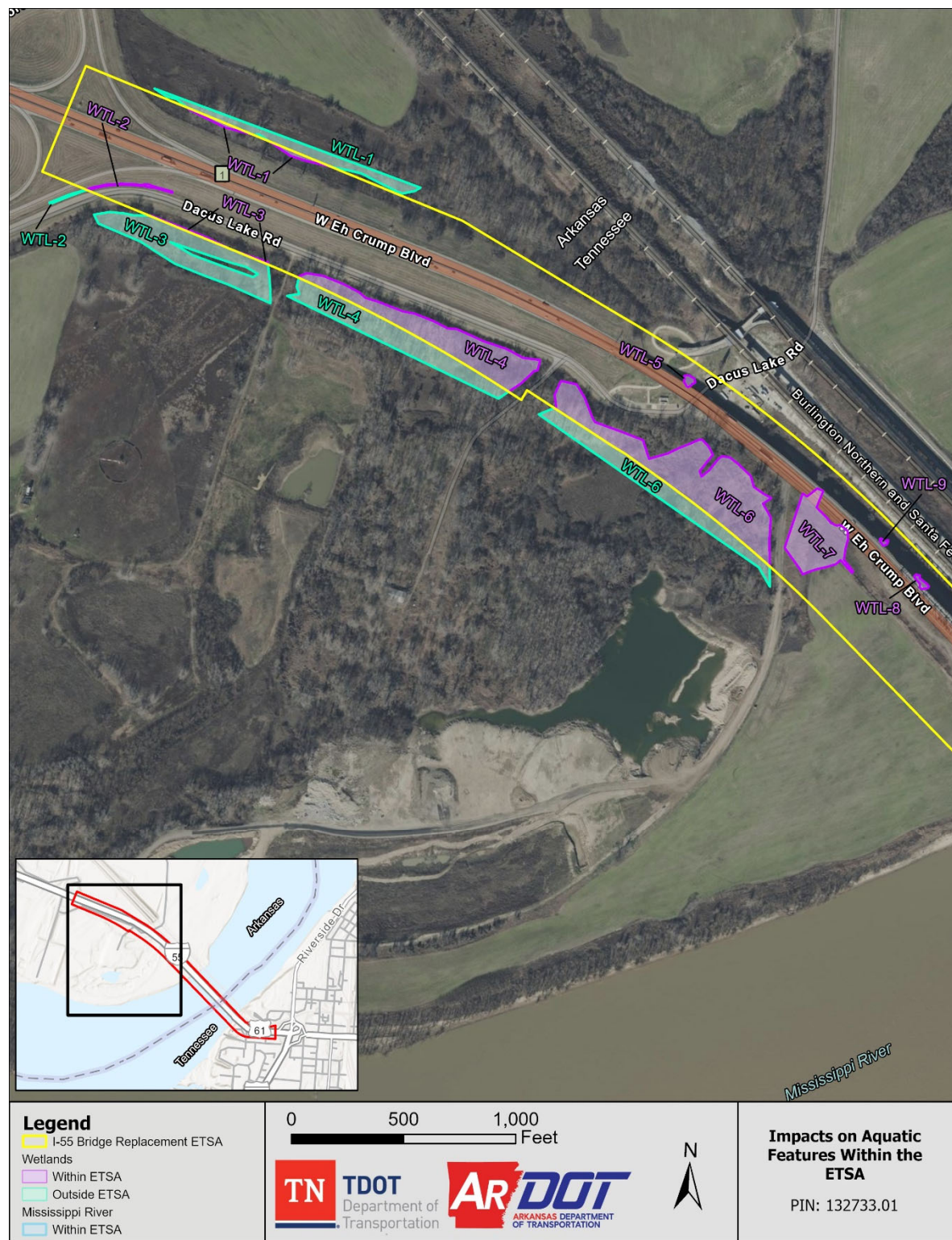
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### 3.9. How would water resources be affected?

Field work was completed in March 2024 to identify water resources (wetlands and waterways) within the ETSA. Based on field work, an *Environmental Boundaries Report* was completed in June 2024 (**Appendix N**). Within the ETSA, there are nine wetlands and one perennial stream (Mississippi River). All identified wetlands are within the State of Arkansas. The proposed Project would impact various wetlands and the Mississippi River. Permanent loss to wetlands by the proposed Project is approximately 8.27 acres. In addition, roughly 25 acres of the Mississippi River fall within the ETSA (**Figures 3-6 and 3-7**). Impacts to the Mississippi River will be assessed as the proposed Project advances through the design process. An Individual Permit will be required under Section 404 of the Clean Water Act. TDOT would work with the USACE, a cooperating agency, through the permitting process to evaluate impacts to jurisdictional features and establish compensation and mitigation procedures. Under Section 401 of the Clean Water Act, the need for an individual water quality certification will be evaluated based on the potential for alterations to the Mississippi River from construction activities. TDOT will coordinate with the Tennessee Department of Environment and Conservation regarding an Individual Aquatic Resource Alteration Permit (ARAP) or Water Quality Certification. Coordination between ARDOT and the Arkansas Division of Environmental Quality (DEQ) will also determine applicability of an Individual Section 401 Water Quality Certification. A bridge permit will also be required from the USCG.

The No-Build Alternative would not affect any water resources.

Figure 3-6. Impacts to Water Resources (A)



Source: Project Team, 2024.

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Figure 3-7. Impacts to Water Resources (B)



Source: Project Team, 2024.

### 3.10. How would floodplains be affected?

Three Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) were collected for the ETSA within both Crittenden County, Arkansas and Shelby County, Tennessee (Table 3-7).

**Table 3-7. FEMA FIRM Panels**

FEMA FIRM ID	Panel	County
<b>05035C0375E</b>	375 OF 600	Crittenden County, Arkansas
<b>47157C0265F</b>	265 OF 635	Shelby County, Tennessee
<b>47157C0405F</b>	405 OF 635	Shelby County, Tennessee

*Source: Project Team, 2024.*

The majority of the proposed Project footprint falls within the 100-year floodplain (**Figure 3-8**); however, impacts to the existing floodplain are undefined. As the proposed Project design progresses, analysis of changes to the base flood elevation will be evaluated. Direct impacts to the floodplain are anticipated to be minimal and a no-rise certification is the assumed result after the completion of a Hydraulic and Hydrologic Study.

The No-Build Alternative would not affect floodplains.

Figure 3-8. Floodplains Near the ETSA



Source: Project Team, 2024.

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### 3.11. Would any protected species be affected?

Federally listed threatened and endangered species are subject to protection under Section 7 of the Endangered Species Act. Section 7 of the Endangered Species Act (ESA) requires federal agencies to ensure that their actions do not jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. A review of available information indicated that the federally endangered Pallid Sturgeon (*Scaphirhynchus albus*) occurs in the proposed Project's reach of the Mississippi River. No other species were identified by the United States Fish and Wildlife Service (USFWS) that could be affected by the proposed Project. A Biological Assessment was prepared to assess potential impacts to the federally endangered Pallid Sturgeon, included in **Appendix O**. The Biological Assessment concluded the replacement of the I-55 Bridge over the Mississippi River and the associated in-stream construction would temporarily affect approximately 4,534 square feet below the ordinary high water mark (OHWM) of the Mississippi River and would cover or alter suitable spawning habitat used by the Pallid Sturgeon within the Project limits. Effects to Pallid Sturgeon habitat would be unavoidable within the footprint of in-stream revetment blankets and flow diversions but in-stream work would be avoided during the most sensitive time for sturgeon larvae. The replacement of the I-55 Bridge over the Mississippi River may affect and is likely to adversely affect the Pallid Sturgeon.

The No-Build Alternative would not affect protected species.

### 3.12. Would farmland be affected?

The Farmlands Protection Policy Act (FPPA) of 1984 requires a farmland impact evaluation for applicable, federally funded projects. The purpose of the FPPA is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. Important Farmland consists of Prime Farmland, Unique Farmland, and Farmland of Statewide or Local Importance. Prime Farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses. Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. Farmland of Statewide Importance is land that does not meet the criteria for prime or unique farmland, but economically produces high yields of crops when treated and managed according to acceptable farming methods. The land could be cropland, pastureland, rangeland, forestland, or other land, but not urban built-up land or water.

In Shelby County, Tennessee, there is one soil type identified as Prime Farmland (MeB, Memphis Silt Loam 2 to 5 percent slopes, northern phase) within the study area. There are no Unique Farmland or Farmland of Statewide or Local Importance soil types present within the study area in Shelby County, Tennessee. There are no Prime Farmland, Unique

Farmland, or Farmland of Statewide or Local Importance soil types present within the study area in Crittenden County, Arkansas, per the United States Department of Agriculture (USDA) - Natural Resource Conservation Service (NRCS). All of the Prime Farmland soil type for the study area is located within a US Census Bureau urban area. Due to the urban location, the Project is exempt from an FPPA evaluation.

The No-Build Alternative would not affect farmland.

### 3.13. Are there effects to any parks or Section 4(f)/Section 6(f) resources?

A Section 6(f) resource is any public outdoor recreational land acquired or improved with funds authorized under the Land and Water Conservation Fund (LWCF) Act of 1965. Facilities that are LWCF funded must be maintained for outdoor recreation in perpetuity. Impacts to Section 6(f) properties require mitigation that includes replacement of at least equal value and recreation utility. No Section 6(f) resources are present within the ETSA.

Section 4(f) of the U.S. Department of Transportation Act of 1966 stipulates that FHWA and other DOT agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless the following conditions apply:

- There is no feasible and prudent avoidance alternative to the use of land; and the action includes all possible planning to minimize harm to the property resulting from such use; or
- The Administration determines that the use of the property will have a *de minimis* impact.

The proposed Project would impact two publicly owned parks and one historic resource, as described below.

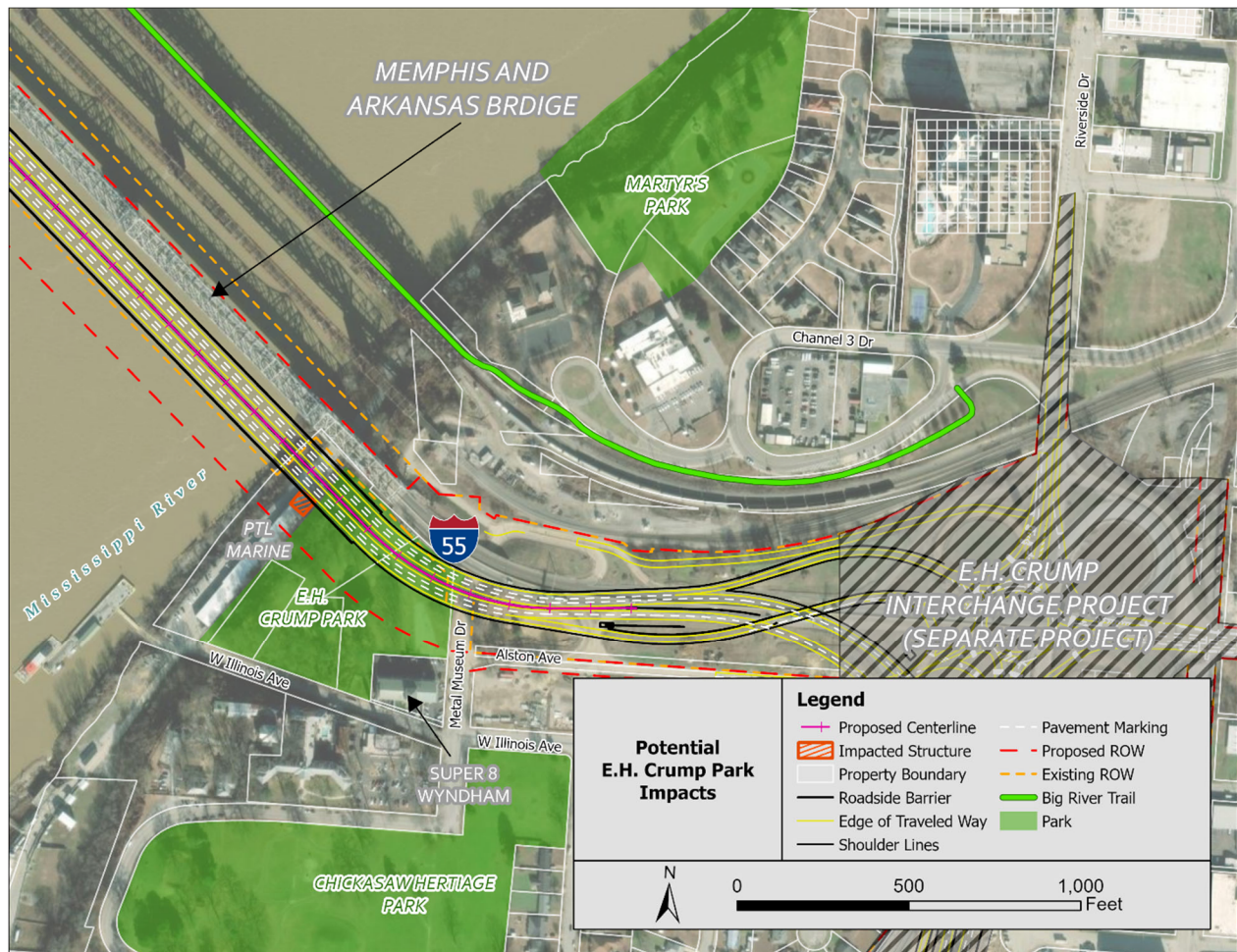
The No-Build Alternative would not impact Section 4(f) properties.

#### 3.13.1. E.H. Crump Park

E.H. Crump Park is a publicly owned park that is open to the public. It is a 4.3 acre open-field and picnic area with scenic river views. E.H. Crump Park is owned by the City of Memphis, OWJ. E.H. Crump Park is considered significant as it plays an important role in providing passive recreation as well as contributing to the larger park network in Memphis along the Mississippi River.

The proposed Project would impact E.H. Crump Park. As shown in **Figure 3-9**, approximately 2.05 acres of the 4.3-acre park would be converted to transportation use. In addition, the proposed Project would impact 19 existing parking spaces for the park.

Figure 3-9. Potential E.H. Crump Park Impacts



Source: Project Team, 2024.

To mitigate the proposed action, TDOT would fund a park trailhead located east of the existing parking that would be removed. Construction of the trailhead and amenities would be determined through a future agreement. The proposed trailhead would include 22 parking spaces, parking lot lighting, restroom facilities, and the potential for benches and a bicycle repair equipment station.

Mitigation would also include the construction of a shared use path (SUP) connecting through E.H. Crump Park, traversing under the proposed I-55 bridge, under the existing railroad bridges, and connecting north to Martyrs Park and east to the Big River Crossing trailhead. Covered SUP canopy protection would be provided under the railroad bridge crossings. The existing "Memphis & Arkansas Bridge Poem Marker" would be relocated along the SUP between I-55 and the railroad bridges. In addition, the existing sidewalk connecting Channel 3 Drive through the E.H. Crump interchange roundabout to Alston Drive, which is currently under construction, would be enhanced to meet current design

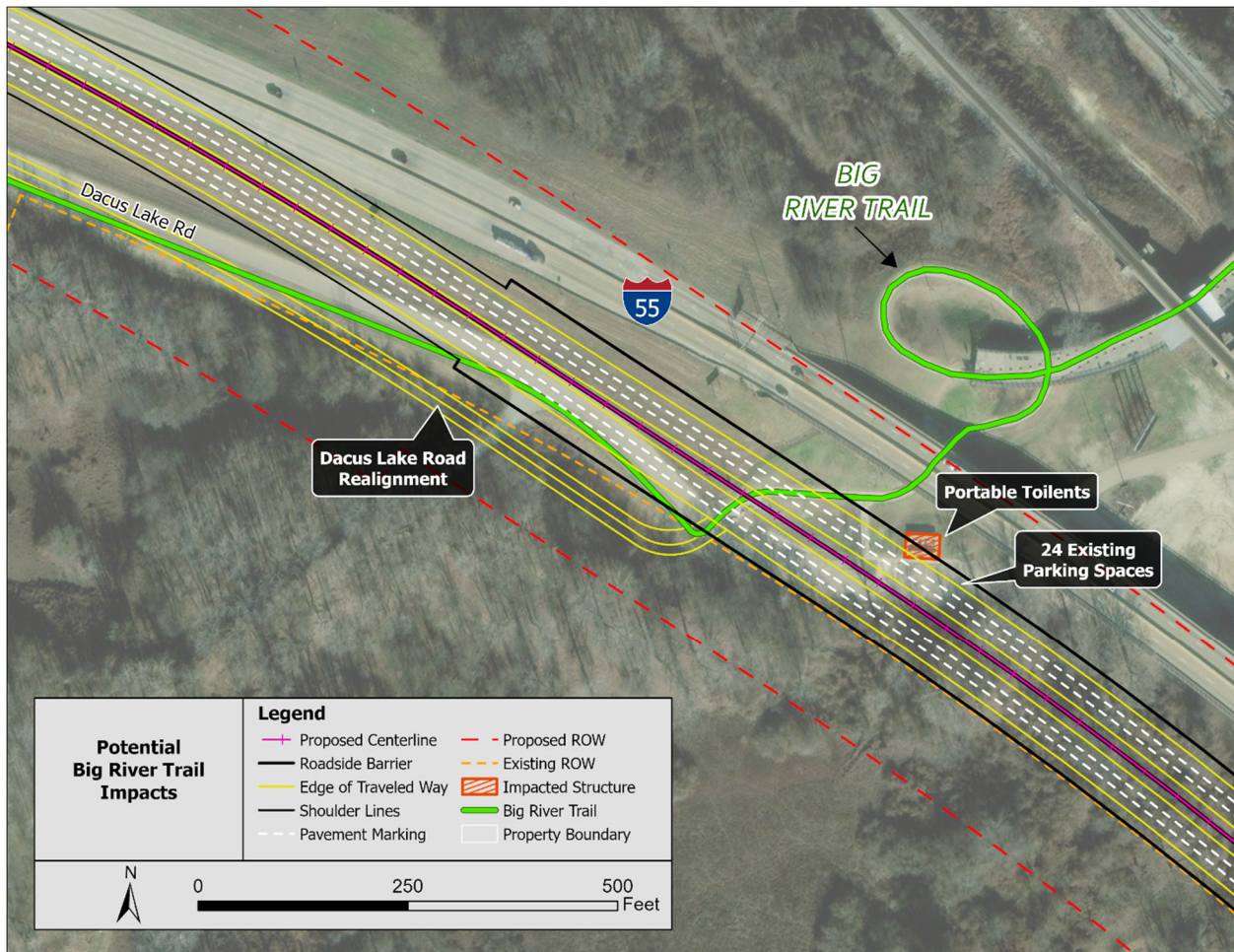
standards of 10-foot minimum width as documented in the *E.H. Crump Park Section 4(f) Programmatic Net Benefit (Appendix P)*.

### 3.13.2. Big River Trail

The Big River Trail is a publicly owned recreation facility that is open to the public. In West Memphis, Arkansas, the Big River Trail is a 7-mile loop through the floodplain adjacent to the Mississippi River which connects to the Big River Crossing along the Harahan Bridge.

As shown in **Figure 3-10**, the proposed Project would impact the existing trailhead, including impacts to 24 parking spaces, trailhead seating, signing, lighting and two portable toilets. These impacts would not require any additional right-of-way. Closure of the trail would be avoided by phasing construction of the proposed Project. Once construction begins at the location of the trailhead amenities, temporary parking with a temporary trailhead connection would be provided. The proposed trailhead and associated amenities would be constructed once the existing bridge is removed.

**Figure 3-10. Big River Trail Impacts**



Source: Project Team, 2024.

To mitigate the proposed action, TDOT would relocate the trailhead within the footprint of the existing/proposed project right-of-way footprint. The proposed trailhead would include a parking area with approximately 40 parking spaces, a restroom facility that is located uphill to maximize elevation out of the floodplain. A septic leach field for the proposed restroom facility would be located west of the parking area. The proposed trailhead would also include benches and a bicycle repair equipment station. The proposed trailhead would also reuse the stone blocks from the existing facility and would include parking lot lighting. Additional information on potential impacts and proposed mitigation can be found in the *Big River Trail Section 4(f) De Minimis* (Appendix Q).

### 3.13.3. I-55 Memphis and Arkansas Bridge

Constructed in 1949, the existing I-55 Memphis and Arkansas Bridge is listed in the NRHP under Criterion C for its local significance in the area of engineering. The removal and replacement of the NRHP-listed existing I-55 Memphis and Arkansas Bridge constitutes a Section 4(f) “use” of the bridge. A Programmatic Section 4(f) Evaluation that Necessitate the Use of Historic Bridges was prepared and included alternatives considered, measures to mitigate adverse effects/mitigation are discussed in **Section 3.4** and **Appendix I**.

## 3.14. Does the proposed Project have indirect effects?

### 3.14.1. What are indirect effects?

In addition to the direct effects discussed throughout the prior sections of this EA, transportation projects can also result in indirect effects that are off site or further removed in time. Despite their secondary nature, indirect effects can still be substantial and may affect any number of resources in the natural, built, or human environment.

As stated in the *Practitioner’s Handbook 12 “Assessing Indirect Effects and Cumulative Impacts Under NEPA”* (AASHTO, 2016) there are two defined types of indirect effects: induced growth effects and encroachment alteration effects.

### INDUCED GROWTH EFFECTS

Induced Growth Effects are defined as:

*“Changes in the location, magnitude, or pace of future development that result from changes in accessibility caused by the project. An example of induced-growth effect is commercial development occurring around a new interchange and the environmental impacts associated with this development”.*

### ENCROACHMENT ALTERATION EFFECTS

Encroachment Alteration Effects are defined as:

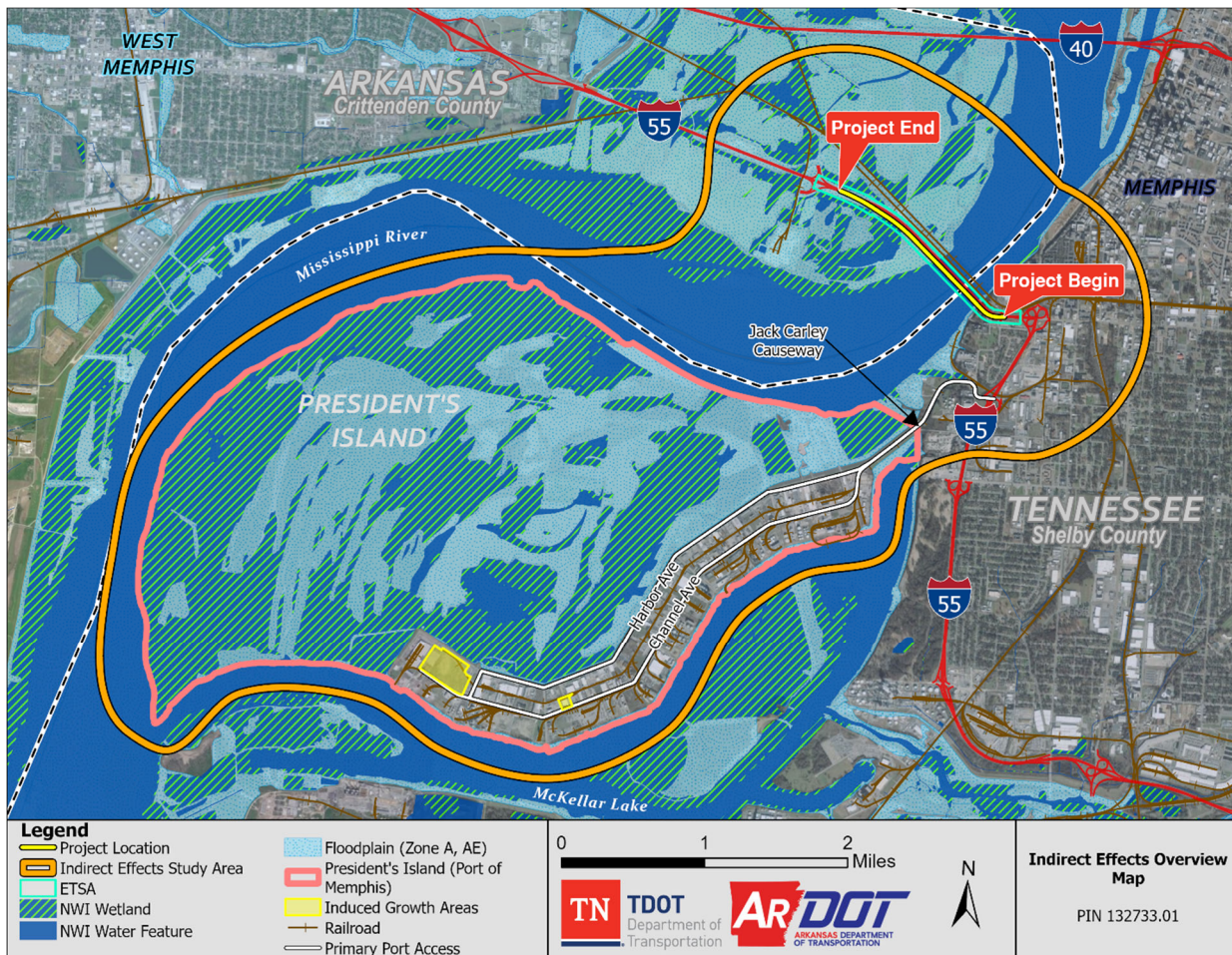
*“Alteration of the behavior and functioning of the affected environment caused by project encroachment. An example of an encroachment effect is a long-term decline in the viability of a population of a particular species as a result of habitat fragmentation caused by the project”.*

Indirect effects resulting from the proposed Project are summarized below and detailed in the *Indirect Effects Memorandum (Appendix R)*.

### 3.14.2. Indirect Effects Study Area

A specific study area (**Figure 3-11**) for the indirect effects analysis was generated in order to encompass possible areas subject to indirect effects as a result of the proposed Project. President’s Island was included because the project has a secondary goal of preserving economic vitality in the region. This area supports several industrial uses, which are accessed from the nearby Exit 12 (Jack Carley Causeway), and heavy freight traffic servicing these areas currently frequent the existing bridge.

Figure 3-11. Indirect Effects Overview Map



Source: Project Team, 2024.

### 3.14.3. Induced Growth Effects

The proposed Project's purpose aligns with regional objectives set to protect and facilitate the development of the freight and logistics industry, a vital component of the Mid-South economy. Because of this, the proposed Project could facilitate specific industrial-related induced growth. However, stagnant socioeconomic trends would certainly hinder the scale of any induced growth. The largest constraining factors to induced growth within the Study Area are natural features. The indirect Study Area encompasses a wide array of wetlands, water features, and floodplains. Areas not covered by these natural features are already developed, with a few exceptions. Additionally, programs like the PROTECT Grant<sup>22</sup> and associated Duck's Unlimited Park would further protect floodplains in the northwest

<sup>22</sup> In April 2024, the United States Department of Transportation announced it awarded \$16,155,550 in grant funding to the City of West Memphis to restore hundreds of acres of Mississippi River floodplain with wetlands and riparian forest.

portion of the Study Area, cementing the lack of additional development opportunities, especially on the Arkansas side of the project. Therefore, any anticipated project induced growth would occur within Memphis on the Tennessee side of the Mississippi River. Considering the physical constraints and existing socioeconomic conditions, it was determined that induced growth could occur, but in a very limited manner, affecting approximately 46 acres within the 13,555-acre indirect effects study area.

### 3.14.4. Encroachment Alteration Effects

Construction of the proposed Project has the potential to incur encroachment alteration effects on socioeconomic resources (excluding Environmental Justice<sup>23</sup>), water resources, floodplains, threatened and endangered species, and visual resources.

## SOCIOECONOMIC AND COMMUNITY RESOURCES

### *Commercial Relocations*

The Economy Boat Store (also known as PTL Marine) is located within a set of waterfront structures just west of E.H. Crump Park. It is anticipated that a secondary structure located on the Economy Boat Store parcel, northeast of the main building, would be relocated but the main building would not be impacted. The business provides industrial products to the barge and boating industry. It does not provide services deemed essential to the surrounding community. No residential relocations are anticipated as a result of the proposed Project.

The limited effect on one commercial operation would not result in any encroachment alteration effects to existing residential and commercial land uses.

## NATURAL RESOURCES

### *Water Resources*

The proposed Project crosses the Mississippi River, which is the primary water resource of concern with regard to encroachment alteration effects. Runoff during and post-construction could introduce pollutants to the river. The potential for pollution introduced from the construction of the proposed Project could flow downstream and potentially affect aquatic habitats within the states of Arkansas, Mississippi, and Louisiana before reaching the Gulf of Mexico. Degradation of aquatic habitats in these areas could lead to

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<sup>23</sup> The proposed Project is not anticipated to have direct effects on Environmental Justice populations, which is considered under the umbrella of Socioeconomic Resources. Therefore, indirect effects for Environmental Justice were not analyzed as a part of this study.

additional effects on the aquatic species that live there and in turn birds and mammals that feed on these aquatic species.

Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) permit program (33 U.S.C. 1342), which is administered by the EPA and regulates point source discharges into waters of the U.S. The EPA administers the national program but has delegated this authority to the [Arkansas Department of Environmental Quality](#) (ADEQ) and to the [Tennessee Department of Environment and Conservation](#) (TDEC). The Project will comply with all requirements of the CWA, as amended, for the construction of the proposed Project including Section 402 National Pollutant Discharge Elimination System (NPDES) Permit. A Storm Water Pollution Prevention Plan (SWPPP) will be developed for the Project in accordance with the conditions of the Construction General Permit (CGP) for the TDEC and the ADEQ. Any activities associated with the proposed project would be implemented, operated, and maintained using BMPs. BMPs would be used to control discharge of pollutants from the project site, erosion of disturbed soils, and sedimentation of those soils after disturbance.

#### *Floodplains*

FEMA defines encroachment as construction, placement of fill, or similar alteration of topography in the floodplain that reduces the area available to convey floodwaters. Construction of the proposed Project could result in encroachment on the existing 100-year floodplain by impacting drainage patterns and flood flows in the area.

#### *Threatened and Endangered Species*

Negative effects on water quality and aquatic habitats could create encroachment alteration effects on federally protected species. As previously stated, the Mississippi River connects a broad area, and encroachment alteration effects on federally protected species could occur over an extensive area downstream.

### **VISUAL RESOURCES**

The proposed Project would likely result in encroachment alteration effects to visual resources due to the construction of a cable-stayed bridge. The proposed bridge would be substantially taller and have a more modern appearance when compared to the existing bridges in the area. The Memphis skyline has remained relatively unchanged since the 1970s when the Hernando De Soto Bridge was completed. Upon project completion, viewers from downtown Memphis would see two A-style towers standing approximately 406 feet tall as a backdrop against the existing Harahan and Frisco Bridges. This height is approximately 190 feet higher than the existing I-55 Memphis and Arkansas Bridge.

### 3.14.5. Summary of Indirect Effects

As a whole, indirect effects as a result of the proposed Project would be limited. Induced growth is anticipated to occur on only 0.3 percent of the Study Area. Additionally, new encroachment alteration effects would be restricted by various regulatory mechanisms, including but not limited to:

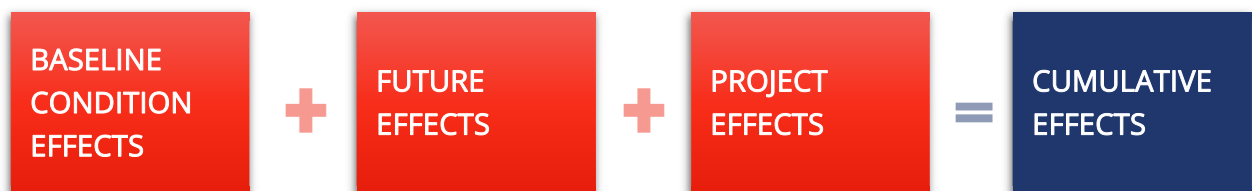
- [Executive Order 11988](#) – Floodplain Management;
- [Section 402](#) of the Clean Water Act;
- [Section 404](#) of the Clean Water Act;
- [Section 408](#) of the Clean Water Act;
- [Section 401](#) Water Quality Certification;
- [Section 106](#) National Historic Preservation Act (NHPA); and
- [Section 4\(f\)](#) of the Department of Transportation Act of 1966.

The No-Build Alternative is not expected to result in indirect effects to natural, cultural, social, or economic resources.

## 3.15. Does the proposed Project have cumulative effects?

### 3.15.1. What are cumulative effects?

CEQ regulations (40 CFR 1508.7) defines cumulative effects as “the impact on the environment which results from the incremental impact of the proposed action when added to other past, present and reasonably foreseeable future actions.” The purpose of a cumulative effects analysis is to view the direct and indirect effects of the proposed Project within the larger context of past, present, and future activities that are independent of the proposed Project, but which are likely to affect the same resources in the future. This approach allows the evaluation of the incremental effects of the proposed Project in light of the overall health and abundance of selected resources. The evaluation process for each resource considered may be expressed in shorthand form as follows:



A cumulative effects analysis was conducted for the proposed Project and is included as the *Cumulative Effects Memorandum* within **Appendix S**. The findings of this memo are summarized below.

All of the resources considered in this EA are candidates for cumulative effects analysis. The initial step of the cumulative effects analysis uses information from the evaluation of direct and indirect effects in the selection of environmental resources that should be evaluated for cumulative effects. Resources needing a cumulative effects analysis are displayed in **Table 3-8** on the next page and are resources which would experience substantial direct and/or indirect effects as a result of the proposed Project.

**Table 3-8. Resources Warranting a Cumulative Effects Analysis**

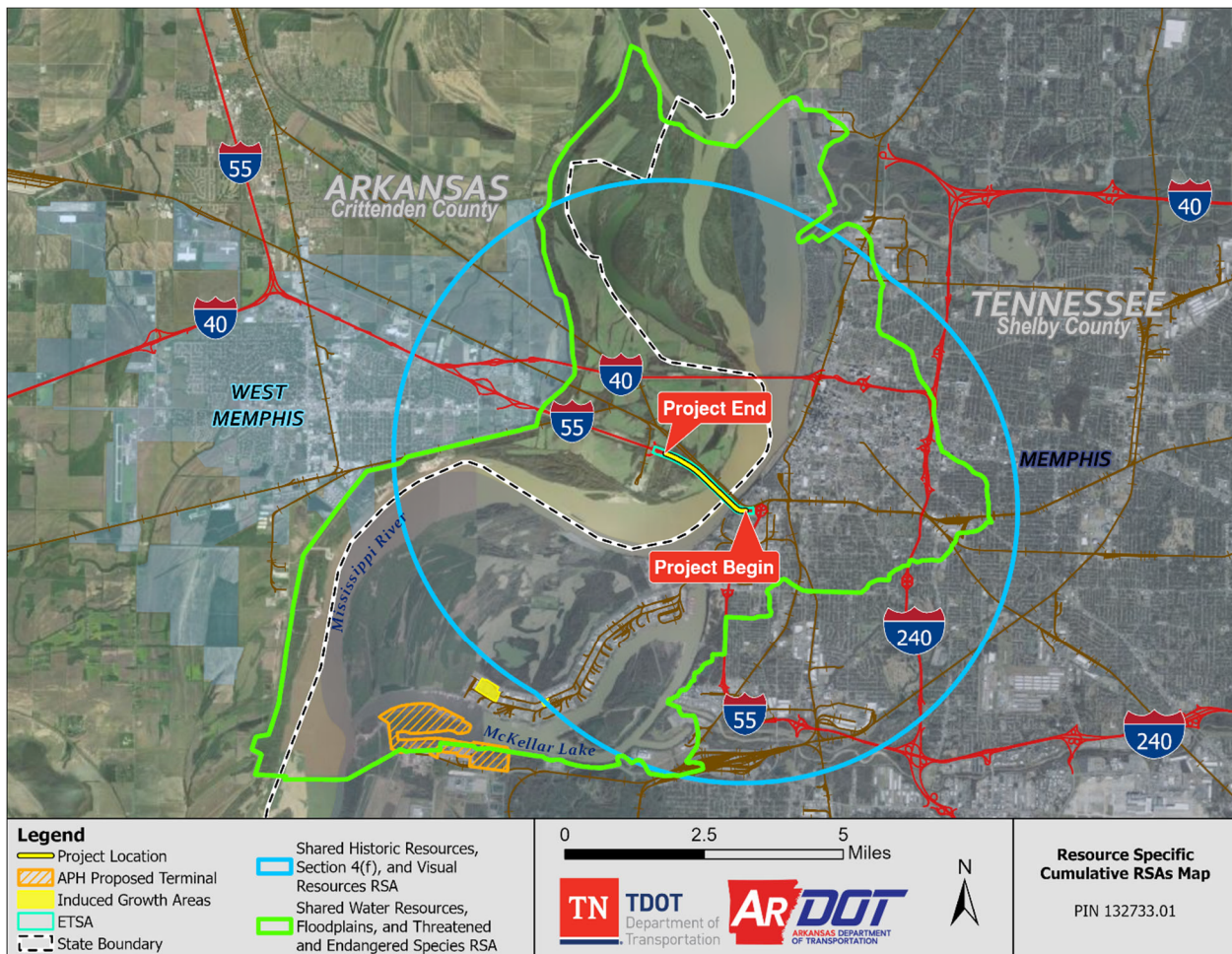
Cumulative Effects Analysis Not Warranted	Cumulative Effects Analysis Warranted
Archeological Resources	Historic Resources
Water Quality	Section 4(f) Properties
Socioeconomic Resources Community Cohesion Environmental Justice Populations Limited English Proficiency Populations	Water Resources
Air Quality	Threatened or Endangered Species
Traffic Noise	Floodplains
Hazardous Materials	Visual Resources
Prime Farmland	

*Source: Project Team, 2024.*

The study area for assessing cumulative effects is called a resource study area (RSA). The RSA is the same for historic resources, Section 4(f) properties, and visual resources, which is a four-mile buffer from the proposed project. This area generally encompasses the major built-up areas around the proposed Project. The RSA is the same for water resources, floodplains, and threatened and endangered species, which is the watershed encompassing the proposed Project.<sup>24</sup> RSAs used for the cumulative effects analysis are displayed on **Figure 3-12** on the next page.

<sup>24</sup> *The Loosahatchie Bar-Mississippi River Watershed.*

Figure 3-12. Resource Specific Cumulative RSAs Map



Source: Project Team, 2024.

## PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS

Past and future projects were identified as part of this cumulative effects analysis and reviewed to contextualize cumulative effects for each resource studied.

### Past Actions

A review of [historic aerial imagery](#) along and around the proposed Project shows little change in land uses since the 1940s and 50s. General land uses have remained the same type. A gradual expansion and densification of uses is noticeable over the years. Industrial development is noticeable from 1970 to the present within the Port of Memphis. Since 1994, the port has continued to expand south of Lake McKellar.

Much of the interstate system near the proposed Project was built out during the initial expansion in the 1950s and 60s, with the exception of I-40.

The existing I-55 Memphis and Arkansas Bridge was constructed in 1949 and was integrated into the interstate highway system in 1967 when Tennessee's portion of I-55 was completed. The Mid-South portion of I-40 was constructed in conjunction with the Hernando De Soto Bridge, which lies approximately two miles north of the proposed Project. This bridge carries I-40 across the Mississippi River. The bridge began construction in 1967 and opened to traffic in 1973.

### *Present Actions*

TDOT's and ARDOT's respective Statewide Transportation Improvement Programs (STIPs) were reviewed to identify nearby present and reasonably foreseeable actions. A comprehensive list can be found within **Appendix S**. Of the identified projects, the E.H. Crump Interchange Project was determined to potentially contribute to cumulative effects and is summarized below.

The E.H. Crump Interchange Project is an interchange improvement located immediately adjacent to the existing I-55 Memphis and Arkansas Bridge adjoining the proposed Project's "Project Begin". The project is under construction and includes removing the existing cloverleaf to improve safety and reduce congestion at the I-55/E.H. Crump Boulevard (Blvd) interchange, which serves existing exits 12A, 12B, and 12C in Memphis near the Mississippi River. An Environmental Impact Statement (EIS) and subsequent reevaluations were produced for the project. Environmental concerns of note included the project's potential impacts to the French Fort Neighborhood, which is an environmental justice community adjacent to and south of the I-55/E.H. Crump Blvd. interchange. The preferred alternative mitigated effects to this neighborhood. The environmental documents prepared for this project can be found on the E. H. Crump Interchange [Project Website](#).

### *Reasonably Foreseeable Actions*

A potential Port of Memphis expansion was identified as a reasonably foreseeable action.

In 2022, American Patriot Holdings (APH) issued a request for proposals (RFP) to several shipyards for the construction of a new type of river cargo vessel. Designed as the "Exoskeleton Structure" by Naviform Consulting and Research, this efficient cargo vessel would be capable of operating at speeds twice that of current river vessels.<sup>25</sup>

The design of these vessels would require new port facilities to accommodate their unique design and size. APH and Plaquemines Port Harbor have proposed developing a specific terminal for these vessels within the Port of Memphis on the south side of McKellar Lake. Preliminary plans show the terminal requiring approximately 542 acres. The first vessels would initially operate from the Louisiana Gulf Gateway Terminal in Plaquemines Parish,

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<sup>25</sup> [U.S. shipyards bidding for construction of Hybrid River Containerships](#). *The Maritime Executive*. (2021, December 23).

Louisiana and this proposed Memphis terminal. The vessels are anticipated to enter service in 2024; however, plans for the new terminals are still conceptual.<sup>26</sup>

### 3.15.2. Cumulative Effects to Historic Resources

In coordination with the USCG, it has been determined that the NRHP-listed existing I-55 Memphis and Arkansas Bridge must be removed to accommodate the proposed Project. This is a direct impact resulting from the proposed Project. The existing bridge would be removed to reduce physical obstructions to barge traffic on the Mississippi River. Given the density of historic resources within the RSA, this effect is not determined to be substantial. Planned developments and minor transportation projects are not anticipated to result in historic resource effects that would contribute to the overall cumulative impacts. Considering the singular effect resulting from the proposed Project and the abundance of other historic resources within the RSA, no substantial cumulative effects on historic resources within the RSA are anticipated as a result of the proposed Project.

The proposed Project is anticipated to directly affect one NRHP-listed structure, the existing I-55 Memphis and Arkansas Bridge, as well as the French Fort Historic District, both discussed in **Section 3.4**. Given the density of historic resources within the RSA, this effect is not determined to be substantial. Planned developments and minor transportation projects are not anticipated to result in historic resource effects that would contribute to the overall cumulative impacts. Based on the analysis presented, considering the singular effect resulting from the proposed Project and the abundance of other historic resources within the RSA, no substantial cumulative effects on historic resources within the RSA are anticipated from the proposed Project.

### 3.15.3. Cumulative Effects to Section 4(f) Properties

Two public parks, E.H. Crump Park and Big River Trail, would be directly affected and qualify for protection under Section 4(f). A Section 4(f) Net Benefit Programmatic Evaluation has been developed for the proposed Project's impact to and mitigation for the E.H. Crump Park. A Section 4(f) De Minimis Evaluation has been developed for the proposed Project's impact to and mitigation for the Big River Trail. Minimization of harm measures and conceptual mitigation have been developed for impacts to both parks that would improve/benefit both after all minimization and mitigation measures are implemented; therefore, the Project is not anticipated to contribute to negative cumulative effects on Section 4(f) properties.

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<sup>26</sup> [\*Trade group plan would turn Memphis into a seaport for container ships on Mississippi River.\*](#) Evanoff, T; *The Commercial Appeal*. (2020, August 13).

### 3.15.4. Cumulative Effects to Water Resources

Water resources within the RSA were analyzed using a variety of methods, including a review of aerial imagery, topographic maps, and the USFWS National Wetlands Inventory (NWI) maps. NWI categorizes water features in several ways, referred to as “Wetland Type” within the GIS shapefile. For this cumulative analysis, NWI “Wetland Types” present within the RSA were aggregated according to (Table 3-9).

**Table 3-9. Acreage of Wetlands and Water Features within RSA**

NWI Wetland Type	Cumulative Analysis Category	Acreage within RSA	Percent of RSA
Freshwater Emergent Wetland	Wetland	9,753	26%
Freshwater Forested/Shrub Wetland			
Freshwater Pond	Water Feature	9,944	27%
Lake			
Riverine			
Other			

Source: Project Team (2024), NWI (2022).

Based on the data presented in **Table 3-9**, there are approximately 9,753 acres of wetlands a 9,944 acres of water features within the Water Resources RSA. Total cumulative effects to wetlands and water features are shown in **Table 3-10**.

**Table 3-10. Cumulative Effects to Water Resources**

Facility / Development	Wetland Effects (Approximate Acreage)	Water Feature Effects (Approximate Acreage)
I-55 Direct Effects	10	24
I-55 Indirect Effects	0	0
Past, Present, and Reasonably Foreseeable Actions	218	45
Total Cumulative Effects	228	69

Source: Project Team (2024), NWI (2022).

Cumulative effects to wetlands would account for approximately 3 percent of the wetlands in the RSA and cumulative effects to waters would account for 2 percent of the water features in the RSA. Considering the minor percentage of effect and assuming appropriate implementation of regulatory control strategies, policies, and mitigation, the proposed Project would not contribute to substantial cumulative effects to the water resources in the RSA.

### 3.15.5. Cumulative Effects to Threatened and Endangered Species

A Biological Assessment is being prepared to assess potential impacts to the federally endangered Pallid Sturgeon (*Scaphirhynchus albus*). Formal consultation with the USFWS will commence as the proposed Project progresses through the design phase. Negative effects on water quality and aquatic habitats could create encroachment alteration effects on the Pallid Sturgeon. The Mississippi River connects a broad area, and encroachment alteration effects on federally protected species could occur over an extensive area downstream.

### 3.15.6. Cumulative Effects to Floodplains

Cumulative effects to floodplains would account for approximately 484 of the 27,911 acres of floodplains within the RSA (**Table 3-11**). This amounts to approximately 2 percent of the resource.

**Table 3-11. Cumulative Effects to Floodplains**

Facility / Development	Floodplain Effects (Approximate Acreage)
I-55 Direct Effects	90
I-55 Indirect Effects	0
Past, Present, and Reasonably Foreseeable Actions	394
Total Cumulative Effects	484

Source: Project Team (2024), FEMA (2022).

Further development within the RSA could impact a FEMA-delineated floodplain where a floodway is defined. Encroachment of the floodplain from development of a proposed Project within the RSA may result in a No Rise Certification or a Conditional Letter of Map Revision/Letter of Map Revision (CLOMR/LOMR), consistent with the Memorandum of Understanding (MOU) between FHWA and FEMA. Considering the minor percentage of effect and assuming appropriate implementation of regulatory control strategies and policies, the proposed project would not contribute to substantial cumulative effects to the floodplains in the RSA.

### 3.15.7. Cumulative Effects to Visual Resources

The proposed Project would have visual effects within the RSA. The proposed bridge design would be a stark contrast to the existing arch and truss bridges. The replacement bridge would be substantially taller and appear more modern when compared to the existing bridges in the area. The Memphis skyline has remained relatively unchanged since the 1970s when the Hernando De Soto Bridge was completed. Upon project completion, viewers from downtown Memphis would see two A-style towers standing approximately 406 feet tall (over the Memphis zero-gauge level) as a backdrop against the existing Harahan and Frisco Bridges. This height is approximately 190 feet higher than the existing I-55 Memphis and Arkansas Bridge.

While the proposed bridge would interrupt the existing form of the Memphis skyline, it would not be without intent in purpose and form. The proposed bridge, while promoting efficiency in maintenance and safer operations, is also anticipated to become a visual asset to the region, a part of the City's future history in physical form. In the landscape over the river, the cable-stayed bridge would stand adjacent to the engineering design of the remaining truss bridges, the Harahan and Frisco. In the background of a lot of passive daily views and some daily foreground views, the Project location would stand as a statement on the future.

Planned developments and other local transportation projects are not anticipated to result in other visual effects that would contribute to the overall cumulative impacts as they have no substantial vertical component. Therefore, the proposed Project is the action identified which would affect visual resources within the RSA. Based on the visual impacts assessment presented in **Appendix J** and the proposed mitigation, no substantial cumulative effects on visual resources within the RSA are anticipated from the proposed Project.

The No-Build Alternative is not expected to cumulatively contribute to any impacts on natural, cultural, social, or economic resources.

## 4. RECOMMENDATIONS

### WHAT IS IN CHAPTER 4?

*Chapter 4 contains the results and conclusions of this EA.*

### 4.1. What are the results of this Environmental Assessment?

The environmental analysis of the proposed Project did not identify any significant impacts to the natural and social environment as a result of the No-Build Alternative or the Build Alternative. A summary of the impacts of these alternatives can be found in **Table 4-1**.

The Build Alternative has been identified as the Preferred Alternative because it meets the proposed Project's purpose and need and minimizes impacts.

**Table 4-1. Summary of Environmental Impacts Comparison**

Resource/Issue	No-Build Alternative	Build Alternative
Cost (2023 dollars)	\$50M repainting \$250M - \$500M seismic retrofitting Plus routine maintenance costs	\$790M
ROW (acres)	0	3
Relocations	0	1 business
Environmental Justice (EJ) Populations	No effect	Disproportionate and adverse effects are not anticipated to be experienced by EJ populations compared to non-EJ populations
Historic Resources with an Adverse Effect	0	2 (Existing I-55 Memphis and Arkansas Bridge and French Fort Historic District)
Archaeological Sites with Adverse Effect	0	0
Visual Effects	The existing I-55 Memphis and Arkansas Bridge is one of the least visible Mississippi River crossings. As such, visual impacts with the No-Build Alternative are not anticipated to be substantial.	Given the increased height, mass, and geometric profile, it is assumed the proposed bridge would be partially visible from locations across the city of Memphis and in the parklands just outside of West Memphis.

Resource/Issue	No-Build Alternative	Build Alternative
Noise Receptors Impacted	0	2 (Barriers not feasible and reasonable)
Air Quality	No temporary increases in PM and MSAT emissions from construction activities. No air quality impacts for criteria pollutants. Not linked with any special MSAT or GHG concerns. Current and future emissions should continue to follow existing trends.	The proposed Project is located in Shelby County, Tennessee and Crittenden County, Arkansas, within the Memphis, TN-MS-AR Area, which is in maintenance status for ozone. Project not anticipated to result in any adverse MSAT effects. GHG emissions from the Project would not result in reasonably foreseeable significant adverse impacts on the human environment.
Hazmat High Risk Sites Potentially Impacted	0	2
Wetlands (acres permanent loss)	0	8.27
Floodplains	No effect	Direct impacts to the floodplain are anticipated to be minimal and a no-rise certification is the assumed result after the completion of a Hydraulic and Hydrologic Study.
Threatened and Endangered Species Potentially Impacted	0	1 (Pallid Sturgeon)
Farmland	No effect	Study area located within urban area; thus, exempt from and FPPA evaluation.
Section 6(f) Resources	0	0
Section 4(f) Resources with Use	0	3 (Existing I-55 Memphis and Arkansas Bridge, E.H. Crump Park, and Big River Trail)
Indirect Effects	None anticipated	Induced growth anticipated to affect approximately 46 acres

Resource/Issue	No-Build Alternative	Build Alternative
		within the 13,555-acre indirect effects study area. Encroachment alternation effects anticipated for socioeconomic resources (excluding EJ), water resources, floodplains, threatened and endangered species, and visual resources.
Cumulative Effects	None anticipated	The project is not anticipated to contribute to a substantial amount of cumulative effects on historic resources, Section 4(f) resources, water resources, floodplains, visual resources, or threatened or endangered species.

Source: Project Team, 2024.

The Build Alternative has been identified as the Preferred Alternative because it meets the proposed Project's purpose and need and minimizes impacts.

## 4.2. What commitments have been made?

### 4.2.1. Relocations

As part of the relocation process, TDOT would compensate owners at fair market value. TDOT would make relocation assistance available to all eligible persons impacted by the proposed Project. Relocations would be conducted in accordance with the *Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as amended.

### 4.2.2. Section 106 Mitigation Measures

A Section 106 Memorandum of Agreement (MOA) has been developed between the FHWA and TN-SHPO stipulating measures to mitigate adverse effects to historic properties. These mitigation measures are:

- Documentation of the existing I-55 Memphis and Arkansas Bridge to Historic American Engineering Record Level I, including large format photographs of the bridge and historical documentation explaining the historical and engineering significance of the bridge.
- Documentation of the existing I-55 Memphis and Arkansas Bridge through Three-Dimensional laser imaging.

- Publication of a book on Mississippi River crossings in Tennessee, including the five current bridges crossing the Mississippi River, of which four are located in Memphis.
- Preparation of a nomination to the NRHP for the French Fort Historic District.
- Preparation of two interpretive panels for the French Fort Historic District explaining the history and significance of the neighborhood.

#### 4.2.3. Hazardous Materials

If hazardous materials, unknown illegal dumps, or underground storage tanks are identified or accidentally uncovered by TDOT personnel or its contractors, TDOT will determine the type, size, and extent of the contamination according to the TDOT's response protocol. TDOT, in cooperation with the TDEC, will determine the appropriate containment, remediation and disposal methods suited for that particular type of contamination. If hazardous materials are identified or accidentally uncovered in Arkansas, ARDOT procedures would be followed, in cooperation with ADEQ.

An Asbestos Containing Material (ACM) survey was performed on the I-55 Bridge over the Mississippi River. The bridge has asbestos in the texture coating along the inner wall of the outer parapet on the northbound lane. Asbestos was identified in the texture coatings along the first 3,600 linear feet of the bridge, approximately 12,420 square feet. No asbestos was found on the texture coating on the outer surface of the parapet wall and no asbestos was found on the concrete barrier wall in the middle of the bridge (between north and southbound lanes). Note the southbound half of the bridge was not sampled during this survey and based on the results of the northbound lanes the inner surface of the parapet wall for the southbound lane must also be considered asbestos containing material, or must be sampled at a later date prior to the planned repairs.

The State of Tennessee asbestos accreditation requirements (TCA 1200-01-20) mandates that ACM abatement work be performed by an accredited firm (contractor) using accredited abatement workers and supervisors. Abatement of this material should be accomplished per SP202ACM Special Provision Regarding Removal of Asbestos Containing Materials. ACM abatement should be completed prior to any demolition activities. Prior to the demolition or rehabilitation of any structure, the contractor is required to submit the National Emission Standards for Hazardous Air Pollutants standard 10-day notice of demolition to the TDEC Division of Air Pollution Control (Standard Specifications for Road and Bridge Construction (January 1, 2021) Sections 107.08 D and 202.03.

#### 4.2.4. Water Resources

TDOT would comply with all requirements of the *Clean Water Act, as amended*, and *Section 10 of the Rivers and Harbors Act of 1899*, for the construction of the proposed Project. This includes obtaining the following: Section 401 Water Quality Certification; Section 402 NPDES Permit; Section 404 Permit for Dredged or Fill Material; and approval under Policy and

Procedural Guidance for Processing Requests to Alter U.S. Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408 (Section 408).

Based on the presence of wetlands within the ETSA, it assumed TDOT will apply for an Individual Permit under Section 404 of the Clean Water Act. As part of the Section 404 permit, compensatory mitigation credits will be required where avoidance and minimization of impacts is not achievable.

As TDOT coordinates with USFWS in regard to proposed impacts to threatened and endangered species within the project ETSA, project commitments will be established to minimize and mitigate potential impacts.

#### 4.2.5. Protected Species

Erosion and sediment control measures would be installed and maintained throughout Project construction, in accordance with TDOT's Erosion Prevention and Sediment Control (EPSC) Inspection Manual. If a Construction General Permit is needed, construction activities would comply with the Tennessee Department of Environment and Conservation (TDEC) National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Stormwater associated with Construction Activities. A site-specific Stormwater Pollution Prevention Plan (SWPPP) would also be developed to address all construction-related activities occurring from the date construction commences to the date of termination of permit coverage. Equipment refueling and maintenance areas would be located such that no petroleum fuel or lubrication products enter area streams or other aquatic resources.

To minimize potential for adversely impacting the Pallid Sturgeon, the following commitments would also be included in the project plans:

- No instream work, whether during demolition of the existing bridge or construction of the proposed bridge, would occur from May 1 and June 30 to avoid the most sensitive period of juvenile and larval Pallid Sturgeon.
- All work below the OHWM of the Mississippi River would be separated from flowing water using coffer dams, or other standard best management practices. A filter bag or equivalent sediment control would be used to prevent any sediment or material within the coffer dam from entering the Mississippi River when the enclosure is dewatered.
- All use of motorized equipment below the OHWM of the Mississippi River would be from barges anchored in the river.
- Construction and demolition of the off-stream piers located in the floodplain of the Mississippi River would be conducted during periods the floodplain is not inundated and appropriate sediment and erosion controls would be used to prevent sediment loss to the river from construction activities.
- All material (concrete, dirt, rock, etc.) resulting from demolition and construction would be hauled to an approved waste site.

- The stream banks under and around the proposed bridge would be stabilized using appropriately sized rip rap or other equivalent erosion control to prevent sediment loss to the Mississippi River.
- A staging area is defined as the physical location used for the storage of vehicles and related equipment, including any equipment or container that houses petroleum or chemical products. At the end of each workday, the prime contractor would ensure all equipment or containers that house petroleum or chemical products, with exception of cranes, are stored in staging areas by all employees and subcontractors.
- To minimize impairment to the Mississippi River, the contractor would adopt at least one of the following measures as practicable: Equipment would be staged a minimum of 150 feet from the Mississippi River; Equipment would be staged in upland areas that are contained or that do not drain directly to the Mississippi River; Catch pans and/or spill containment “diapers” would be installed on all construction equipment staged within 150 feet of the Mississippi River.
- No refueling or servicing of equipment would be allowed within 150 feet of streams.
- If spillage or leakage of concrete into a stream is observed, concrete pouring would cease immediately and the TDOT Environmental Division Ecology Unit would be immediately notified.
- Upon locating dead or injured Pallid Sturgeon, the TDOT Environmental Division Ecology Unit would be immediately notified.

#### 4.2.6. Section 4(f) Resources

##### **E.H. CRUMP PARK**

To mitigate impacts to E.H. Crump Park resulting from the proposed Project, TDOT would fund a new park trailhead located east of the existing parking to be removed. The proposed trailhead would include 22 parking spaces, parking lot lighting, restroom facilities, and the potential for park benches and a bicycle repair equipment station.

Mitigation would also include the construction of a shared use path (SUP) connecting through E.H. Crump Park, traversing under the proposed I-55 bridge, under the existing railroad bridges, and connecting north to Martyrs Park and east to the Big River Crossing trailhead. Covered SUP canopy protection would be provided under the railroad bridge crossings. The existing “Memphis & Arkansas Bridge Poem Marker” would be relocated along the SUP between I-55 and the railroad bridges. In addition, the existing sidewalk connecting Channel 3 Drive through the E.H. Crump interchange roundabout to Alston Drive, which is currently under construction, would be enhanced to meet current design standards of 10-foot minimum width.

## BIG RIVER TRAIL

To mitigate impacts to Big River Trail resulting from the proposed Project, TDOT would fund a new trailhead located on the footprint of the existing bridge/roadway. Accordingly, no new right-of-way would be required for the proposed new trailhead. The trailhead would include a new parking area with approximately 40 parking spaces. The trailhead would also include a restroom facility that is located uphill to maximize elevation out of the floodplain. A septic leach field for the proposed restroom facility would be located west of the parking area. The trailhead would also include new benches and a bicycle repair equipment station. The new trailhead would also reuse the stone blocks from the existing facility and would include parking lot lighting.

## I-55 MEMPHIS AND ARKANSAS BRIDGE

Commitments due to impacts to the existing I-55 Memphis and Arkansas Bridge are discussed in **Section 4.2.2**.

### 4.3. What is the status of the NEPA process?

Once the Draft EA has been signed by FHWA and approved for public dissemination, a Notice of Availability (NOA) would be distributed and public hearings would be held. Per 23 CFR 771.119, the approved EA must be available to the public for a minimum of 15 days before the public hearing. A notice of the public hearing will be published in local newspapers announcing the availability of the Draft EA and where it may be obtained or reviewed. The Draft EA will also be published on the project website.

After a review of comments received from the public, public officials, and public agencies, if no significant impacts are identified, a Finding of No Significant Impact (FONSI) would be prepared by TDOT and submitted to the FHWA. Approval of the FONSI by the FHWA would identify the Selected Alternative and conclude the NEPA process.