CITY OF DECATUR Alabama

Tennessee River Bridge Feasibility Study

PROJECT STUDY AREA

In Partnership with:

TTL

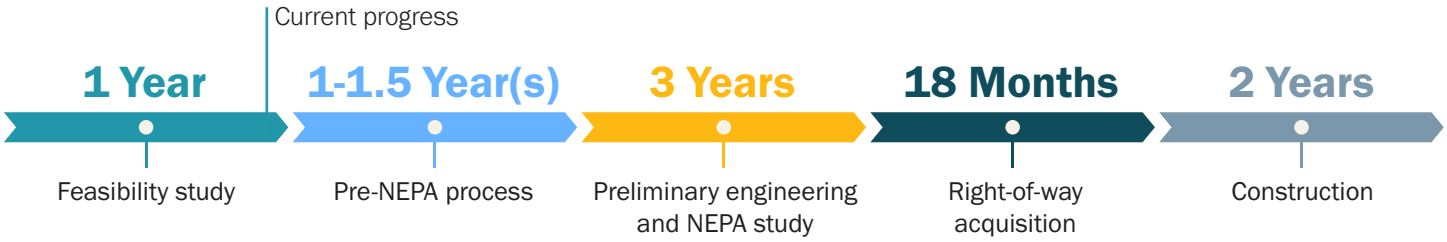
Jacobs

PUGH WRIGHT MCANALLY CIVIL ENGINEERS

PROJECT INFO

The City of Decatur recognizes the need to provide infrastructure improvements that enhance connectivity to its traveling public on each side of the Tennessee River. This improved infrastructure is critical to support the increasing growth in and around the city. The City of Decatur received a $1 million grant from the Appalachian Regional Commission (ARC) and is providing $1 million in local matching funds for the feasibility study.

PROJECT SCHEDULE

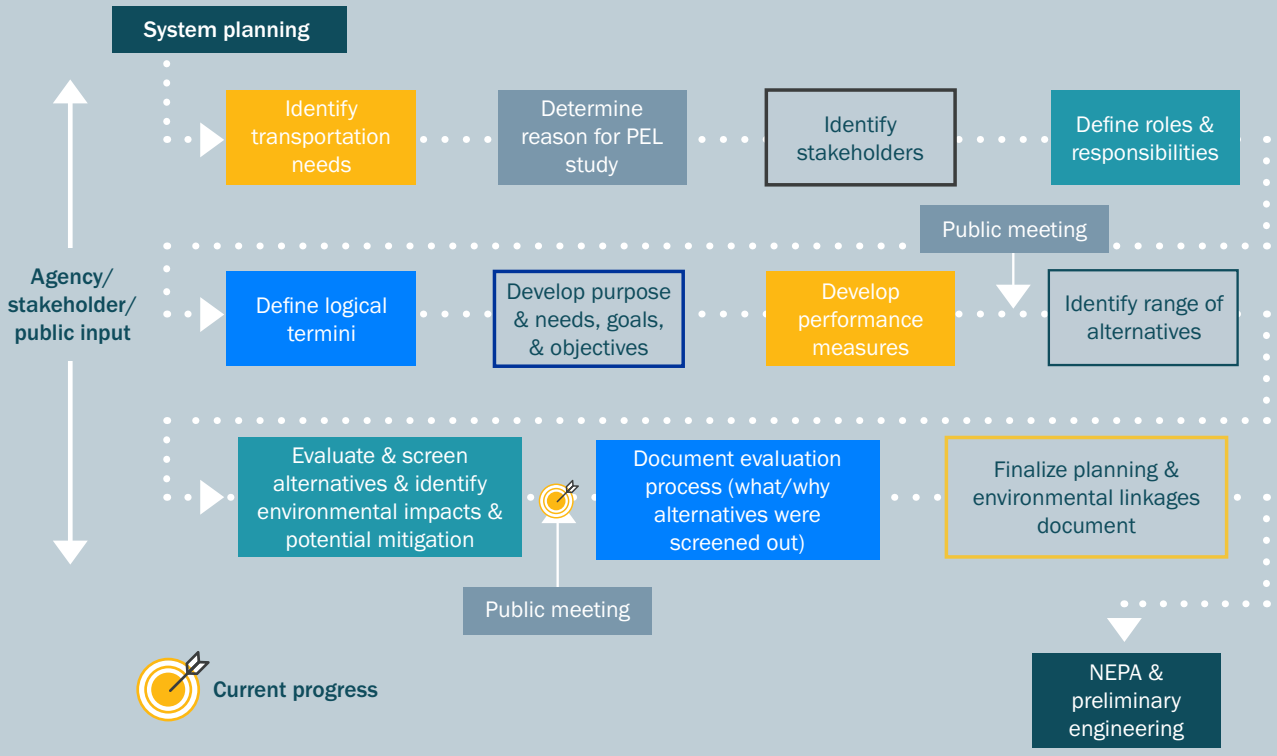


***Typical timeline for a federally funded project**

PROJECT FUNDING

The City of Decatur is using a combination of local funds and federal grant funds to conduct the Tennessee River Bridge Feasibility Study. The Feasibility Study is the only phase that is currently funded. The City of Decatur and its consulting team are exploring all options for funding future phases of the project and anticipates the financing for the future planning, design, and construction of the project to include federal funding. Grant funding is extremely competitive on projects of this magnitude and will require support and partnership from the local community, the state, and the federal government.

PEL PROCESS FLOW CHART



PURPOSE & NEED

The "Steamboat Bill" Memorial Bridges span one of the widest points along the Tennessee River between Morgan and Limestone Counties in the City of Decatur. The bridges are located along ALT US 72/SR 20/US Hwy 31, which is classified as a principal arterial and is part of one route providing a direct linkage between the Decatur Metropolitan Statistical Area (MSA) and Huntsville MSA. These two MSAs comprise the Decatur-Huntsville Consolidated Metropolitan Statistical Area (CMSA), which is the fastest growing CMSA in the State of Alabama. The growth experienced by the area has resulted in significant increases in traffic volumes along the ALT US 72/SR 20/US Hwy 31 route.

The existing ALT US 72/SR 20/US Hwy 31 southbound cantilever truss bridge, constructed in 1963, is functionally obsolete. As the only Tennessee River crossing connecting Decatur to Huntsville, the route has experienced increased congestion which has been attributed to growth and increased traffic volumes across the region.

During peak morning travel times, congestion on southbound ALT US 72/SR 20/US Hwy 31 (towards Decatur) is typically experienced half-way across the Tennessee River bridge. Congestion on southbound Wilson Street (approaching ALT US 72/SR 20/US Hwy 31) is known to back up approximately 1-mile north towards Ingalls Harbor.

During peak evening travel times, congestion on southbound ALT US 72/SR 20 is experienced as far back as the I-65 interchange, a distance of approximately 4.5 miles. Congestion on the southbound portion of Wilson Street (approaching ALT US 72/SR 20/US Hwy 31) backs up approximately 1-mile north towards Ingalls Harbor.

Purpose		Need	
Relieve congestion conditions	Relieve congested conditions along ALT US 72/SR 20 in the areas adjacent to the current ALT US 72/SR 20/US Hwy 31 bridges over the Tennessee River through means of improving the existing structure or provision of an additional crossing. Based on preliminary, high-level evaluation of existing and projected traffic data, a significant volume of traffic would need to be removed from or accommodated within the existing corridor.	**Capacity**	Per the Decatur Area Metropolitan Planning Organization's 2045 Long-Range Transportation Plan (May 2021), the segment of ALT US 72/SR 20 from the US Hwy 31 interchange to Wilson Street intersection operated at Level of Service (LOS) E in 2015 and projects LOS F operations by 2045.
Increase corridor capacity	Accommodate the projected traffic volumes crossing the Tennessee River.	**Alternative connection**	Currently, this route serves as the only direct crossing over the Tennessee River into the downtown and the northwest side of Decatur from the Huntsville MSA.
Maintain regional connectivity	Maintain regional connectivity between the Decatur MSA and the Huntsville MSA.	**Bicycle/ pedestrian access**	There is currently no dedicated multi-use path across the Tennessee River. Accommodating a multi-modal lane for bicyclists and pedestrians will meet the "Complete Streets" goals established in the One Decatur Plan as well as the 2015 Bicycle & Pedestrian Plan established for the City of Decatur.
Provide dedicated bicycle & pedestrian access	Provide dedicated bicycle and pedestrian access over the Tennessee River.	**Route deficiencies**	The southbound bridge across the Tennessee River along ALT US 72/SR 20/Hwy 31 has narrow 4-foot shoulders which do not allow inoperable vehicles to be removed from the travel lane. Additionally, these narrow shoulders can exacerbate emergency situations when vehicles are unable to move out of the way of first responders.
Address route deficiencies	Address route deficiencies associated with the aging ALT US 72/SR 20/US Hwy 31 southbound bridge as the primary crossing over the Tennessee River to provide a reliable conveyance.		

ALIGNMENT SELECTION PROCESS

At the public meeting held May 2, 2023, the project team presented the proposed purpose and need and project goals. Here the public was able to provide suggestions for potential solutions, including drawing alternative alignments for the project. Following the public meeting and comment period, the project team digitized and reviewed the provided alignments as well as developed our own. Alignments with similar corridors and termini were combined into a single alternative to limit redundancy.

The combined alignments, the project team's alignments, as well as alignments developed from previous studies were then evaluated for fatal flaws such as significant land use impacts (i.e., Section 4(f) properties, Section 6(f) properties, critical habitat for protected species, major industrial/residential/commercial areas, Pryor Field, etc.), significant impacts to river navigation, significant constructability concerns (i.e., subterranean tunnel), and for meeting the project's purpose and need. Alignments with significant problematic or unmitigatable impacts or those which did not meet the purpose and need were eliminated from further consideration.

Alignments which were not eliminated, were carried into a design charrette where they were further refined to avoid and minimize significant impacts where feasible. The refined alignments/alternatives, were then evaluated against a common set of criteria as shown on the provided feasibility matrix. These alignments are attached.

The existing corridor is anticipated to remain in all scenarios. The design team looked at the existing corridor as it is today and with several versions of improvements. These are included in the feasibility matrix as alignments A, B, C and D.

Next Steps

Complete the Feasibility Study

Pre-NEPA Phase

- Field Surveys
- Detailed Traffic Analysis
- Further Refinement of Alignments

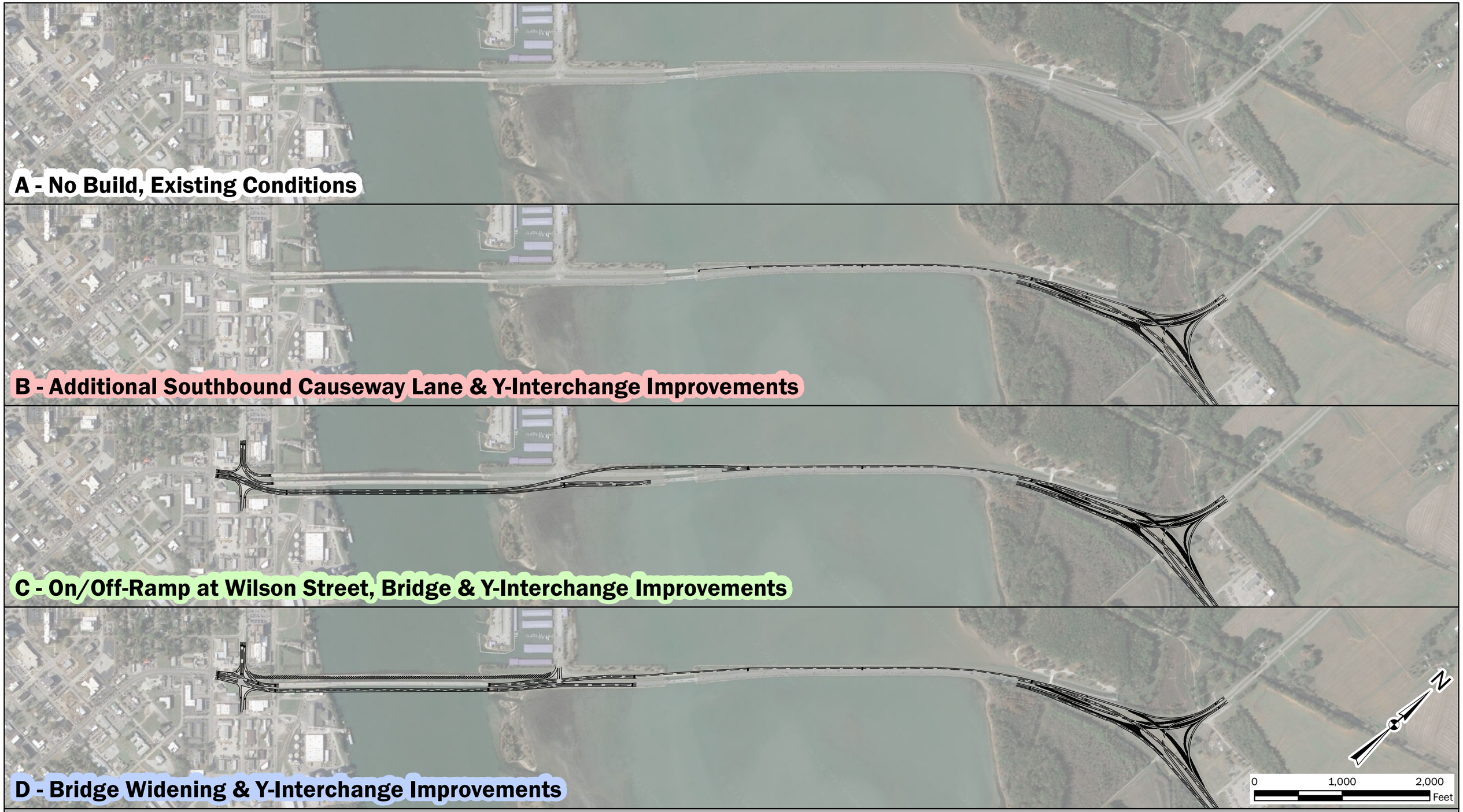
We want to hear from you!

Comments/Inquiries can be submitted to:

TTL, Inc.
Decatur Bridge Comments
3516 Greensboro Avenue
Tuscaloosa, AL 35401

Project email:

decaturbridge.comments@ttlusa.com



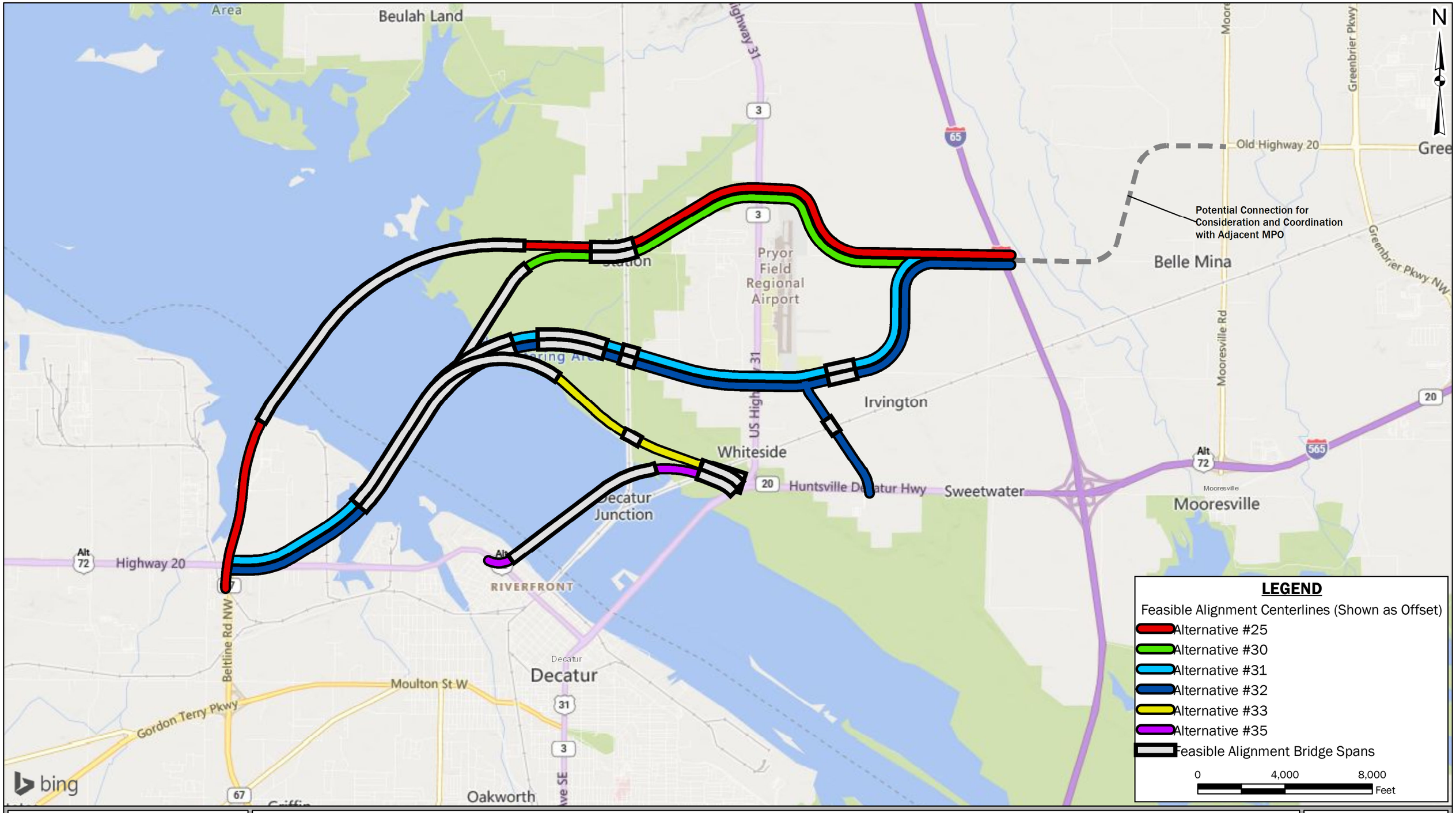
EXISTING CORRIDOR ALTERNATIVES MAP

CITY OF DECATUR

TENNESSEE RIVER BRIDGE FEASIBILITY STUDY

LAWRENCE, LIMESTONE & MORGAN COUNTIES, ALABAMA

DRAWN BY: DEK
CHECKED BY: SG
DRAWING DATE: 8/24/2023
REVISION DATE: N/A
TTL JOB NO.: 22-02-00697.00
APPROX. SCALE: 1 in = 1,000 ft



FEASIBLE ALTERNATIVE ALIGNMENTS MAP

CITY OF DECATUR

TENNESSEE RIVER BRIDGE FEASIBILITY STUDY

LAWRENCE, LIMESTONE & MORGAN COUNTIES, ALABAMA

DRAWN BY:	DEK
CHECKED BY:	SG
DRAWING DATE:	8/25/2023
REVISION DATE:	N/A
TTL JOB NO.:	22-02-00697.00
APPROX. SCALE:	1 in = 4,000 ft

TENNESSEE RIVER BRIDGE FEASIBILITY STUDY DECISION MATRIX		LEGEND									
		Severe	Moderate	Low				Good	Better	Best	
		Impact			No Impact			Improvement			
		ALIGNMENTS									
		A	B	C	D	25	30	31	32	33	35
Traffic Impacts	% Traffic Off Existing Bridge	0%				17%	12%	22%		21%	35%
	Volume on Bridge and Causeway	Significant southbound backup on the two-lane sections		Southbound and Northbound function under capacity		Reduces volume		Reduces volume			Functions under capacity
	Volume at Y interchange	All directions near failure in the design year Southbound Hwy 31 to Eastbound Hwy 20 is Signficantly Overcapacity	North and west legs of the interchange funtion acceptably East leg nears failure in the design year			Reduces volume		Reduces volume			Functions under capacity
	Volume at Wilson/Church Street	143% Overcapacity with long queues		113% Overcapacity with long queues	143% Overcapacity with long queues	Reduces volume but still overcapacity		Reduces volume but still overcapacity			Functions under capacity
	Reduces Volume on SR20 between I65 and U.S. 31	No effect				Reduce volume on Hwy 20		Reduce volume on Hwy 20		No effect	
Geometric Design	Length of Roadway (mi)	8.3				10.9	10.6	10.5	10.5 / 8.8	8.3	7.6
	Interchanges (ea)	2				1			2		
	Signalized Intersections (ea)	5				2	3		4	2	
	Minor Intersections (ea)	17				3	4	6	6 / 3	1	5
	Railroad Crossings (ea)	4				1	2		2 / 3	3	4
Bridges	Length of Existing Southbound Truss Bridge (linear ft.)	2,500			0	2,500					
	Length of Existing Northbound Bridge (linear ft.)	2,970				2,970					
	Length of Proposed Northbound Bridge on Existing Corridor over TN River (linear ft.)	0	0	3,500	3,000	0					
	Length of Proposed Bridge on Alternative Corridor over TN River (linear ft.)	0				14,740	13,000	10,050		11,800	7,600
	Length of Additional Roadway Bridges (linear ft.)	0				1,600		2,900		875	500
	New Bridge Area to Maintain and Inspect (SFT)	0	0	319,600	163,500	1,380,300	1,229,800	1,114,130	1,139,930		778,300
	Hydraulic Impacts	No Impact	No Impact	Match bottom beam of existing bridge		2000 LF of fill in floodplain	2500 LF of fill in floodplain	2800 LF of fill in floodplain		8700 LF of fill in floodplain	2500 LF of fill in floodplain
	Long-Term Maintenance	Truss bridge is functionally obselete and replacement is recommended. Maintaining existing truss bridge is estimated to be costly.		Aged Structure and Truss Bridge Maintenance	Regular Bridge Maintenance	Regular Bridge Maintenance					
Right of Way Impacts	Residential Impacts	0	0			1 / ±1 ac		3 / ±5 ac		0	
	Commercial Impacts		3 / ±1 ac			0		3 / ±7 ac	4 / ±15 ac	0	3 / ±19 ac
	Industrial Impacts		1 / ±1 ac			3 / ±33 ac	2 / ±28 ac	1 / ±24ac			1 / ±2 ac
	Agricultural Impacts		0			6 / ±36 ac		6 / ±50 ac	8 / ±64 ac	0	
	Utility Impacts		9			12	7	11	9	5	9
		A	B	C	D	25	30	31	32	33	35
		ALIGNMENTS									

TENNESSEE RIVER BRIDGE FEASIBILITY STUDY
DECISION MATRIX

		LEGEND									
		Severe	Moderate	Low					Good	Better	Best
		Impact			No Impact				Improvement		
		ALIGNMENTS									
		A	B	C	D	25	30	31	32	33	35
Impacts During Construction	Mainline	None	Moderate impacts at Y-interchange and causeway	major impacts and delays on causeway		minor impacts and delays					
	Grade Crossings		None	moderate impacts and delays at Wilson St and Church St		minor impacts and delays					
	River Traffic			major impacts and delays for new bridge construction		major impacts and delays for new bridge construction					
	City Roads			moderate impacts and delays at Wilson St and Church St		minor impacts and delays					
Environmental Impacts **Evaluations and estimates have been determined via review of desktop resources. Actual conditions may vary.*	Hazardous Materials	N/A	58 sites		55 sites	29 sites	36 sites	39 sites	40 sites	36 sites	30 sites
	Wildlife & Aquatic Resources		intersects mussel habitat and whooping crane habitat		intersects mussel habitat and whooping crane habitat, existing bridge bat habitat	crosses southern extent of critical habitat for pygmy sunfish, bat habitat, mussel habitat, whooping crane habitat		intersects bat habitat, mussel habitat, whooping crane habitat			
	Wetlands & Waters within Corridor		Streams: 2 crossings, ±2,000 ft; Wetland: ±6 ac TN River: ±4,000 ft	Streams: 2 crossings, ±2,000 ft; Wetland: ±8 ac TN River: ±8,200 ft		Streams: 5 crossings, ±1,700 ft; Wetland: ±55 ac TN River: ±11,200 ft	Streams: 6 crossings, ±2,100 ft; Wetland: ±61 ac TN River: ±9,000 ft	Streams: 2 crossings, ±300 ft; Wetland: ±47 ac TN River: ±9,200 ft		Streams: 3 crossings, ±3,200 ft; Wetland: ±68 ac TN River: ±11,700 ft	Streams: 2 crossings, ±3,100 ft; Wetland: ±31 ac TN River: ±7,200 ft
	Noise		along existing corridor, no significant change			intersects Swan Creek WMA (±94 ac)	intersects Swan Creek WMA (±81 ac)	intersects Swan Creek WMA (±52 ac)		intersects Hospitality Park & Swan Creek WMA (±70 ac), adjacent to Wheeler NWR	intersects Hospitality Park & Swan Creek WMA (±38 ac), adjacent to Wheeler NWR
	Air Quality		No Impact Anticipated			No Impact Anticipated					
	Historic/Archaeological Resources		Steamboat Bill Memorial Bridges likely eligible historic resource, potential archaeological sites			Garrett residence potential eligible historic resource, potential archaeological sites	Garrett residence potential eligible historic resource, Mosley Cemetery at southern termini, potential archaeological sites			Mosley Cemetery at southern termini, potential archaeological sites	historic downtown with several historic structures nearby Port of Decatur at southern termini, potential archaeological sites
	Section 4(f) and Section 6(f) Resources **no alignments impact Section 6(f) resources*		intersects Hospitality Park, adjacent to Wheeler National Wildlife Refuge	intersects Hospitality Park, intersect Wheeler National Wildlife Refuge near existing bridge/marina	intersects Hospitality Park, intersects Wheeler National Wildlife Refuge at existing bridge/marina	intersects Swan Creek Wildlife Management Area (±94 ac)	intersects Swan Creek Wildlife Management Area (±81 ac)	intersects Swan Creek Wildlife Management Area (±52 ac)		intersects Hospitality Park & Swan Creek Wildlife Management Area (±70 ac), adjacent to Wheeler National Wildlife Refuge	intersects Hospitality Park & Swan Creek Wildlife Management Area (±38 ac), adjacent to Wheeler National Wildlife Refuge
	Land Use		along existing corridor, no significant change			southern termini is in industrial area, most of corridor is undeveloped					
	Floodway		crosses 0.0 ac	crosses 3.9 ac		crosses 9.7 ac	crosses 5.4 ac	crosses 5.4 ac			crosses 3.2 ac
	Floodplain		crosses 20.6 ac	crosses 37.5 ac	crosses 39.1 ac	crosses 116.7 ac	crosses 115.5 ac	crosses 89.1 ac		crosses 110.3 ac	crosses 63.5 ac
	Environmental Justice		No Impact Anticipated			No Impact Anticipated					
Cost Data		N/A	$20	$60	$45	$$$$	$$$	$$$	$$$	$$	$
		A	B	C	D	25	30	31	32	33	35
		ALIGNMENTS									