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US-70 over Lake Texoma – Stakeholder Meeting

- Mtg Date: March 23, 2023
 - To: Attendees
 - Garver From:
 - RE: Bryan JP 33873(04) US-70 over Lake Texoma (Roosevelt Bridge) – Stakeholder Meeting

Attendees

Anthony Echelle, ODOT District 2 Engineer Anjie King, ODOT Project Manager, District 2 Justin Hernandez, ODOT Bridge Engineer Jason Giebler, ODOT Bridge Division David Saulsberry, ODOT Assistant Environmental Programs Division Manager Joe Brutsche, ODOT Environmental Programs Division Manager Kathy Koon, ODOT Environmental Project Manager, District 2 Leslie Novotny, ODOT Environmental Programs Supervisor Scott Sundermeyer, ODOT Environmental Programs Division (Cultural Resources) Greg Maggard, ODOT Environmental Programs Division (Cultural Resources) Cari Foster, ODOT Environmental Programs Division (Cultural Resources) Rhonda Fair, ODOT Tribal Liaison Jenny Droscher, ODOT Environmental Program Division (Public Involvement Officer) Jared Bechtol, ODOT Environmental Programs Division (Section 404 Permit Coordinator) Bo Ellis, Chickasaw Nation Roads Program Terry Holman, Chickasaw Nation Roads Program Phillip Cravatt, Chickasaw Nation Environmental Programs Jackson Stuteville, Choctaw Nation Government Relations Craig Dishman, Director, Oklahoma State Parks Carrie Rush, Oklahoma State Parks Richard Keithley, Oklahoma State Parks Lynda Ozan, Deputy SHPO Kristina Wyckoff, Oklahoma Historical Society Kary Stackelbeck, State Archeologist Deb Green, Oklahoma Archaeological Survey Karen Orton, FHWA Oklahoma Division Marcus Ware, USACE Tulsa District, Regulatory Branch (ODOT Liaison) Stacy Dunkin, USACE Tulsa District Biologist Jake Ellison, USACE Lake Texoma Lake Manager James Vincent, USACE Lake Texoma Biologist Cindy Buchanan, USACE Lake Texoma Real Estate

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Justin Anderson, USACE Lake Texoma Real Estate Mike Margolis, USACE Archaeologist Ryan Chapman, PointeVista Grant Speakes, PointeVista Shawn Wiley, PointeVista Mark Fischer, PointeVista Brandi Burkhalter, Lake Texoma Association Janet Reed, Durant Chamber of Commerce Jenny Sallee, Garver Matthew Youngblood, Garver Kirsten McCullough, Garver Cody Burnett, Garver Marc Flusche, Garver

- 1. Welcome and Introductions
 - 1.1. Kirsten McCullough opened the meeting and welcomed everyone. Kirsten introduced Anthony Echelle, who emphasized the importance of the project and the cost.
 - 1.2. Matthew Youngblood and Kirsten McCullough of Garver gave a presentation. A copy of the presentation is included as **Attachment A.**
- 2. Presentation
 - 2.1. Purpose of the Meeting
 - 2.2. Purpose of the Project
 - 2.3. Existing Conditions (updates since last meeting)
 - 2.4. Section 4(f) Alternatives
 - 2.4.1. Do Nothing
 - 2.4.2. Rehabilitation (with and without widening)
 - 2.4.3. One-way Pair
 - 2.4.4. Bicycle/Pedestrian facility
 - 2.4.5.Monument
 - 2.5. Replacement Alternatives
 - 2.5.1. North and South Offsets
 - 2.5.1.1. New South Alignment
 - 2.6. Timeline and Next Steps
 - 2.7. Q&A
- 3. Question & Answer
 - 3.1. Mr. Fischer: Where do we go from here? Who makes the final decision on the alternatives? FHWA makes the final decision on whether the Section 4(f) alternatives are prudent and feasible, based on input from ODOT and the other stakeholders. ODOT will select their preferred alternative after the Section 4(f) decision is made.
 - 3.2. Mr. Fischer: What are the relative impacts of the various factors considered? Is it mostly cost? Cost is important, including up front and long-term costs. Other factors are also considered.
 - 3.3. Mr. Keithley: The high cost of the detour is surprising. Speaking from someone who lives in Marshall County that would be a considerable impact.

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- 3.4. Ms. Reed: Is 2029 the estimated start date? ODOT has some due diligence to perform which is what we are doing now. We would like to start sooner, but not all the funding has been identified. 2029 is a placeholder in the 8 Year Work Plan. This project represents approximately two years of the entire budget for ODOT District 2.
- 3.5. Mr. Fischer: Appreciate ODOT's transparency and including us.
- 3.6. Mr. Keithley: If the existing bridge is left in place for pedestrians, how would people access it? Would there be connections, parking areas? *Details of the pedestrian option have not been worked out. If this alternative is selected, then those details would be investigated. One of the biggest questions about this alternative is who would maintain the existing bridge.*
- 3.7. Mr. Fischer: What does it mean to put the bridge up for adoption? ODOT makes the bridge available for an individual or entity to assume ownership and maintenance. Examples include a private owner that took over maintenance of an existing bridge in place. There was a smaller truss in Tulsa County that was moved for a new owner. Moving trusses is a lot of effort.
- 3.8. Mr. Fischer: Could the "monument" option include use as a fishing pier? That is something that could be investigated. That is the kind of feedback ODOT would like.
- 3.9. Mr. Ellison: The USACE is not interested in assuming maintenance for the existing bridge. There is a concern about maintenance to make sure it stays safe. ODOT appreciates this feedback. The issue of maintenance does factor into the Section 4(f) prudent and feasible decision.
- 3.10. Mr. Ellison: The USACE appreciates the discussion of compensatory storage and would like to see a zero net fill in the flood pool.
- 3.11. Mr. Ellison: Are there no alternatives to replace the existing bridge completely? Yes, the offset and new alignment alternatives discussed at the end of the presentation assume that the existing bridge would be removed.
- 3.12. Mr. Ellison: USACE would like to be kept informed on the future use of the existing bridge.
- 3.13. Mr. Ellison: Will utilities on the existing bridge be moved to the new bridge? Those questions have not been answered yet. The OG&E line is a big question since it is physically part of the existing bridge structure. There are still a lot of unknowns.
- 3.14. Ms. Burkhalter: The pedestrian bridge/fishing pier could be a good thing from a tourism perspective. Often the Lake Texoma Association is asked where people can fish if they don't have a boat. Would be great if the existing bridge could be maintained. Maybe a pay to park fee would help towards maintenance. ODOT appreciates this feedback. Maintenance on this bridge is not an insignificant cost. A recent repair job to avoid load posting cost \$1 million. Anything that is done is a major undertaking due to the size of the bridge.
- 3.15. Ms. Burkhalter: Is moving the bridge even an option given it is historic? It can be considered a measure to minimize harm to the bridge. Even though the project might still have an adverse effect to the bridge.
- 3.16. ODOT requested feedback from the preservation folks.
- 3.17. Mr. Ellison: USACE appreciates the opportunity to work with ODOT we understand the need to fix the bridge. We will work with ODOT to get the appropriate easement. None of the offsets seem to affect much more USACE property appreciate ODOT looking at that.

Send feedback to: Kirsten McCullough, Garver 6100 S. Yale Avenue, Suite 1300 Tulsa, OK 74136 Phone: 918-858-3799, Fax: 918-858-0107 Email: kjmccullough@garverusa.com



Welcome

Attendees

- Oklahoma Department of Transportation (ODOT)
- State Legislators
- Chickasaw Nation
- Choctaw Nation
- US Army Corps of Engineers (USACE)
- Oklahoma Dept of Tourism and Recreation
- Oklahoma Historical Society
- Oklahoma Archeological Survey
- Lake Texoma Association
- Durant Chamber of Commerce
- PointeVista
- Garver

Project Contacts

Anjie King Project Manager - District 2 Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105 <u>AKing@ODOT.ORG</u>

Kirsten McCullough Environmental Project Manager Garver 6100 South Yale Avenue, Suite 1300 Tulsa, OK 74136 (918) 858-3799 KJMcCullough@GarverUSA.com





Purpose of the Meeting

Meeting Objectives

- Update Stakeholders on Project Status
- Present Section 4(f) Alternatives Analysis Findings
- Present Overview of Replacement Alternatives
- Obtain Stakeholder Input





Project Timeline



Presentation Outline

- Need for the Project
- Existing Conditions
- Section 4(f) Alternatives
- Replacement Alternatives
- Next Steps









Need for the Project

Attachment A Presentation

Bridge Deficiencies

- Bridge is currently at risk for becoming structurally deficient
 - Deck
 - Floor Beams
 - Railing
- Deck is narrow (24') with no shoulders
- Truss vertical clearance is substandard













Need for the Project

Attachment A Presentation

Collision History

- 52 Total Collisions; 4 Fatalities
- Statewide Rate Comparison
 - 3% higher total crash (25% higher just on bridge)
 - 130% higher fatal crash rate
- Collision Hot Spots:

Transportation

- State Park Road Intersection
- West approach to Bridge
- Truss/East Approach to Bridge
- Willow Springs Drive Intersection



Need for the Project

Roadway Deficiencies

- No shoulders, median, or rumble strips on bridge
- Steep existing grade (4.7%) west of bridge
- Limited Intersection Sight Distance and Minimal Lighting
- Lane Drops to East and West
- Access Management Needs at Gas Station
- Preliminary Traffic Analysis Indicates the Need for Four Lanes





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Need for the Project

Attachment A Presentation

Bridge Level of Service (LOS) Results

Traffic Volumes

- 2021: 8,500 vehicles per day
- 2050: 12,200 vehicles per day (background)
- 2050: 27,000 vehicles per day (w/ Development)

No-Build (Existing)

- Two 12'-0" Lanes
- No Shoulders
- No Median

Build

- Four 12'-0" Lanes
- 10'-0" Shoulders



Scenario	Level of Service Results						
	No-Build	Build					
2021	С	А					
050 (background growth only)	D	А					
2050 (with Development)	E	В					





Purpose and Need for the Project

Purpose: Provide a safe crossing along US-70 over Lake Texoma that accommodates current and future traffic demand.

Need: Bridge is at-risk of becoming structurally deficient and has a substandard roadway width and insufficient vertical clearance at the truss span.

Specific Corrections:

- Provide structural capacity meeting latest AASHTO loading conditions
- Provide a crash-worthy bridge rail
- Provide 16'-9" vertical clearance
- Provide adequate roadway & shoulder width for the anticipated traffic demand



Attachment A

Presentation



Existing Conditions

Attachment A Presentation



Existing Conditions

Environmental Constraints

- Cultural Resources ODOT did not identify any significant historic resources beyond the bridge.
- Underwater archaeological sites may need to be investigated further.
- Biological Resources plan notes will be included to minimize impacts to:
 - American Burying Beetle
 - Whooping Crane
 - Bald Eagle
 - Migratory Birds
- Lake Texoma, wetlands and streams subject to Section 404
 permitting
- USACE land subject to Section 4(f) protections



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Existing Roosevelt Bridge

History and Significance of Existing Bridge

• History

- Warren through-truss with polygonal top chord
- Construction completed in 1945 by USACE
- Previously determined eligible for listing in the National Register of Historic Places (Criterion C)
- Property boundary– 87 spans and original pipe railing to furthest extent.
- Significance/Integrity
 - Only known vehicular example of its type in Oklahoma (Criterion C)
 - Associated with water impoundment and creation of dams and lakes across Oklahoma, and creation of Lake Texoma specifically (Criterion A)
 - Received concurrence with SHPO on boundary and character defining features in May 2021







Historic Significance and Section 4(f)

Attachment A Presentation

- FHWA Programmatic Section 4(f) Evaluation
- Alternative Analysis alternatives that do not affect historic integrity
 - Alternative 1 Do Nothing
 - Alternative 2 Rehabilitation (with and without widening)
 - Alternative 3 One-Way Pair (with and without widening)
 - Alternative 4 Pedestrian/Bicycle Bridge
 - Alternative 5 Monument
 - Replacement considered only if these are not prudent and feasible
 - ODOT made bridge available for adoption in August 2022







Alternatives Analysis

OKLAHOMA

Transportation

Alternative 1 – Do Nothing	↓ †	
Alternative 2A – Rehab (No Widen)	↓ †	a
Alternative 3A – One-Way Pair (No Widen)		lo Us
Alternative 4 – Pedestrian/Bicycle Only		Z
Alternative 5 – Monument Only		
Alternative 2B – Rehab (Widen)	↓ ↓ † †	se
Alternative 3B – One-Way Pair (Widen)	+ +	Ď

Alternative 6 – Replacement [NOT IN THE SECTION 4(F) DESIGN ANALYSIS REPORT]





Attachment A Presentation

Alternative 1 – Do Nothing



Attachment A Presentation

Alternative 2A – Rehab (No Widen)

Transportation



Attachment A Presentation

Alternative 3A – One-Way Pair (No Widen)

Transportation



Attachment A Presentation

Alternative 4 – Pedestrian/Bicycle Only



Attachment A Presentation

Alternative 5 – Monument Only



Alternative Analysis

Alternative 2B – Rehab (Widen)



Attachment A Presentation

Alternative 3B – One-Way Pair (Widen)



Attachment A Presentation







Section 7 – Alternatives Cost Estimate

Detour



- Green: Normal Route
- Red: Required Detour
- 39.1 Miles
- Alternatives 2A & 2B (rehab existing bridge in place)





Alternatives Cost Estimate

Attachment A Presentation







Note costs have been updated to 2023 dollars so do not match report



Summary

	Alte	ernative Analysis			Meets		Social			
Alternatives		Existing Bridge Section Width	Total Traffic Lanes *	No Use or Use	Project Purpose & Need	Operational & Safety Risk	Economic, & Environmental Risk	Community Disruption	Construction & Future Cost **	Life Cycle Cost ***
ALT 1	Do Nothing	No Change 2 Lanes No Shoulders	2	No Use	No	High	High	High High		Very High
ALT 2 (Opt. A)	Rehab (No Widen)	No Change 2 Lanes No Shoulders	2	No Use	No	High	High	High	Low	High
ALT 3 (Opt. A)	One-Way Pair Rehab (No Widen)	No Change 2 Lanes No Shoulders	4	No Use	Partially	Moderate	Low	Low	High	Moderate
ALT 4	Pedestrian/ Bicycle	No Change (Shared Use Path)	4	No Use	Yes	Low	Low	Low	High	Moderate
ALT 5	Monument	No Change (Not Used)	4	No Use	Yes	Low	Low	Low	Moderate	Moderate
ALT 2 (Opt. B)	Rehab (Widen)	Widened 4 Lanes With Shoulders	4	Use	Yes	Low	High High		High	High
ALT 3 (Opt. B)	One-Way Pair Rehab (Widen)	Widened 2 Lanes With Shoulders	4	Use	Yes	Low	Moderate	Low	High	Moderate

* "Total Lanes" accounts for an additional vehicular bridge where applicable.

** Accounts for rehabs, proposed construction, future inspections and future maintenance

*** Accounts for Construction & Future Cost as well as User Costs





Segment Overview

Segment Definition

Segment	Extents	Length	Existing Roadway Section				
Segment 1	State Park Rd. to Roosevelt Br.	1,585 ft	Four 12' lanes; 8' Shoulders; 16' TWLT				
Segment 2	Existing Roosevelt Bridge	5,000 ft	Two 12' Lanes; No Shoulders				
Segment 3	Lake Causeway	5,220 ft	Two 12' Lanes; 8' Shoulders				
Segment 4	Land Causeway	9,545 ft	Two 12' Lanes; 8' Shoulders				
Segment 5	Segment 4 to Willow Springs Rd.	1,941 ft	Four 12' lanes; 8' Shoulders; 16' TWLT				

TWLT: Two-Way Left Turn Lane



Design Methodology

Roadway

Design Speed – 65 MPH

Typical Section

- 4-12' Lanes
- 10' Shoulders
- 14' Center Turn Lane at Both Ends

Causeway Typical Section

- 4-12' Lanes
- 10' Shoulders
- 5' Guardrail Widening Both Sides

Clear Zone – 30'

8% Max Superelevation – Less than 6%







Design Methodology

Bridge

- Bridge Replacement Report
- Different Structure Lengths
 - 4,492 LF / 5,422 LF / 6,146 LF / 10,625 LF
- Typical Section
 - 4-12' Lanes, 2-10' Shoulders, 2-F-Shaped Parapets (1.5')
- Superstructure (12 types studied)
 - Span Optimization (spacing, sizing, lengths)
 - 7-Beam Lines (Tx70 PCB) x 150' Max Length
- Substructure
 - Drilled Shaft Supported Piers (DS Varying Sizes)
- Retaining Walls (Soldier Pile and MSE)
- Signature Bridge Study



Bridge Length	Unit Price
4,492'	\$157/SF
4,492' (Phased)	\$182 /SF
5,422'	\$162 /SF
6,146'	\$159 /SF
10,625'	\$133 /SF





Design Methodology

Hydraulic and Compensatory Storage

Profile Grade Raise

- Finished grade of causeway at 650' to prevent subgrade from submersion during the 100-year storm event
- Bridge will be raised 5' to 655' to increase resiliency to flooding events and withstand the 200-year storm without overtopping
- All alternatives produced a no-rise scenario in the 100-yr event

Compensatory Storage

- Loss of flood storage due to fill material into the flood pool
- Normal pool = 617'
- Flood pool elevation is 640'
- Mitigation considered





2015 Storm reached an elevation of 645.5 feet



Design Methodology

Development

Pointe Vista

- Preliminary Review for Traffic
- Not Reflected in Survey
- Large Traffic Generator
- Update Meetings Ongoing

Bridge Pointe

- Impact with North Alternatives
- Entrance Close to Existing Highway
- Utility Requests



Pointe Vista Master Planned Community





Proposed Alternatives

Alternative Overview

- Alignment Alternatives
 - Total Alternatives = 23 (125+ potentials)
 - Total Alignments = 19
 - Alignment Sub-Options = 4
- Offsets
 - Partial = 27'-6" from Existing Alignment
 - Full = 57'-0" from Existing Alignment
 - New = New Southern Alignment
- Selection Potential
 - Based on Feasibility, Cost, and Impacts
 - Low-Potential = 7
 - Medium-Potential = 5
 - High-Potential = 11
- Only High-Potential Alignments Studied



Alignment		Coloction				
Alternative	Direction	Bridge	Lake Causeway	Land Causeway	Potential	
6-1	North	Full	Full	Full	Low	
6-2A	North	Full	Partial	Partial	High	
6-2B	North	Full	Partial	Partial	High	
6-3	North	Full	Partial	Existing	High	
6-4	North	Full	Existing	Existing	Medium	
6-5	North	Partial	Full	Full	Low	
6-6A	North	Partial	Partial	Partial	High	
6-6B	North	Partial	Partial	Partial	High	
6-7	North	Partial	Partial	Existing	Medium	
6-8	North	Partial	Existing	Existing	Low	
6-9	South	Partial	Full	Full	Low	
6-10	South	Partial	Partial	Partial	Medium	
6-11	South	Partial	Partial	Existing	Medium	
6-12	South	Partial	Existing	Existing	Low	
6-13	South	Full	Full	Full	Low	
6-14	South	Full	Partial	Partial	High	
6-15	South	Full	Partial	Existing	High	
6-16	South	Full	Existing	Existing	Medium	
6-17A	South	New	New	Existing	High	
6-17B	South	New	New	Existing	High	
6-18A	South	New	New	Partial	High	
6-18B	South	New	New	Partial	High	
6-19	South	New	New	Full	Low	





	JF NO. 55075(04), 05-70 Over Lake rexonia (Rooseveit Bridge), Project Summary Matrix															
	Alternative Name and Description	Sub-Option	Construction Cost (1)	Right-of-Way Cost (2)	Utility Relocation Cost (3)	Total Bridge Length (ft)	Total Retaining Wall Cost	Flood Storage Impacts (cy)	Wetlands (ac)	Streams (ac)	Johnson Creek PUA (ac)	Texoma State Park (ac)	USACE Property (ac)	Tribal Land (ac)	Hazardous Materials Site	Archeological Site 34BR11
	North Offset Bridge - 57'	A	\$153.1 M	\$1.73 M	¢	4,942	-	590,165	0.77	0.11	3.8	2.83	62.96	0	N	Y
6-2	Lake Causeway - 27.5' Land Causeway - 27.5'	В	\$200.48 M	\$.7 M	 -	6,146	\$58.81 M	-811	0.67	0.06	2.2	2.83	20.65	0	N	Y
6-3	North Offset Bridge - 57' Lake Causeway - 27.5' Land Causeway - On Existing Alignment	-	\$152.92 M	\$1.67 M	\$-	4,942	-	595,520	0.81	0.09	3.74	2.65	64.3	0	N	Y
6-6	North Offset with Phased Bridge Construction Bridge - 27.5' Lake Causeway - 27.5' Land Causeway - 27.5'	А	\$154.44 M	\$1.69 M	¢	4,942	-	595,169	0.49	0.07	3.18	3.39	51.8	0	Y	Y
		В	\$160.96 M	\$1.08 M	\$-	4,942	\$35.31 M	279,876	0.49	0.07	3.18	3.39	32.61	0	Y	Y
6-14	South Offset Bridge - 57' Lake Causeway - 27.5' Land Causeway - 27.5'	-	\$158.75 M	\$2.7 M	\$-	4,942	-	590,165	1.32	0.09	3.74	6.19	64.76	1.16	Y	Y
6-15	South Offset Bridge - 57' Lake Causeway - 27.5' Land Causeway - On Existing Alignment	-	\$158.45 M	\$2.68 M	\$-	4,942	-	595,520	0.89	0.08	3.73	6.19	64.79	1.16	Y	Y
6.17	New Southern Alignment	A	\$433.3 M	\$3.45 M	\$	5,422		1,101,425	1.09	0.09	3.73	6.56	105.16	1.43	Y	N
0-17		В	\$159.6 M	\$1.99 M	\$ -	10,625		226,348	1.09	0.09	3.73	6.56	58.97	1.43	Y	N
6-18	New Southern Alignment	А	\$432.35 M	\$3.46 M	2	^{5,422} Pag	²² Page 33 of 35	1,120,416	1.49	0.08	3.74	6.34	106.15	1.43	Y	N
	Land Causeway - 27.5' Offset	В	\$157.72 M	\$2.01 M	φ -	10,625	-	226,348	1.49	0.08	3.74	6.34	60.06	1.43	Y	N

Next Steps

Transportation

Attachment A Presentation



(not fully funded)





